

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF TRANSPORT

AIRWORTHINESS ADVISORY NOTICE

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L-13 BLANIK SAFE LIFE LIMITATION

Further information has been received relating to extension of the service life of L-13 Blanik gliders. The receipt of this information from the Czechoslovakian Aviation Authorities has been expedited by personal visits to a number of overseas aviation authorities including Czechoslovakia by Mr. C.W. Riley at his own expense.

It is understood that the limitation of 3000 hours or 15000 launches in service arose at least partly out of Type Certification proceedings in the Federal Republic of West Germany where one requirement for type certification is a safe service life of 3000 hours. The average annual utilisation of 200 to 250 hours in many European countries yields a 12 to 15 year service life which has been regarded as acceptable.

There are three common methods for determining a safe service life,

- (a) by calculation,
- (b) by accelerated load cycling in a test rig to simulate service conditions, and
- (c) by a study of fatigue damage to aircraft in service.

All the above methods are subject to uncertainties dependent on how closely calculated or assumed conditions conform to actual "in service" conditions and variability between aircraft of the same type. Because of these uncertainties and variabilities a safety factor must be applied to the results obtained by any of the above methods.

The third method listed (c) is generally the surest and is understood to be the means used to justify the Blanik safe life for German Type Certification. However, at that time, the Czechoslovakian Authorities had only enough examples of gliders with sufficient time in service to justify a safe life of 3000 hours, but further operational experience has provided justification for a further extension of the glider type's safe life under the average conditions of service typical in Czechoslovakia.

Comparison of the pattern of loading of gliders in operation in Australia with that of gliders operated in Czechoslovakia may show a less severe fatigue loading condition due to the lesser number of flights per service hour. This was the purpose of the previous questionnaire sent out to Blanik operators. Despite the poor response to that questionnaire we will be sending out a further more comprehensive one and it will be in the interests of Blanik operators to provide accurate information if we are to be able to justify further extension to the Blanik safe life. It is to be hoped that a better response will be obtained second time around.

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Douglas Lyon

Douglas Lyon
CHIEF TECHNICAL OFFICER AIRWORTHINESS
GLIDING FEDERATION OF AUSTRALIA

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