
Airwaves



Defect Notice

HGFA Airwaves
January 2012

In This Issue

Notice - XT912 Exhaust pipes cracking

Notice - XT912 Microlights

Your Name*: Giorgio
Your HGFA number*: 200XXX
Your Email Address*:
Aircraft Type*: XT912
Time in Service and HR Reading*: 582 and 430 hours respectively.
Aircraft Registration*: T2-61xx, 32-72xx
Report Title (Identify part or area of aircraft where defect occurs)*:
Short Exhaust ? Pipe cracking and failure.

Defect Report (Written Description)*:

Cracking has been detected in the front and rear question mark shaped short exhaust pipes on two different Microlight aircraft. On both aircraft the tubes were found to have cracked along the bend away from weld lines. the tubes in question are located on the right side of the aircraft as viewed from behind the propellor. Both tubes attach directly to exhaust ports and support the muffler. The tubes in question support the muffler in the vertical plane and two other longer pipes support the muffler horizontally. Cracks were first detected in the front pipes (with EGT probes) at about 430 hours on each aircraft. The pipes were replaced soon after the cracks were detected in each aircraft and carburettor

HGFA



[HGFA Website](#)

High Adventure



[Visit Our Sponsor](#)

Icaro Helmets



[Visit Our Sponsor](#)

Moyes

synchronisations performed on each aircraft to ensure engines were running smoothly. The propellor blades were also checked to ensure proper balance. In each case, engine and propellor imbalance were ruled out as likely causes. On one aircraft the new front pipe cracked again after about 20 hours of flight and has since been replaced by the manufacturer under warranty. **The same pipe on a second aircraft suffered a major inflight failure where the pipe broke in two.** The failure occurred along a weld line. The part was only 63 hours and only 8 months old at the time. Discussions with an exhaust specialist indicated that the broken pipe displayed clear signs of heat stress and was most likely weakened by the welding process. In all, five pipes have failed on my own aircraft. Two with only 20 and 63 hours respectively.

While the failure of three short pipes (two front and one rear) at about 430 hours on two separate aircraft may be age and fatigue related. The early failure of new exhaust components may well constitute a quality control problem. Discussions with other pilots and an exhaust specialist have revealed other similar incidents have occurred on other XT912 aircraft. It was observed that once cracking was noted, it remained stable until the pipes were replaced. This was true in each of the four cases of cracked pipes for at least ten hours. However, in the case of the inflight failure no cracking was evident before failure and when it occurred an emergency landing was carried out.

The manufacturer needs to check the quality of its materials used and ensure good welding practices are followed to reduce the risk of heat stress weakening the metal.

Possible
Remedy (if any
to suggest):

Alternatively it may become necessary to increase the strength of pipe used for the exhaust. This may mean changing to a thicker mild steel pipe or even different alloy.

Has this defect
been reported to
Manufacturer?:

Yes

About 'Airwaves'

'Airwaves' is the e-newsletter of the Hang Gliding Federation of Australia. It is scheduled to be sent out monthly but actual delivery dates may vary depending on events and circumstances.

If anyone has any suggestions or comments about 'Airwaves' then please send them through to: management@hgfa.asn.au.

That's all Folks!!!

Questions and or feedback regarding HGFA Operations or Management are welcome! Please feel free to email the HGFA Committee (committee@hgfa.asn.au).

Sincerely,

The HGFA



[Visit Our Sponsor](#)

[Join Our Mailing List!](#)

State Associations

[ACT](#)

[NSW](#)

[QLD](#)

[SA](#)

[Tas](#)

[WA](#)

[VIC](#)