

## TWO SEAT GYROPLANE HANDBOOK

This Gyroplane has been tested to the standard as required by the ASRA "Type Acceptance Requirements for Two Seat Light Gyroplanes".

All judgmental, structural, and flight tests conform to this standard providing the pilot is of sufficient experience and expertise to be classified as a competent two seat gyroplane pilot.

MODEL - \_\_\_\_\_ REGISTRATION NO \_\_\_\_\_

Type Acceptance Requirements for Two Seat Light Gyroplanes Section No

### **G23 LOAD DISTRIBUTION LIMITS**

Seat Loading - Max. = \_\_\_\_ KG Min. = \_\_\_\_ KG

MINIMUM A.U.W. \_\_\_\_ KG Hang test = \_\_ deg. read on the keel.

(\_\_\_\_ empty + \_\_\_\_ seat + 0 fuel)

MAXIMUM A.U.W. \_\_\_\_ KG Hang test = \_\_ deg. read on the keel.

(\_\_\_\_ empty + \_\_\_\_ seat + \_\_\_\_ fuel)

### **G29 EMPTY WEIGHT OF AIRCRAFT**

AIRCRAFT EMPTY WEIGHT \_\_\_\_\_ KG

Including unusable fuel.

### **G32 ROTOR SPEED LIMITS**

Minimum safe rotor speed = \_\_\_\_ R.P.M.

\_\_\_\_ KG      500 FT      \_\_\_\_ KNTS

Maximum safe rotor speed = \_\_\_\_ R.P.M.

\_\_\_\_ KG      500 FT      \_\_\_\_ KNTS

Blade manufacturer = \_\_\_\_\_

Blade diameter = \_\_\_\_\_

**NOTE:** THE FOLLOWING TEST FIGURES ARE AT INTERNATIONAL STANDARD ATMOSPHERE CONDITIONS. THIS NOMOGRAPH MAY BE USED TO CORRECT FOR VARIATION TO THESE CONDITIONS.

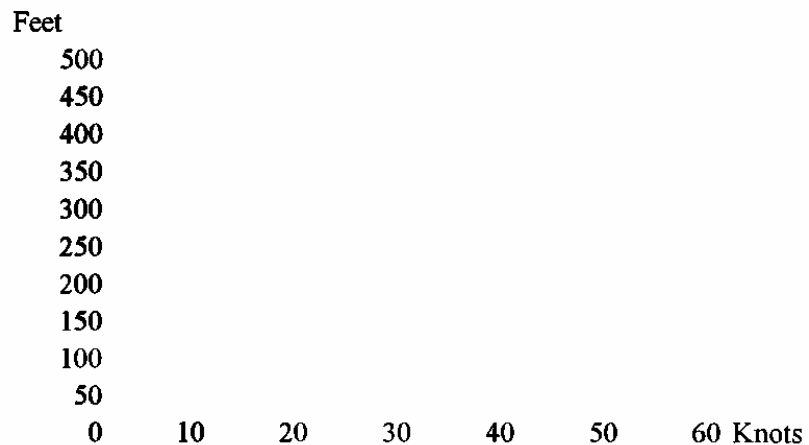
### **NOMOGRAPH**

**WARNING**

**THESE “DISTANCES FOR TAKE OFF” CAN ONLY BE ACCOMPLISHED BY HAVING THE ROTORS ROTATING AT THE REQUIRED RPM AT THE BEGINNING OF ROLL AND CORRECT ROTOR ACCELERATION TECHNIQUE BEING USED DURING ACCELERATION TO TAKE OFF RPM.**

**CHANGES IN A.U.W., AND DENSITY ALTITUDE WILL AFFECT THESE FIGURES.**

- G51** 1. Take off distance required at max. A.U.W  
with Prerotator (180 R.P.M.) \_\_\_\_\_ metres
- 2. Take off distance required at max. A.U.W.  
Without Prerotator (80 R.P.M.) \_\_\_\_\_ metres
- G65** Rate of climb at max. A.U.W. \_\_\_\_\_ kts \_\_\_\_\_ ft per min
- G71** Minimum rate of descent (approx.)  
Eng. at idle \_\_\_\_\_ kts \_\_\_\_\_ ft per min
- G73** Minimum flight speed at max. A.U.W./Max continuous power  
\_\_\_\_\_ kts
- G75** Min distance to land from 50ft altitude with nil power - 50 KTS  
\_\_\_\_\_ metres
- G79** **HEIGHT/SPEED RECOVERY GRAPH ( at Max. A.U.W.)**



**Height/Speed Recovery Graph (Max A.U.W.) G**

- G145** V.N.E. \_\_\_\_\_ kts
- Maximum operating wind speed \_\_\_\_\_ kts
- Maximum cross wind component \_\_\_\_\_ kts
- Maximum tail wind component \_\_\_\_\_ kts
- G235** Maximum taxi speed \_\_\_\_\_ kts
- Maximum ground speed \_\_\_\_\_ kts

**G955 FUEL FLOW**

Take-off fuel consumption is \_\_\_\_\_ Ltrs/Hr  
Fuel supply is (b) Pump System.  
\_\_\_\_\_ Ltrs/Hr

- G1521** Engine type = \_\_\_\_\_ Model = \_\_\_\_\_ - \_\_\_\_\_ HP
- Max RPM = \_\_\_\_\_
- Propeller type = \_\_\_\_\_” Warp Drive Max RPM \_\_\_\_\_
- Recommended pitch at tip = \_\_\_\_\_ degrees.

**ENGINE/AIRFRAME**

**DAILY INSPECTION**

**WARNING Ensure ignition switches “OFF”**

**CHECK**

1. **WHEELS** for correct inflation - security - condition.
2. **AIRFRAME** for cracks - security - damage - distortion..
3. **CONTROL SYSTEM** for security - distortion - free movement of all components - all securing devices are safe tied.
4. **CONTROL SURFACES AND OPERATING CABLES** for condition security - freedom of movement..
5. **ENGINE MOUNT** for condition - security.

6. **ROTOR HEAD AND ROTORS** for security - freedom of movement - condition and distortion.
7. **ENGINE AND ASSOCIATED SYSTEMS** for correct fluid levels - security - leaks - condition of hoses/cables - battery for security and fluid level.
8. **SEAT BELTS** for security - operation - condition.
9. **INSTRUMENTS** for security - operation.
10. **ANCILLARY STRUCTURES** for security - condition.
11. **CARRY OUT** water drain from fuel tanks.
12. **PROPELLER** for condition - security.

**NOTE : PLEASE SEE SEPARATE “GUIDE FOR SCHEDULED MAINTENANCE”, AND COMPONENT MANUALS, FOR A MORE COMPLETE MAINTENANCE SCHEDULE.**

### **SUGGESTED INSPECTIONS / MAINTENANCE**

**TO BE CARRIED OUT AT 50 HOUR INTERVALS**

#### **AIRFRAME**

**INSPECT AIRFRAME ALUMINIUM COMPONENTS FOR:**

1. **Cracks**, particularly around bolt hole areas.
2. **Scratches** These “must” be blended out or if too severe component to be replaced.
3. **Movement** between mating components i.e. cheek plates brackets etc.
4. **Distortion or bending.**
5. **Corrosion** Surface corrosion may be removed and area treated. Other forms of

5.

corrosion. i.e. intergranular etc. renders component unsafe.

6. **All bolts** for tension and security.

**INSPECT METAL COMPONENTS FOR:**

1. **Cracks** around welded areas.
2. **Distortion or bending.**
3. **Evidence** of rusting (internal and external).
4. Protective coatings.
5. **All retaining bolts** for tension and security.

**INSPECT WHEELS AND TYRES FOR:**

1. Tread wear.
2. Perishing of rubber.
3. Correct air pressure.
4. Bearings are free to rotate.
5. Rims for corrosion, cracks, distortion and security.

**AIRFRAME GENERAL:**

1. Check for loose/missing rivets.
2. Rod End bearings for condition, freedom of movement and security.
3. Seat belts for condition security and operation of buckles.
4. Rudder cables for security and condition.
5. All “bushed” components to be disassembled, cleaned, inspected and lubricated before reassembly.

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6. Inspect fibre glass fairings for condition and security.
7. Inspect fuel tanks and fuel lines for security, leaks and hoses/tubes for deterioration.
8. Instruments for security and operation.
9. All control operating components for condition distortion and freedom of movement.
10. Ensure throttle operating cable is serviceable.

#### **ROTOR BLADES AND HEAD:**

1. Inspect rotors for distortion, skin bonding, corrosion, rivets for security. Nicks and scratches and ensure drain holes free of obstruction.
2. Hub bar for nicks and scratches, corrosion, security of teeter block, condition of bushings, and ensure alignment marks are still visible.
3. Inspect rotor head for condition and security.
4. Ensure main bearing free of binding or rough running.
5. Inspect, clean and lubricate all pivot points.

#### **PROPELLER**

1. Ensure retaining bolts tensioned to manufacturers specifications.
2. Inspect propeller blades for cracks (particularly around boss area).
3. Repair stone chips.
4. Carry out propeller balance if required.

#### **ELECTRICS**

Inspect all electric cables for condition and security.

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**NOTE - ON COMPLETION OF MAINTENANCE OR REPAIR, AN INSPECTION BY AN INDEPENDENT PARTY IS RECOMMENDED TO ENSURE AIRCRAFT AND OCCUPANT SAFETY.**

**ANY MODIFICATIONS TO THIS AIRCRAFT MUST BE NOTIFIED TO THE REGISTRAR COMPLETE WITH PROOF OF COMPLIANCE TO THE "TYPE ACCEPTANCE REQUIREMENTS FOR TWO SEAT LIGHT GYROPLANES" PRIOR TO NEXT FLIGHT.**

Insert Picture of Gyroplane Here