

# Ask Ronny

by Ronny Shaver @ Ronny's Garage

Answering Your Questions About Classic Car Care Service And Restoration

Published April 15, 2011

## **Why Does My Early Post-war Car Overheat?**

by Ronny Shaver

I recently received an e-mail from a member who stated that he had chemical flushed his cooling system a few times but his car still overheats. We had previously discussed thermostat replacement and that didn't cure the problem.

The early post-war cars had six cylinder engines that after years of sitting, accumulate sediments in the block that can compromise cooling system efficiency. Many people try to chemical flush the system which can actually make the situation worse. What happens is some of the sediments will be loosened by the chemicals and circulate into the system. Unfortunately, the sediments can be larger than the radiator matrix passages so they accumulate in the top tank until the matrix becomes plugged. This restricts flow through the radiator and causes the car to overheat. Not the desired result!

When I have a car like this in my shop, I use a tested method that almost always corrects overheating and allows the car to run at the correct temperature. It involves a reverse power flush of the radiator and engine separately. In addition, a 160 degree aftermarket thermostat is installed to complete the process.

The reverse power flushing utilizes water and high pressure air to dislodge sediments accumulated in the block and radiator. They must be used in combination to "blast" the sediments out. I have built a tool that connects to a garden water hose and shop air pressure with assorted adaptors to connect to the system. The process can also be done with a garden hose and an air nozzle connected to a compressor. It is messy, so be prepared to get wet and wear eye protection if you want to attempt the job.

To begin, drain the system of coolant, refill with plain water, run car and repeat process until all coolant is removed. Dispose of coolant properly. Next, remove upper radiator hose, thermostat outlet and thermostat. If the thermostat is original it may be difficult to remove, don't worry about damaging it since it will be replaced. Once the thermostat is removed, refit the outlet.

Re-connect the upper radiator hose to the radiator. To reduce splashing, I connect a section of pvc pipe to the hose and direct it under the car (this is where the air/water blast will exit), disconnect the lower radiator hose from the engine and make sure the radiator cap is fitted properly. To power-reverse flush the radiator, fill the radiator from the lower hose until water comes out the upper-hose, (you will need to wrap a rag around the garden hose to get it to seal). Once the radiator is full, quickly remove the garden hose and insert the air nozzle (this will also need a rag to get it to seal) and give the hose a blast of air. The air will displace the water and the water will carry out sediments. Repeat this process until no more sediments come out.

Once the radiator is flushed, disconnect the hoses from the radiator and connect them to the thermostat outlet and the water pump inlet. Open the block drain (right side of block at rear), fill block with water until it comes out of upper-hose and block drain. If water doesn't come out of block drain, give the drain a blast of air, repeat until water flows freely. Then, when water flows freely from the drain and upper-hose, quickly remove the garden hose, and blast through the upper-hose (reverse flow). Repeat process until sediments stop coming out. Reconnect the lower-hose to the radiator, close block drain.

Now it is time to install the thermostat. The original thermostat has a bypass door that allows coolant to bypass the engine block until it warms up, then shuts off to force coolant through the block for proper cooling. The factory thermostats are quite expensive and from my experience, cause the engine to run warmer than I prefer, especially at low speeds. Aftermarket thermostats don't have this bypass door so the system must be modified to accept a different thermostat.

First, remove the upper hose and thermostat outlet and the 90 degree bypass hose on right side of thermostat housing. Gently use a 3/8" pipe tap and create thread inside the upper connection for the bypass hose, then screw a 3/8" pipe plug into it and refit the bypass hose. The thermostat opening is just over 2 1/4" ,I use one that is larger and grind the outside down to fit. The temperature of the thermostat should be 160 degrees Fahrenheit. One last modification is to drill two 1/8" holes on the outer flat face of the thermostat to allow some flow to warm the thermostat sooner. Once the thermostat is modified, install it and the upper-hose. Fill the system with 50/50 mixture of antifreeze and distilled water. Run the car and recheck.

As I said earlier, this usually corrects the overheating problem. If it doesn't, then other problems may be causing the over-heating, such as a leaking head gasket or perhaps a broken water pump impellor. Some radiators also become so plugged in the matrix that they may need to be removed to be rodded-out or re-cored by a professional radiator repair shop.

Thank you for the questions and keep them coming. Please send your questions to Ronny at [ronnyshaver@ronnysgarage.com](mailto:ronnyshaver@ronnysgarage.com).

Happy Motoring!  
Ronny