

# SOARING SOONERS

## MAINTENANCE NEWS LETTER

As the soaring season looms upon us it's time to get our toys out of the hanger and prepare them for another terrific season. One of the things we can do as club members is perform some routine maintenance and also *preventative* maintenance. *Preventative* will be the main theme of this news letter.

Preventative maintenance has a facet known and loved by all aircraft owners as clean-and-lube. A commonly overlooked but important fixture on our aircraft is the lowly tail wheel which too needs occasional maintenance. The tail wheel consists of a round wheel, or one approaching round, and a bearing surface to ride around. The tail wheel on the 2-33 has been modified to use off the shelf roller blade wheels with ball bearings. The 1-26 on the other hand has a sleeve type bearing that the tail wheel rides around. While neither one require any high tech maintenance they do require some *routine preventative* maintenance.

A key component of wheels and bearings is cleanliness. Impingement of dirt and foreign debris erodes the bearing surface and leads to early failure of the parts. Below are some pictures from the 1-26 tail wheel that was recently replaced due to failure of the bearing surface.



Note the large amount of dirt that was removed from the tail wheel assembly. It had worked its way into the wheel assembly and packed itself around the wheel preventing free movement. When the bearing ceased to turn properly the wheel itself became the bearing surface enlarging the hole and transferring the load to the wheel instead of the bearing surface and axle as required.



Here it's plainly visible the amount of wear on the tail wheel. The bearing usually fits snugly in the wheels' hole, though here it has almost 1/8<sup>th</sup> inch of play! Also of interest is the radial cracking of the wheel where the forces have been pounding their way out. This wheel wasn't far from coming apart which could cause damage to the bracket and tail, neither of which we want to see.

So what to do? It's imperative to **check the tail wheel for freedom and cleanliness each and every time we fly**. That means when performing a preflight to include the tail wheel in your check. After the aircraft has landed and it's being prepared for another flight again **check the tail wheel for freedom and cleanliness**. Note the underlying theme coming out beneath the thick sarcasm, *preventative maintenance*.

What are we looking for? Let's all remember back to our childhood days and sing along with the group ....

*The wheels on the plane go round and round, round and round  
Not up and down, up and down  
Not with a grinding sound*

*If the wheels on the plane don't go round and round  
We clean them till they do*

Lucky for us the only tool required for removing small amounts of dirt is a standard, one each, index finger. Heavily soiled tail wheels need to be removed and cleaned out. If you have any questions or concerns about the condition of the aircraft please ask someone that knows. If you see something that can be easily fixed, please do. As club members we are all part owners in club aircraft, ergo *preventative maintenance* is all our jobs. Be looking for the new upcoming placards in the aircraft reminding us all to **check the tail wheel for freedom and cleanliness each and every time we fly**.