

How To Solve Those Heating Problems And Increase Water Pump Life
from the "North Texas Wheel" By Jim Lowry

Because of the many letters written to me from members of SDC and AOA due to my R3 Avanti article in "North Texas Wheel" and Avantopics I will go into detail on my cooling modification briefly surmised in the afore mentioned articles. Although I will primarily be referring to the Avanti, the information may be used on most Studebakers by substituting the spacer required for your particular situation.

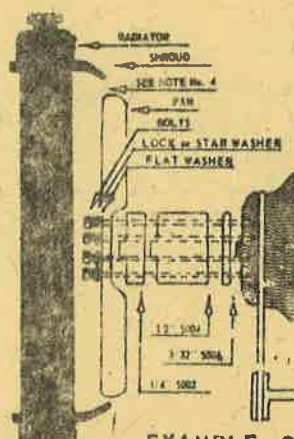
Assuming your radiator and block have been flushed and/or are known to be in good condition, let's start by using a cold thermostat (160). There are two ways to accomplish our task: (1) the best and most expensive way, and (2) an alternative way for those on a limited budget

(1) A complete kit may be ordered from Performance Unlimited, 11192 Prouty Road, Painesville, Ohio 44077. The kit consists of a 17" 6 blade constant speed variable hi-pitch fiber glass fan and adapters. This fan is self-aligning and self-balancing. Also in this kit is a special aluminum water pump pulley. Approximate weight of the old Avanti 5 blade fan and clutch assembly is 15 pounds. This is replaced by the kit assembly which weighs approximately 6 pounds. Because of the decrease in weight on the end of the water pump shaft bearings, water pump life will increase. Approximate cost of this kit is \$50.

(2) If Performance Unlimited does not sell the kit minus the aluminum water pump pulley, let's do it another way, but sacrificing a few pounds of weight by using your own water pump pulley but still eliminating the clutch assembly. You will still have the cooling capabilities as with the first plan. Order the following items (Avanti only) from Flex-A-Lite Corp., 5915 Lake Grove Ave., S.W., Tacoma Washington 98499 if you cannot find them at your local parts store: One 17" diameter High Pitch 6 blade fiberglass fan (has green blades) Do not get the standard pitch fan if you want maximum cooling. Flex-A-Lite fan P/N AC 6170, and one aluminum metal spacer 1" thick P/N S008. These are for Avanti only - Different thickness spacers will be needed on other Studebakers depending on the particular situation and whether or not a fan shroud is utilized. A general rule of thumb is to replace the old fan with a fan of the same diameter, except on the Avanti as the original fan diameter is too small to achieve the cooling effect desired. Also needed is one fiberglass spacer P/N S001 3/32" thick. In my Avanti, due to my having added air conditioning with the compressor on the left side, and because my supercharger is on the right side, my belt A/C idler belt was too close, so I had to use in addition to the aforementioned parts an extra 1/8" thick spacer (1/8" is not on the spacer chart) which I fabricated from a 1/8" thick large area washer. (Holes or notches will have to be drilled for the bolts). I centered the washer and epoxy cemented it to the 1" spacer S008 prior to installation. This eliminated the possibility of throwing the fan out of balance due to not getting the washer centered on installation. Approximate cost of this plan is \$25.

WARNING: Each different model Studebaker has it's own individual problems . I had to cut approximately 3/4 " off the top of my fiberglass fan shroud. Be sure to check all clearances front,back, top, bottom and sides before turning the engine over the first time. Turn the engine over by hitting the starter but do not actually start it until you are sure nothing is hitting. Under no circumstances try turning the engine with the fan! Remember the blades flatten out (fan flexes forward and the blade width reduces) as the engine speed increases (variable pitch).I know of one person whose Avanti checked out at low speed but when he got above 60 MPH the blades touched the radiator and got several cores at the bottom.(Avanti radiators are at an angle with the closest point of possible contact at the bottom.

INSTALLATION INSTRUCTIONS : (1) Remove holding bolts and clutch asy. if applicable. (2) Starting at the engine hub, mount first a fiberglass spacer, 3/32" thick S001 , then a 1" Spacer S008 , then additional spacers (if required).Check to be sure there is sufficient depth to the pilot hole to accomodate the pilot or pump shaft. The fiberglass spacer next to the hub absorbs imperfections.. (3) New bolts will be required (and can be gotten from any hardware or auto store). they should be 3/4 " longer than the sum total of all the spacers required. Use lock washers next to the bolt head then a flat washer against the fan front face . Install fan with curved blades pointing toward engine. (4) On engines with shrouds , the blade should be approximately 1/4" inside the rear flange of the shroud. Various combinations of spacers may be required here on different models. Be sure that the fan does not fit so far into the shroud that air coming off the back of the blade causes turbulence resulting in heating rather than cooling. If engine attachments prevent proper positioning of the fan in relation to the shroud, it is possible to remove the shroud and install the fan in accordance with the instructions without shroud. (5) On engines w/o shrouds or in situations where it is impossible to position the fan and shroud as outlined above , add spacers if required to obtain proper clearance from any rear (engine side) obstructions and any from the face of the fan to the radiator. For best results, the fan should be from 1-1/2" to 2" from the radiator. With engine running, at idle speed , fan may seem to be running untrue. Flex-A-Lite fans are self-balancing and self-aligning, they smooth out at increased speed. The only speeds that I have been able to detect any excess fan noise is a slight hum between 30 and 40 MPH . The last thing to remember is, " Happiness is a cool running Studebaker ".



EXAMPLE OF SPACER APPLICATION

Flex-A-Lite standard spacers

Comments on last issue's article "HOW TO SOLVE THOSE HEATING PROBLEMS AND INCREASE WATER PUMP LIFE" by Jim Lowry....

I would also like to comment on Jim Lowry excellent article regarding the fiberglass fans. As Jim stated, we do have a lightweight fan kit. This kit consists of an aluminum water pump pulley, an adapter, and a fiberglass fan. This unit reduces the weight on the end of the waterpump from about 16 pounds to a little over 4pounds. It provides much increased air flow and also greatly extends water pump life, especially on R 2 engines. We can supply the complete kit or we will sell the fans by themselves, although we do not recommend it.

Jim mentioned alignment problems and that he had to cut his shroud. We have had comments regarding this and have generally found the problem to be one of four things.

1. Car has been kissed and engine is out of alignment.
2. Bad motor mounts
3. Bad transmission mounts
4. Shroud in lowest position.

Bill CONDON

AVANTI WATER PUMP SUPER STOCK INSTALLATION TIP

If your Avanti has had the average number of water pump replacements, chances are the little copper gasket that fits over each of the four 5/16"-18 by 5/8" bolts circumferencing and holding the water pump to the water manifold have departed the scene, or are crushed beyond belief.

Should you wish to replace these gaskets during the next pump replacement and don't have any from Studebaker on hand, Victor Manufacturing and Gasket Company makes a copper washer that is an ideal fit. Ask for Victor Washer number 2007 at a good auto parts supplier. The pack contains 10 washers.

Jim Frakes

Avanti Water Pump Tip - from the Buckeye Bullitin

Never attempt to use a standard Studebaker water pump in your R2 or R3 powered Avanti, Hawk, or Lark. The correct pump is Studebaker # 1560395 and has a casting number of #1560400 on it. The standard pump will fail in usually less than 1500 miles and will then proceed thru the radiator. If you plan a long trip, a spare pump in the trunk is excellent insurance.

Water Hoses - from the Studebaker Spokesman - Jeff and Pam Wheeler, Ed
Many Studebakers need a heater hose with a 90 degree molded end.
Use Ford # C8AZ-18472A. Works great!