

NORVIC'S GUIDE TO PRESERVATION OF ENGINES IN THESE VERY SAD TIMES

At the outset, can all of us at Norvic not only thank our nation's front line defence team but all nations. We are thinking of all our valued friends, families, colleagues, customers from across the world and also our competitors at these very sad and difficult times. Our thoughts and prayers are with you all to remain safe and healthy.

We have been asked "What can we do in these terrible times to try and preserve our engines and is there any guidance on general aviation flying".

GUIDELINES FROM HER MAJESTY'S GOVERNMENT

Please click the link below to obtain the latest information that we have available.

<https://www.gov.uk/government/publications/coronavirus-covid-19-recreational-general-aviation/coronavirus-covid-19-recreational-general-aviation>

We are hearing a lot of conflicting information from customers and maintenance facilities as to the correct course of action that should and can be adopted in these wretched times. We know and can understand why a lot of maintenance companies are currently shut down and not operating.

The Government's guidelines are a little opaque and unclear. We continue to believe that if your maintenance and airfield allow, the best course of action, where possible, is to fly from your airfield for a minimum of 1 hour each month, returning to your airfield and if you are able to do this, then further preservation requirements are not appropriate or necessary.

If, however, you wish to store your engine and aircraft, and at this time of year whilst it helps to be inside, it is not essential, it's ideal for the engine to be preserved. This involves the oil being drained and a preservative oil added. After this procedure the engine is run on the ground only and therefore it is not permissible to return to your airfield, if you've had to fly to your maintenance facility. Your aircraft will have to remain where it is after preservation.

CAN I FLY TO MY MAINTENANCE FACILITY?

Sadly, this is a question we at Norvic cannot answer and can only suggest you take the advice of your airfield and maintenance facility.

Lycoming's flyer 'Frequency of Flight and its Effect on the Engine' states:

We have firm evidence that engines not flown frequently may not achieve the normal expected overhaul life. Engines flown only occasionally deteriorate much more rapidly than those that fly consistently. Pilots have asked "What really happens to an engine when it's flown only one or two times per month?". An aircraft engine flown this infrequently usually accumulates rust and corrosion internally. This rust and corrosion is often found when an engine is torn down. Some operators are running the engines on the ground in an attempt to prevent rust between infrequent flights.

This may harm rather than help the engine if the oil temperature is not brought up to approximately 165°F, because water and acids from combustion will accumulate in the engine oil. The one best way to get oil temperature to 165°F is to fly the aircraft. During flight, the oil normally gets hot enough to vaporize the water and most acids and eliminate them from the oil. If the engine is merely ground run, the water accumulated in the oil will gradually turn to acid, which is also undesirable.

Prolonged ground running in an attempt to bring oil temperature up is not recommended because of inadequate cooling that may result in hot spots in the cylinders., baked and deteriorated ignition harness and brittle oil seals which cause oil leaks. Pulling on engine through by hand if it has not been run for a week or more is NOT recommended and can result in increased wear. Refer to Lycoming Service Letter L180B. If the engine is flown so infrequently that it does not accumulate the operating hours recommended for an oil change (25 hours for a pressure-screen system and 50 hours for a full-flow filter system), then the oil should be changed at four-month intervals to eliminate water and acids.

Hopefully this will help you further in your deliberations.

At Norvic we are sorry we can't be more positive and offer better guidance. We have separately below, on individual pages, published the actual Service Letters from Textron Lycoming, Service Letter No. L180B dated 13th November 2001 and Teledyne Continental, Service Information Letter No. SIL99-1 dated 25th March 1999. Both are headed Engine Preservation for Active and Stored Aircraft.

Stay safe our friends and colleagues. We are remaining open to try and help if we can at all.

Meantime, can Norvic sign off this page with a special tribute and thanks to Captain Tom Moore and his heroic efforts to raise monies for our National Health Service and his donation page, which Norvic fully supports. Thanks Captain Tom and to everyone who is helping in the world's efforts to defeat this pandemic.