

T.O. 1C-118A-SF-1-3

SAFETY OF FLIGHT SUPPLEMENT

FLIGHT MANUAL

USAF SERIES

C-118A and VC-118A

AIRCRAFT

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1. PURPOSE.

To provide emergency operating procedures for propeller overspeed on aircraft with Hamilton Standard hydromatic pitch lock propellers, Model 43E60-535.

2. GENERAL.

Most runaway propellers experienced have occurred as a result of loss of governing action, which, in turn, allows the propeller to go toward low blade angle. The pitch lock mechanism will cause a hydraulic lock in a propeller within the 3000 to 3100 RPM range.

3. INSTRUCTIONS.

a. Once a propeller has "locked-out" it can be considered a fixed pitch propeller, i. e., RPM can be

controlled by throttle movement. Therefore, some positive thrust can be obtained from a runaway propeller during take-off.

NOTE

Engine RPM has to be allowed to go to 3000 to 3100 RPM in order to assure a "locked-out" condition. If the throttle is reduced to prevent a propeller from "locking-out", the blades will rotate to a full low pitch position and very little forward thrust can be attained.

b. Overspeeding on Take-off. If the propeller overspeeds on take off, not to be confused with momentary surge, make every effort to maintain airspeed and directional control while accomplishing the

following recommended procedures. The procedures may be terminated at any point propeller control is gained.

NOTE

If overspeed occurs before reaching refusal speed, abort take-off.

(1) If overspeed exceeds 3300 RPM (pitch lock inoperative) and airspeed is greater than refusal speed, the following is recommended:

(a) Throttle back on overspeeding engine to 2700 RPM. If unable to control engine RPM, follow propeller overspeeding procedures.

(2) If overspeeding is below 3300 RPM (pitch lock engaged), the following is recommended:

(a) Actuate feathering button intermittently to reduce engine speed to 2700 RPM.

(b) Throttle back as required to control engine speed to 2700 RPM.

(c) If unable to control engine RPM, follow propeller overspeeding procedures.

NOTE

Maximum potential of the pitch lock is obtained by causing the propeller to lock in as high a blade angle as possible. If power is immediately reduced, the time required to reach the pitch lock engaging RPM is increased, thus permitting the blade to move to a lower blade angle than if maximum power is obtained.

CAUTION

Do not pull feathering button out beyond neutral position to unfeathering position. If feathering action is ineffective, retard respective throttle as necessary to reduce RPM.

END