

### What happens if we leave fan blades in service too long? When does this become a safety issue?





## **Typical Moore failures**



Moore fan blades depend on a rubber bushing at the connection, rubber ages so these need to be replaced when they get hard. Typically, everyone over pitches these fans in the field based off using amp draw to set max pitch. This is a very poor practice, which overloads these rubber joints, which creates a fan blade failure as you see here.

#### Moore fan blade failures continued



#### Ice damage on light aluminum blades



Moore fan blades cannot run backwards for de-icing



#### Checo fan failure after 40 years in service







E6-14 fan wreck, Shell Jumping Pound gas plant, Dec 2014.

There is no date stamped on the drawing but based on other files at JP, this is about 1967 vintage. If these fan blades were original they are way past their "best-Before" date. We can't expect these old cast fans to last > 40 years in service.

The damage related to this failure is extensive and could be worse.











# Hudson strength, try this on your aluminum fan!



