

# You're It

When you're training to fly, someone else maintains the aircraft. When you hire an aircraft, the flying school or aero club arranges the aircraft's maintenance. When you buy an aircraft, you become its 'operator', and the responsibility for maintenance is suddenly yours.

That's quite a tall order for a pilot who's not also a maintenance engineer – a whole new language, new piles of paper work, and a great deal of responsibility.

New operators may proceed undaunted, feeling certain that if work needs to be done, their maintenance organisation, or the CAA will contact them. In fact, it is the responsibility of the aircraft operator to ensure the aircraft is maintained in an airworthy condition. You may have an engineering company that plans much of this work for you, and does contact you when something needs to be done. If so, you are fortunate, but you are still not absolved of the responsibility for ensuring the maintenance is carried out at the appropriate time.

As an operator, the ideal position to be in is to have access to both the aircraft's

routine maintenance requirements, and the unexpected requirements that may emanate from the CAA, the aircraft's manufacturer, or other sources over the life of the aircraft. Armed with this knowledge, you can forward plan your aircraft's maintenance and develop good two-way communication with your maintainer.

## Type Matters

Before you buy, consider the maintenance implications of the type you choose. Will the maintenance provider have all the current maintenance manuals, service information, special tooling and parts support for your aircraft?

These manuals are now often called Instructions of Continued Airworthiness. They are made up of sections that list the regular periodic inspections required

for each of your aircraft's components, plus additional sections that can include Manufacturer's Special Instructions, Component Overhaul/Replacement Time Limits, or even Vendor Established Replacement Time Limits.

These limits could relate to trim actuator overhauls, engine controls, airframe and engine hoses, oil coolers, seat belts, electric fuel pumps etc. The requirements vary considerably between manufacturers, so it is important that you have a good idea of what these additional inspection/replacement items are likely to cost. One useful way to know what's looming is to develop a simple spreadsheet together with your maintenance provider – you are assured of the right parts being available at the right time, and your maintenance provider is not forced to constantly be the bearer of unexpected, costly news.



Some aircraft manufacturers offer more maintenance support than others. Some have free online continuing airworthiness information, while others provide this only via costly subscription services. Your maintenance provider may be somewhat reluctant to take on a very costly subscription service for an aircraft that is a one-off, especially if it is expected to fly few hours.

Some manufacturers offer user groups to which you can subscribe and receive access to additional operational and service information – consider for example, [www.cessna.org](http://www.cessna.org), and, [www.piperowner.org](http://www.piperowner.org).

Before choosing an ex-Military type aircraft, research what level of support is available. There are some web-based user groups that share information to assist with your operational and maintenance requirements. For example, if you have chosen the Yakovlev Yak 52, consider [www.russianaeros.com](http://www.russianaeros.com), [www.yakuk.com](http://www.yakuk.com), and the United Kingdom's Civil Aviation Authority web site page, [www.caa.co.uk/CAP661](http://www.caa.co.uk/CAP661), which lists UK Mandatory Permit Directives.

## Review of Airworthiness

Formerly known as the Annual Review of Airworthiness (ARA), a Review of Airworthiness must be completed every 365 days for most GA Aircraft. Special Category aircraft are the exception, and now have a 730-day period. A Review of Airworthiness can be carried out only by a Licensed Aircraft Maintenance Engineer who holds an Inspection Authorisation (IA). During the Review of Airworthiness, the IA holder checks that all the inspections listed in Civil Aviation rule 43.153 *Review requirements* have been done. This includes checking that currently, and back through the last 365 days:

- » the aircraft conforms to the Type Certificate Data sheet;
- » has all the required instruments and equipment, and that all modifications and repairs have been correctly recorded, with the applicable technical data listed;
- » that all due maintenance on the aircraft maintenance programme has been correctly recorded and certified;
- » that the maintenance programme is the correct one for your aircraft;

- » that all the relevant ADs have been assessed, embodied as required, and properly recorded;
- » that every defect has been properly recorded and rectified, and the aircraft released to service;
- » that instruments and equipment that are permitted to be inoperative are properly placarded and recorded;
- » that the aircraft weight and balance is properly controlled and documented;
- » that the aircraft Flight Manual and its supplements are current;
- » and that all the overhaul and finite lives are recorded, and are within the manufacturer's or CAA acceptable limitations.

The last check is a general condition inspection of the aircraft, but remember, a Review of Airworthiness does not constitute a pre-buy inspection.

## Airworthiness Directives

Airworthiness Directives (ADs) are mandatory airworthiness requirements that are issued by the CAA. They specify modifications, inspections, conditions or

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limitations to be applied to an aircraft or part to correct an unsafe condition.

The CAA monitors ADs issued by the Airworthiness Authority in the country of origin of all aircraft types flown in New Zealand. For example, if the Federal Aviation Authority of the United States issues an AD for an aircraft, engine, propeller, or component, for an aircraft of American origin, it will be examined by the CAA's Aircraft Certification Unit, and it is very likely that a CAA AD will be issued.

An AD may also be issued as a result of a safety concern with an aircraft type or component that has been discovered in New Zealand. This CAA AD may then be applied in other countries.

ADs are issued for the most urgent problems that present significant risk to safety. All ADs are available free on the CAA web site. You can subscribe to be notified by email when Airworthiness Directives are published.

## Service Information

As well as Airworthiness Authorities, aircraft manufacturers also continually publish service information about their aircraft and its components. Operators should ensure they have access to this information. Although more significant faults are likely to evoke ADs, the AD process is detailed and can be time-consuming. It is very possible that any free replacement deal offered by a manufacturer could be expired before an AD is even released. As an actively involved operator, staying ahead of the game can save you money.

Service information is variously called Service Bulletins, Service Letters, Alert Bulletins, Service Notices, Service Instructions, and Information Bulletins. Manufacturers generally list this information on their web sites under a heading such as Product Support.

## Continuing Airworthiness Notices

Airworthiness Authorities, including the CAA, occasionally wish to announce maintenance information about aircraft types that does not warrant an AD, but that is still useful to operators.

The CAA publishes this information as Continuing Airworthiness Notices (CANs) on the web site's AD page. The FAA publishes Aviation Maintenance Alerts. These can be found at, [www.faa.gov](http://www.faa.gov), under "Aircraft – Aircraft Safety – Aircraft Safety Alerts".

Aviation Maintenance Alerts provide the aviation community with an economical way of exchanging service experiences and assist the FAA in improving aeronautical product durability, reliability and safety.

The FAA also issue Special Airworthiness Information Bulletins or SAIBs.

These are tools that alert, educate, and make recommendations to the aviation community. SAIBs contain non-regulatory information and guidance that does not meet the criteria for an Airworthiness Directive. View them at [www.faa.gov](http://www.faa.gov), under "Aircraft – Aircraft Safety – Aircraft Safety Alerts".

Australia's Civil Aviation Safety Authority (CASA) publishes Airworthiness Bulletins or AWBs. These provide information for maintenance personnel and operators and Airworthiness Advisory Circulars (AACs) containing additional advisory information. View them on the CASA web site, [www.casa.gov.au](http://www.casa.gov.au), under "Airworthiness – Continuing Airworthiness – Airworthiness Bulletins". The CAA web site also has links to advisory airworthiness material on certain overseas web sites.

Recreational owners realise their love of flying comes at a cost. Being as prepared as possible for the real operating cost of owning an aircraft will help reduce any unexpected charges, and belonging to an ownership group will generally help too.

For more help, contact the CAA, email [info@caa.govt.nz](mailto:info@caa.govt.nz) ■

## Inspection Authorisation Initial Course

Expressions of interest are called for a Part 66 Inspection Authorisation Initial Course. An IA Certificate is an additional qualification, over and above holding a Part 66 AME Licence, to perform and certify Reviews of Airworthiness and conformity of Major Modifications and Repairs. A Renewal Course is currently planned to be run in March 2011.

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