IMPELLER SHIMMING

With use in sand in gravel, the blade clearance gap between the impeller edge and the intake liner will eventually exceed 1/32 inch (0.03125 inches, the width of one shim washer), due to gouging. To reduce this clearance, one or more of the stainless shim washers can be transferred from the bottom stack to the top of the impeller, which moves the impeller down into the tapered casing, and brings the impeller closer to the liner. Use enough shim washers to ensure the closest edge (the other gaps may be larger) of the impeller is 1/32 inch or closer from the liner without rubbing. Insufficient blade clearance will do more harm than good for any performance gains it might provide. If all the shim washers have been moved to the top of the impeller and blade clearance of the smallest gap remains larger than 1/32 of an inch, it is necessary to replace the liner, the impeller, or both. When you have achieved 1/32 inch or less of clearance, bump the nut up snug with a wrench. If the ears of the retainer do not line up with the flats of the nut, spin the nut off, turn the retainer over and tighten the nut again. In one of these two positions you will have alignment, and can fold the ears up against the nut to retain it.