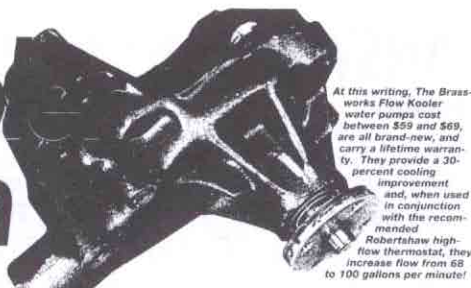


Koo Idea

By Marian Davis



At this writing, The Brassworks Flow Kooler water pumps cast between \$59 and \$69, are all brand-new, and carry a lifetime warranty. They provide a 30-percent cooling improvement and, when used in conjunction with the recommended Robertshaw high-flow thermostat, they increase flow from 68 to 100 gallons per minute!

THE BRASSWORKS' HIGH-PERFORMANCE WATER PUMP CAN KEEP YOUR HOT CAR COOL

With summer's heat rapidly bearing down upon us, it's about time to get out the old swimsuit and sunscreen. It's also time to make sure our engines are equally protected against overheating. One area of engine cooling-system performance often overlooked is water pump efficiency. An oversize radiator core is no guarantee that your hot rod engine will cool efficiently if the water pump isn't up to snuff.

Unfortunately, water pumps are not what they were 20 years ago. Back in the muscular era, engines such as the small- and big-block Chevy used efficient, cast-iron water pump impellers. Today's "modern" sheetmetal impeller looks like an alternator fan, and it is unable to provide the flow or water pressure through the block equal to that of the early cast-iron impeller. Unless a high flow of water is forced through the block and heads, vapor pockets and steam bubbles will develop in the coolant solution due to the heat generated by the heads' exhaust ports. The result is carbon, inefficient cooling, and engine ping. Most rebuilt and new service replacement pumps for the old applications now come with the sheetmetal impeller. Chevy's high-buck aluminum Bow-Tie pumps (part No. 14011012) still have cast-iron impellers; you can also buy separately a 3/4-inch shaft iron impeller (Moroso No. 53532, which can be reamed to fit 3/8-inch shafts) and have it pressed onto the pump in place of the sheetmetal unit.

But there's an easier way. The Brassworks has introduced brand-new, life-

time-warranty water pumps. Known as the Flow Kooler series, they are modified by pop-riveting a metal disc to the back of the late-model sheetmetal impeller. By enclosing one side of the open areas around the impeller, the disc increases the late impeller's efficiency to equal that of the early cast-iron design, thereby upping pump volume by as much as 30 percent. According to the manufacturer, water circulation pressure within the block at 3500 rpm is also increased from 1 psi to 7 psi. Together, the volume and pressure increases help eliminate steam pockets that tend to accumulate in the water jacket's corners.

Applications to fit most big- and small-block Chevy long and short water pumps are available from The Brassworks, including special chromed and aluminum versions. But Chevys aren't the only engines suffering from poorly designed impellers—the same impeller design flaw is present on many other makes, and The Brassworks' disc fix works for "the other guys'" offerings, too! Flow Kooler pumps are available for most Ford, Mopar, Pontiac, AMC, and Jeep V6 engines. Olds and Pontiac aren't covered because the factory designed the pumps correctly to begin with, and they're already as good as they can be.

Once water pump efficiency has been maximized, The Brassworks recommends upgrading the thermostat to a Robertshaw high-flow unit. Naturally,

Back in the '60s, Chevy used an efficient cast-iron water pump impeller. Today, only GM's aluminum Bow-Tie pumps (like this small-block pump we photographed at Competition Chevrolet) have the good impeller.



Most late-model water pumps have this cheap cookie-cutter impeller that works about as well as a water wheel without a sideboard. If your impeller looks like this, you could really benefit from The Brassworks' unit.



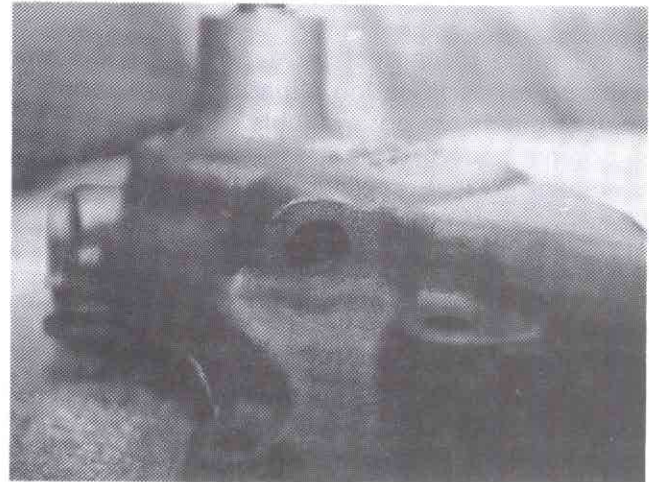
the radiator, cooling fan, and overall air circulation through the core and engine compartment should also be optimized to achieve maximum cooling efficiency. A properly designed cooling system will keep your engine from getting burned. And that'll keep your temperature from rising! ■

SOURCES

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The 911 was used on 1955-56 Corvette, what I mean to do, is show you how you can tell a correct part besides checking the number #911 = the water outlet for the heater is a 3/8 pipe thread, the top area has no boss for a added water outlet that later pumps do, the rear plate is a flat steel one using flat slot screws, also the front neck where the shaft comes out you will find one hole at the top and two holes at the bottom. Comments = 1955 and early 1956 used the same heater unit, they also used a heater shut-off brass valve in line on the heater hose, the intakes water inlet were also a 3/8 pipe thread (you may often see a 1957 intake on a 1956 that is using a reducer installed to make its 1/2 inlet down to 3/8).

The 493 was on 1957-60 Corvette. #1 the water outlet for the heater is now a 1/2 pipe thread, the top area has a boss for a added water outlet that later pumps will use in 1961-62. The rear plate is also a flat steel, and you will still see three holes at the front area.

The 609 was used on 1961-62 Corvette. #1 the water outlet for the heater is a 1/2 pipe thread, the top area now has an added 1/2 pipe outlet, the rear plate is a thin steel using hex-head bolts, and you will only find one hole at the front (bottom) area.

It is important to know that a replacement pump being used on an early Corvette may cause a heating problem because the pump impeller inside has more blades added to decrease water flow in the system, which in turn does not flow the water in the radiator correctly to cool the water. I hope this will help owners understand more about these pumps.

— Editor Roy

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