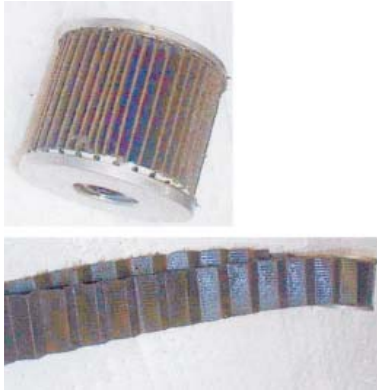


TECH TIP | Change Oil Regularly

Courtesy of Aero Recip

It's impossible to overstate the importance of regular oil changes. During engine operation, the oil becomes contaminated with nitric and sulfuric acids, water, lead salts, carbon, metal and other contaminants. It is essential to flush these out of the engine on a regular basis. In addition, the cleansers and acid neutralizers in the oil's additive package wear out, and must be replenished. This can only be accomplished by changing the oil.

If your engine is equipped with a full-flow oil filter, you should change your oil and filter every 50 hours or less. If you have only an oil screen, you should change every 25 hours. In any case, you should change your oil every four months even if you have flown only a few hours during that time. The oil may look clean but the additive package is probably shot. In any case **DO NOT EXCEED THE MANUFACTURERS RECOMMENDATIONS.**



Whenever you change your oil, fly the airplane first in order to full operating temperature and to agitate any contaminants that may have settled out, back into suspension. Drain the oil as soon as possible after completion of the warm up flight to ensure that you drain out all of the contaminants. It is a good idea to drain the oil from the sump through a paint filter or similar strainer to catch any metal particles that may be in suspension.

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Any particles found can be used in conjunction with any findings in the oil filter to determine the condition of engine. Insist that your mechanic cut open the filter and inspect the filter element for metal at every oil change. ✈

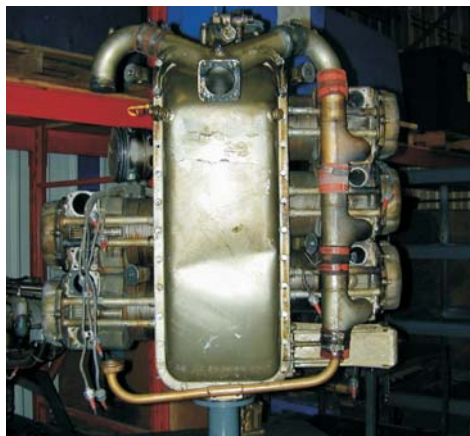
TECH TIP | Handling and Shipping of Engines

Courtesy of Aero Recip

From time to time engines arrive at Aero Recip looking like they have been involved in an incident when in fact they were just damaged from improper mounting when shipped by a commercial carrier or brought to our facility by the owner. Engines that are shipped on a pallet or an old tire often encounter some sort of damage ranging from bent or broken oil and fuel lines, broken magneto flanges and carburetor bodies to dented oil sumps (particularly on Continental engines). If you are building a crate to transport the engine, make sure that the support brackets are strong enough to support the weight of the engine. Remember that depending on the model, the engines weigh between 300 to 1200 lbs and

the bouncing of the engine in a truck (particularly a commercial carrier) will bend or break a flimsy mount. If you are shipping via a commercial carrier make sure that the engine has a solid

cover. Commercial carriers haul as much freight as possible in each trailer and have been known to pile heavy freight on top of an uncovered engine resulting in damage. If you do not have a crate, call us at 1-800-561-5544. We will be glad to ship



you one of our engine containers. The additional freight cost to ship an empty container to you is cheap when compared to the replacement of a magneto body or oil sump.

Prior to packing an engine for shipment, drain the oil and fuel (hazardous) and use suitable covers over all fuel and oil fittings as well as any other openings on the engine accessories. This prevents foreign objects from entering the engine. These objects can go undetected on repairs when the engine is not completely dismantled. Be sure to include all the accessories and parts necessary to run the engine, don't leave half of it on the workbench and remember that the engine log book is considered part of the engine, make sure it's included.

Protect your engine, it's an expensive investment. ✈

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