



including: higher airspeeds and aerodynamic loads, less tendency for "over-design", and increased use of non-traditional methods of construction and materials affecting structural stiffness with the potential for displaying unusual failure modes. Therefore, amateur-builders and owners are cautioned to be aware of the potential for flutter and divergence with particular attention to the following:

- (a) an aeroplane with a relatively clean aerodynamic design,
- (b) an aeroplane where non-traditional construction techniques and methods are employed,
- (c) an aeroplane with a stalling speed exceeding 61 knots or a wing-loading exceeding 65 kg/m<sup>2</sup> (13.3 psf) without flaps or 100 kg/m<sup>2</sup> (20.4 psf) with flaps,
- (d) an aeroplane employing any of the following:
  - (i) pusher powerplant(s);
  - (ii) canard geometry;
  - (iii) T,V,X,H or any other unusual tail configuration;
  - (iv) external pods or stores mounted to wings or other major aerodynamic surfaces;
  - (v) fuel tanks outboard of the 50% semi-span;
  - (vi) tabs which do not meet irreversibility criteria;
  - (vii) spring tabs;
  - (viii) all-moveable tails (i.e. stabilators);
  - (ix) slender boom or twin boom fuselages;
  - (x) multiple articulated control surfaces;
  - (xi) wing spoilers;
  - (xii) leading edge devices such as slots, etc.; or
  - (xiii) - geared tabs (servo or anti-servo).

## **6. Reference Material**

- (a) AMA 549.101 (paragraph 6) (August 15, 1987)
- (b) FAA Advisory Circular (AC) 23.629-1A (October 23, 1985)

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