



Objective: Assembling metric top shaft clamps and placement on the top shaft

Summary: Proper assembly of metric top shaft clamps to the Windspire

1. Locate the two top shaft clamp parts. They each consist of:

One top shaft clamp wedge.

One top shaft clamp threaded disk

One top shaft clamp unthreaded disk

Six top shaft clamp screws

Also included is one packet of anti-seize grease for both top shaft clamps.

2. Clean all parts thoroughly with acetone or similar solvent and a clean rag or paper towel.



3. Locate the anti-seize grease, and using rubber gloves, apply a very thin coating of grease on the top shaft clamp wedge outer tapered surfaces.



4. Place the top shaft clamp wedge in between the two top shaft clamp disks, and insert the six top shaft clamp screws through the unthreaded disk into the threaded disk and finger tighten.



5. Clean off any excess grease on the top shaft clamp, paying particular attention to the inside diameter of the top shaft clamp wedge.



- Continue with the Windspire installation. Slide the top shaft clamps over the top shaft such that the screw heads face each other on each clamp. Follow the manual to insert the top shaft over the bottom shaft. Position one clamp so the bottom of the bottom clamp is positioned at the bottom of the top shaft. Position the top clamp such that the top of the clamp is positioned exactly 18 inches from the bottom of the top shaft. Note the clamp screw orientation in the figure below.



- Torque the top shaft clamps to the top shaft. Use a wrench to evenly tighten with $\frac{1}{4}$ turns the top shaft clamp screws in a circular sequence. Attach one strut/airfoil assembly to the top shaft using the strut bolts and strut nuts, and use the near strut to hold against the wrench for tightening purposes. The final torque for the top shaft clamp screws should be 35 ft-lb, using a torque wrench. Verify all screws are fully tight by continuing to torque in a circular sequence until all screws are torqued to 35 ft-lb.



- Continue with the Windspire installation as normal.