

	REPUBLIC OF SOUTH AFRICA CIVIL AVIATION AUTHORITY	CAA Private Bag x08 Waterkloof 0145
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OPERATION OF AIRCRAFT

SAFETY

BEECHCRAFT MODEL 35 SERIES AIRCRAFT CENTRE OF GRAVITY/MASS VERIFICATION

- ☞ *Indicates changes.*
- ☞ *This AIC replaces AIC 21-30 dated 99-04-15.*
- 1. *Since 1947, 234 of 10,405 V-tail Bonanza Aircraft that have been manufactured, were involved in fatal in-flight airframe failures.*
- 2. *A flight test program was initiated to investigate the handling qualities and related considerations for the Beech Model 35 series aircraft.*
- 3. *It was found that the stick forces per g were excessively light at the most aft centre of gravity (c of g) position and becomes even lighter beyond this limit. The structural design limit of the aircraft can easily be exceeded with minimal pilot effort.*
- 4. *The above aircraft can easily be loaded outside the approved centre of gravity limitations, even with modest loadings.*
- 5. *In view of the above, the following recommendations are made:*
 - (a) *The owners and operators should complete a number of sample loadings which represent loadings typical for their operations using the loading form in the mass and balance section of the Pilots Operating Handbook/Aircraft Flight Manual. Owners and operators should be aware of loading conditions which will exceed the c of g or mass limits.*
 - (b) *Loading conditions should be checked before each flight. Flight safety dictates that the aeroplane mass and centre of gravity be within the approved envelope during flight. Please note that the effect of possible seat adjustment in flight and the burning off of fuel, can move the c of g back by more than 2 inches.*
- 6. *The above notice is issued in the interest of aviation safety.*

COMMISSIONER FOR CIVIL AVIATION