

Pushin' Me the Wrong Way!

Simple Rules:

- NEVER touch the ends of the propellers!
- Keep your hands near the spinner of the propeller where the most amount of pressure can be handled by the spinner/propeller
- Even when pulling, you can pull near the spinner.
- Never push or pull on the spinner. The shell/cover of the spinner can be damaged and possibly the internals of the governor on a constant speed propeller.
- If at all possible, push on the leading edge of the wing—but—make sure you push on an area that is attached to the inner structure of the wings—Don't dent those wings!

So, what's Wrong with this picture?

The Propeller, along with the engine, and wings of an airplane, is a crucial piece of equipment to achieve flight. At the same time, one of the most delicate pieces of equipment installed on any aircraft.

When pushing back an aircraft, or pulling it out of its parking place, there are areas that can be stressed, and other that can't on any airplane. The propeller is one of those airplane components that can be pressured in one place, and not another.

The 'outside' or 'end' of the propeller is not a place where you want to place any kind of pressure. As shown in the picture above, the pilot should not be touching the propeller blade in this area whether he is pushing or pulling! A propeller

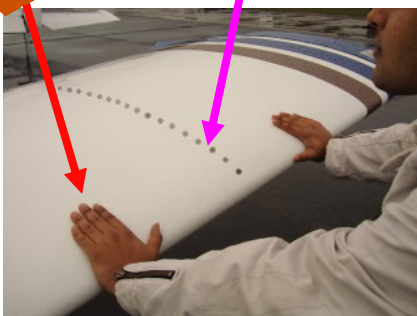


ler may not bend or warp with a single push or pull, but over time, the propeller **will** warp. Once bent, what can happen?

1. Loss of Thrust
2. Reduction in RPM's produced by the propeller
3. Damage to the engine because of a unbalanced propeller
4. The high cost because of a propeller needing to be replaced and higher rental fees to cover this costs.

So what should be done when pushing or pulling an aircraft?

1. Use a Tow-Bar! Have a friend or partner push on the wings when pushing an airplane backwards.
2. As shown to the left, grab the 'root' of the propeller to push or pull the airplane.
3. Do NOT push or pull the spinner—you can easily damage it.
4. Don't pull or push using the engine cover



Push using the Wings?

Each wing is built around 'ribs' that shape the sheet metal of the wing into the shape that creates lift—allowing you to fly.

On the skin of a wing, you will see areas that include many rivets which attach the sheet metal of the wing to the 'ribs' that create the wing's shape. This is the area you should be targeting when look-

ing for a place to push on the wing. The picture to the left shows a pilot pushing on either side of these 'rib rivets'. All of the pressure in this case is placed on areas which are not reinforced by the underlying structure of the wing.

So, to keep those 'hand dents' away, find a reinforced area on the wing to push on and avoid wing damage.