

# AIRWORTHINESS ALERT

AA 1992.01

The following Emergency Bulletin, from Air Command International Inc., was sent to ASRA by the CAA

November 11, 1992

Subject: EMERGENCY BULLWHN NO.92-09-01  
FLIGHT SAFETY ITEMS REQUIRED BEFORE NEXT FLIGHT

Attention: ALL AIR COMMAND OWNERS

1. Service revealed incidents indicate a need to accomplish the following modification to Air Command Gyroplanes as described below:

- A. **Vertical Mast:** Vertical mast, p/n. 0013 should be inspected to assure that the single 2" x 2". 6061 -T6 mast has been replaced with vertical mast, p/n. 0013B which is composed of two (2) each 1" x 2", 6061 T6 segments placed together to form a 2" x 2" mast with the 2" sides oriented parallel with the longitudinal axes of the airframe. This modification doubles the strength in the longitudinal axis by providing four (4) each 2" faces instead of the original two faces in the monolithic 2 x 2 original structure.

Note 1. All Air Command Gyroplanes manufactured by Air Command Manufacturing Inc- of Liberty, Mo, were equipped originally with the single 2" x 2" mast, p/n. N0013. All Liberty manufactured aircraft should be modified with the dual redundant mast comprised of two (2) each 1" x 2" extrusions joined together as described above this mast is p/n. 0013B.

Note 2. All Air Command gyroplanes manufactured in the Daytona Beach Group between September 90 and April 92 must be inspected. Air Command gyroplanes manufactured in the Florida facility began with the 2" x 2", vertical mast, p/n. 0013, changed later to a 2" x 2" extrusion that was 2" x 2" externally with a centre interior wall p/n. 0013A. Later versions produced by the Daytona Beach group were equipped with the dual redundant mast comprised of two each 1" x 2" extrusion joined together as described above. All Air Command gyroplanes manufactured in Florida must be inspected.

Airframes with the 2" x 2" single mast with or without the internal third wall must be replaced with tire p/n. 0013B configuration.

**Caution** It is possible that Liberty, MO manufactured gyroplanes have been previously modified by a former or current owner. Should inspection of the airframe reveal the dual redundant mast is already installed, no further action is required by this service bulletin except routine inspections for serviceability.

- B. **Joystick.** Joystick, p/n. 0096 has been replaced with joystick, p/n. 0096A. The "A" version has a traditional front pivot forward of the pilot, whereas the original version pivoted under the seat and is commonly known as the "pump stick". All pump stick, under the seat pivoting joy-stick, must be replaced with the forward pivoting joystick p/n. 0096A.

Note Visual inspection of the aircraft will quickly reveal if the joystick pivots under the seat or not. All Air Command gyroplanes manufactured in Liberty, MO, were equipped with the pump stick. The Florida manufactured gyroplanes were manufactured with the pump stick early in the Florida production and later production units from Florida incorporated the front pivot joystick p/n. 0096A.

- C. **Horizontal Stabilizers:** The flying rudder must be equipped with horizontal stabilizers, kit p/n. B0052, to aid stability in pitch. Air Command gyroplanes manufactured in Liberty, MO, generally were not so equipped until late in the Liberty production.

2. Failure to comply with this emergency service bulletin essentially will cause Air Command aircraft not inspected not modified as required above to be non airworthy.

Sincerely

Harold F. Smith President

The Operations Committee has advised that Items 1A and 1C above must be complied with immediately. More information is being sought on item 1B (Joystick)

12/1992 page 19 (Summer)

## **1 Main Rotor Head Retaining Bolt:**

In the UK there have two cases reported of the head bolt loosening after use. One of these could have contributed to a fatality. As this bolt is torqued and then pinned, the loosening is attributed to deformation of a relatively soft aluminium washer under the head of the bolt. In normal circumstances, the washer has adequate strength but deformation could occur due to rough ground handling (Blade flap or ground strike.) or a set of rotors out of balance causing excessive blade vibration. Loosening of the bolt would normally manifest itself as lateral movement of the head in relation to the torque tube. The only correct way to check the bolt is to re-torque it. The fitting of a new higher grade washer is recommended. Bert Flood Imports can supply a high grade washer for Air Command Gyroplanes. Those Rotor Heads that have already been rebuilt by Graham Smythe for Bert Flood Imports have been fitted with the high grade washer, which has been tested to 10 tons.

### **Air Command 'Plastic' tail pivot block.**

This is a problem peculiar to the Air Command Gyroplane or those Gyroplanes that use the Air Command tail pivot block. The block has on several occasions been reported as cracked or broken (See page 48 of the Winter 92 Gyro News.). This is most likely due to rough landings or rough trailering, as the in flight loads are small by comparison. The block is clamped between the two tail wheel plates making failure to the point of loss of control very improbable but it should still be considered a possibility. New Air Command Gyroplanes have a machined aluminium block, that should also be available from Bert Flood Imports.

09/1992 page 35 (Spring)

### **Air Command 'Rudder Cable Arm**

There have been several reports of the alloy rudder cable front arm failing where it is through bolted to the rudder actuating bar. It is recommended that these brackets become part of your normal pre-flight check.

**Tim McClure** Chairman Operations Committee.