

LAA/AWA/14/13  
12<sup>th</sup> November 2014

## Pietenpol Aircamper

### Undercarriage Rod End Bearings

#### Inspection/Replacement of Undercarriage Rod End Bearings

There have been a number of recent undercarriage collapses on Pietenpol Aircamper aircraft fitted with Cub-type undercarriages; in almost all the cases the failure has occurred during a normal landing.

The primary cause of these failures has been the structural failure of one of the two lower rod end bearings.

A close inspection of a recently failed rod end bearing revealed that the bearing had probably been failing for some time in service before completely 'letting go'. After these failure events were discussed within the LAA's Safety column, Safety Spot, one owner found, during a rather more detailed inspection, that both the lower rod end bearings fitted to his aircraft showed signs of mechanical distress and had elongated.



Fig. 1. In this example the starboard lower rod end has failed. The port rod end, which can be seen connecting the spring strut to the axle assembly, remains intact.

Because of these recent findings LAA Engineering has issued an Airworthiness Information Leaflet (AIL) (LAA/MOD/047/009 issue 1) requiring regular inspections of the rod end bearings fitted to Pietenpol Aircamper aircraft with Cub type undercarriages. This AIL also introduces a working life to this component. LAA/MOD/047/009 issue 1 can be downloaded [here](#).

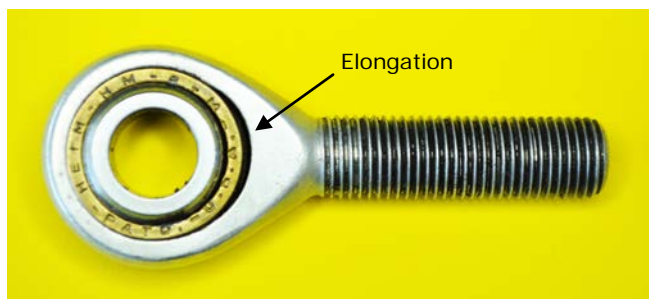


Fig. 2. Elongation can clearly be seen in this example of a lower rod end bearing recently removed from service. This elongation may have been caused by temporary overload or gradual 'creep'. The recent AIL requires owners to check these bearings fully after a heavy landing incident.

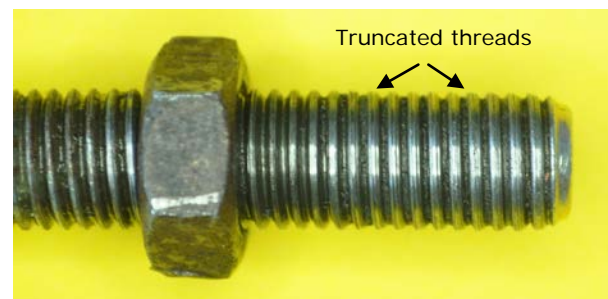


Fig. 3. In this example of a failed rod end bearing the wear in the attaching threads can be seen. The highly polished nature of the threads along with very reduced major diameter suggest in service movement.