

BUILDING A MASERATI WATER PUMP

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Rebuilding a 1969 Maserati Ghibli water pump is not something that can be done in an hour or so. However, it can be done in about 12 hours with around \$60.00 worth of parts.

To remove the pump from the engine the following procedure was used: Disconnect the battery and remove the alternator. Remove the radiator and hose to the pump. Remove the two belts, unbolt the air conditioner compressor and move it forward. Unbolt the water pump from the engine and slide it forward until it is free and can be lifted out of the car.

Disassembly of the pump can be accomplished by the following procedure: Remove the six flat head screws with a hand held, hammer driven impact screw driver and remove the pump cover. Remove the nut on the impeller by restraining the pump drive arm with a hammer handle (see picture 1) and loosening the nut with a 22mm socket on an air driven impact wrench.

The impeller is removed with a K-D No. 2292 gear puller with the jaws modified to fit into the impeller holes (picture 3). The next step is to press the shaft out of the pump bearings. Be sure to back-up the pump housing when pressing the shaft out to avoid cracking the pump housing.

Picture 4 shows a 2 1/2 inch diameter b 3 inch long piece of 1/8" inch wall tubing with pieces cut out to clear the pump drive arm, as a back-up fixture. Press the shaft out (picture 5). Remove the snap ring (picture 8) and press the bearings and spacer out of the pump housing. At this point the housing should be stripped of old paint and bead blasted to clean it up..

The impeller surface where the seal rides (picture 6) must be smooth and flat. One way to do this is to machine a mandrel that will be a slight press fit for the impeller. While the mandrel is still chucked in the lathe, press the impellor onto the mandrel, check the seal surface with a dial indicator for a zero run out, and make a face cut across the seal surface with a rounded cutting tool, removing only enough material to get a smooth, flat surface.

The success of the rebuilding job depends on how well this surface is prepared.

Assembly of the water pump can be done in a short time using two SKF6203-2R5 bearings and a seal from a Maserati parts dealer (Jacque Laude, Challenger Motors, 6065 Melrose Ave., Los Angeles CA).

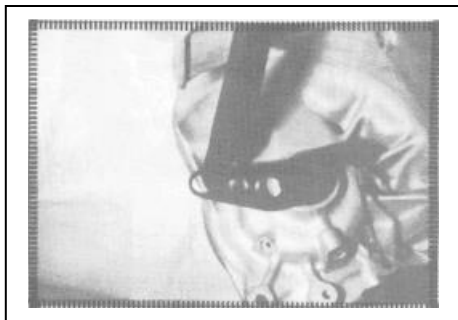
Place the concave washer in the housing and press one bearing in place (pictures 7 & 8). Place the spacer on the first bearing and press the second bearing in place. Install the snap ring (picture 9) and press the shaft into the bearings (picture 10). Remove the grease fitting and fill the hole with a threaded plug. The double shielded, lubricated bearings do not require future lubrication.

Picture 11 shows the parts that fit into the inside of the pump. Place the spacer on the shaft (picture 12) and install the new seal using a sealer (Permatex 3D) on the part of the seal that fits into the pump housing. Picture 13 shows the installed seal. Place the woodruff key in the shaft, press the impellor onto the shaft (picture 14) and install the washer and nut. Tighten the nut with an air driven impact wrench with a 22mm socket using the hammer handle as a back up on the pump drive arm. After tightening the nut, the pump shaft should turn freely with a slight drag caused by the seal. Install the cover and gasket with a sealer (Permatex 3D) and tighten the six flat head screws.

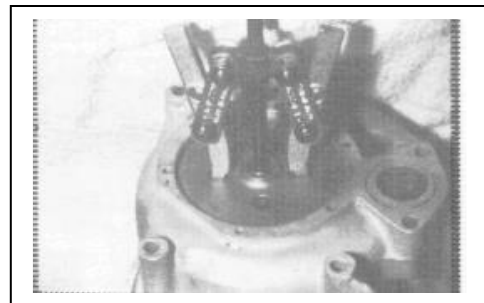
The final step is to paint the pump with black wrinkle finish paint (picture 15). Install the O-Ring and mount the E7 pump on the engine.

Be sure to install new drive belts for the air conditioner compressor at this time because the water pump is driven by the compressor pulley. Reassemble the compressor to the pump mount, install the radiator and the alternator, fill the system with water, a couple ounces of soluble oil and start the engine to check for any leaks. After a test run, drain out a gallon of water and add a gallon of anti-freeze for summer driving.

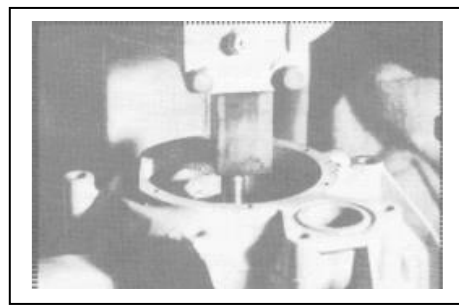
All pictures are shown on following pages

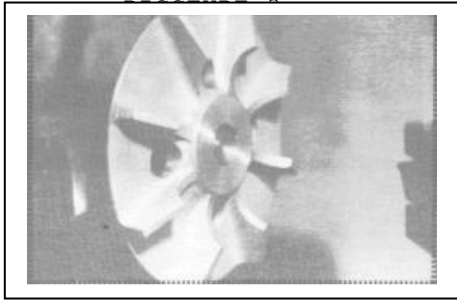


PICTURE 1

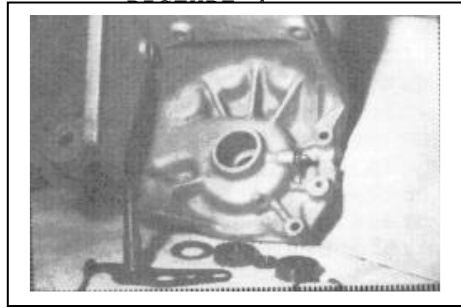


PICTURE 2

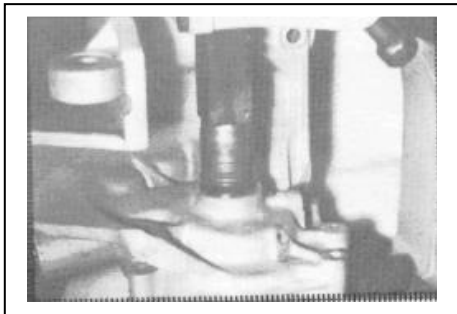




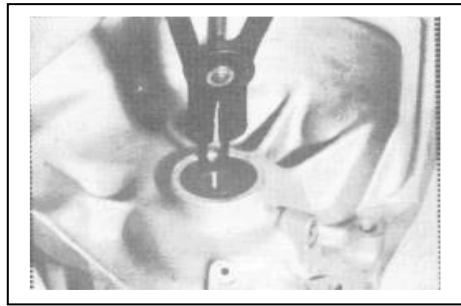
PICTURE 5



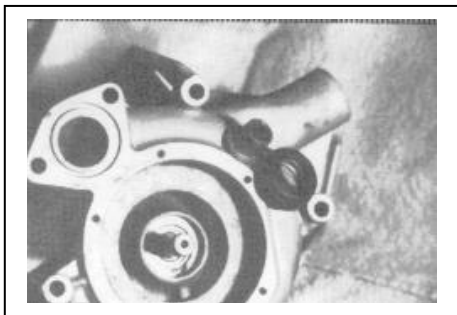
PICTURE 6



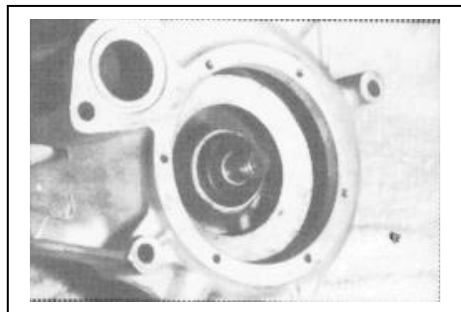
PICTURE 7



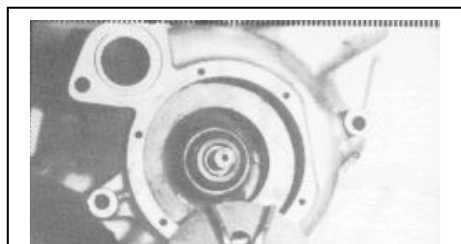
PICTURE 8



PICTURE 9

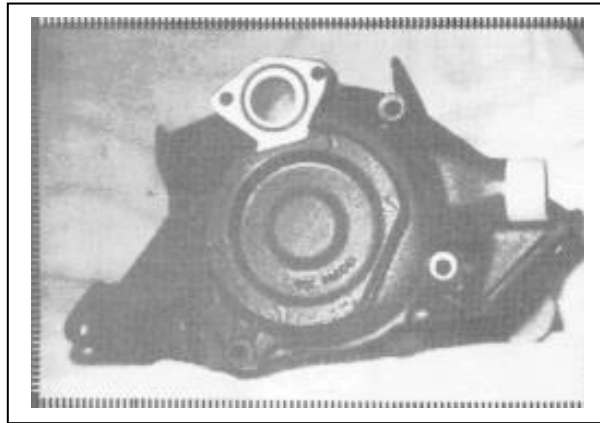


PICTURE 10



PICTURE 11

PICTURE 12



PICTURE 13

