

OEM or PMA Parts?

There's some confusion among aircraft owners and operators about the use of alternatives to original equipment manufacturer parts for type-certificated products.

So the brake pads are worn out? Well, you can't just wander down to 'Super Cheap Aerospace' for a replacement to give to your engineer. But you may be able to use a part other than the manufacturer's original.

The most straightforward option *is*, of course, the original equipment manufacturer (OEM) part, bought directly from the manufacturer, or the manufacturer's local dealer.

"Purchasers of OEM parts who look through the manufacturer's Illustrated Parts Catalogue (IPC) for a replacement part," says CAA Maintenance Examiner Rick Ellis, "need to be aware the IPC may not include the most recent parts.

"So they would do well to check the manufacturer's web site as well."

A second option is the PMA (parts manufacturer approval) replacement or modification part. These can be identical (with or without licensing agreement) to the type certificated design, or developed using processes such as test and computation or reverse engineering.

American aviation safety expert – and former National Transportation Safety Board member – John Goglia, wrote in 2012 that "...PMA parts undergo the same rigorous approval and quality control process as OEM parts..." and "...there is no safety difference between OEM and PMA parts. I am not aware of any accident or incident where a properly approved PMA part was deemed to be the causal factor."¹

The main assurance for aircraft owners and engineers when they use alternative parts, is documentary evidence proving eligibility, including the part number and the aircraft into which the part can be fitted.

For a PMA part, there should be a statement of eligibility – for the part to be installed on a type certificated product by make and model.

It's important to be aware that a replacement part may also constitute a design change (such as uprating the part), normally approved under a Supplemental Type Certificate (STC).



An FAA-approved PMA RR 250 First Stage Compressor Wheel.

The physical evidence as to its 'legitimacy' is the certificate detailing the STC number and, again, the aircraft model it will fit.

"Finally," says Rick Ellis, "an engineer may suggest to an aircraft owner that a locally fabricated part can be used. That is, one fabricated by the engineer during the course of maintenance, according to acceptable technical data that they are

entitled to use, and released to service by the engineer who carried out the maintenance."

Also consider that for leased aircraft, the lessee should check for any conditions surrounding the use of PMA or alternative parts required by the lessor.

Additionally, if you are fitting PMA parts, be aware that if selling the aircraft offshore, some overseas regulators have specific requirements as to what they will accept.

In 2007, the March/April issue of *Vector* offered the following advice – it remains just as relevant today.

- » Establish whether the part is an original replacement, a PMA part or is covered by an STC.
- » Request a properly completed FAA Form 8130-3 airworthiness approval tag or equivalent Release Document for all parts regardless of the source or approval. This is of critical importance in the case of finite-life parts.
- » When ordering a PMA part, request a copy of the relevant FAA-PMA authorization with the part, so that you can prove eligibility for fitting to your aircraft.
- » When the part is installed, keep a copy of all associated documentation in the work package.
- » Know where you can find information on Instructions for Continued Airworthiness, airworthiness limitations, and warranties, if applicable.
- » Establish a means of monitoring the issue of Service Bulletins, Airworthiness Directives and other information applicable to the parts.

If you have any questions regarding the use of PMA parts call your local Aviation Safety Adviser or the CAA Aircraft Certification Unit. ■

1 *OEM or PMA Parts – Is There a Difference?*
www.aviationpros.com