

# Root Cavitation on Small Commercial Propellers

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Root cavitation is generally uncommon. It is most often found in high speed, highly loaded propellers. It is generally indicated by a pitting on the suction side (back) of the blade root area near the point of maximum thickness.

One cure for root cavitation is based on relieving some of the suction side lift by drilling a small hole through the root to the pressure (face) side. This hole typically is located at the mid-chord of the blade, just outside of the root. One 10 mm (3/8 inch) hole is typical for propellers of about 800 to 1000 mm (32 to 38 inch) diameter.

Careful matching of the location of the holes between blades must be observed, and the edges of the holes should be softened with a chamfer. According to one respected source, the key to successfully curing root cavitation is to be sure to drill the holes parallel to the shaft line, not perpendicular to the blade.

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