

"What's the Best Way to Install My Inboard Propeller?" from digitalpropshop.com

Handle your prop(s) carefully. The edges, especially, are susceptible to bending and dinging if they come into contact with other hard objects.

Smear some valve grinding compound (available at any hardware or auto parts store) around your shaft taper. Install the prop on the taper, without the key, and rotate 3 or 4 turns in each direction while pushing the prop forward on the shaft. This will remove minor metal imperfections and help assure a proper fit on the taper. Mark the shaft at the forward end of the prop hub at its furthest point of advance with a pencil or magic marker.

Remove the prop and wipe off all compound from the shaft taper, prop bore and keyway.

Fit the key in the shaft keyway. It should fit snugly and "bottom out" in the keyway. Remove from the shaft and try for the same fit in the prop keyway. If any areas bind or won't fit properly, dress the key lightly with sandpaper wrapped over a flat surface. If the key rocks or is loose, replace it, as looseness here can cause vibration and possible shaft damage.

Place the key in the shaft keyway and, after aligning the prop keyway, slide the prop up onto the shaft to the point which you previously marked. At this point, the key should be completely captured by the prop and centered laterally within the prop hub. Never, ever, hammer on the propeller to make it fit on the shaft. If the prop doesn't move up to your marked point, the key is binding due to poor fit.

Take your large shaft nut and hand tighten up against the hub. At this point, many installers will place a block of wood between the boat bottom and the end of the propeller to keep the shaft from turning while they tighten the nut with a wrench. This practice should be avoided if at all possible, as it can cause blade distortion. Use a plumber's strap wrench to hold the shaft or have a friend hold the prop down close to the hub while you tighten the nut and firmly seat the prop on the taper.

If you have a single "castle" type nut, finish by installing your cotter pin at this point. If you have two nuts, remove the large shaft nut and replace it with the small one. Tighten the small nut, using the same procedures as in step 6. Now, thread on your large shaft nut behind the small one and tighten (this is your lock nut).

Install the cotter pin, and bend back the prongs.

We do not recommend painting propellers, as it degrades performance, can cause electrolysis, and generally does little to retard marine growth.