PARTENAVIA VH-IYC

QRH

A. PRE-FLIGHT CHECKS

a. External Inspection

a.1 Check for general serviceability and cleanliness of all external surfaces, intakes, and aerials. Accumulations of frost and snow must be adequately removed.

a.2 Check security of access panels and fuel tank caps.

a.3 Inspect de-icer boots (if fitted) for damage.

a.4 Examine oleo gear for obvious pressure faults and inspect tyres for creeping and condition. Check the brake hoses for general serviceability and look for signs of fluid leakage in this area.

a.5 See that the wheels are correctly chocked, and all external locks and covers are removed and stowed.

CAUTION

If fluid defrosting preparations are used to clear ice and snow from wing and tail surfaces, ensure that the solutions do not contaminate control surface ball races as this can lead to seizure.

b. Internal Inspection Check Security of Seats and Safety Belts.

SECTION II – NORMAL PROCEDURES

B. BEFORE STARTING ENGINES

1. Pre-flight Inspection - COMPLETE
2. Cabin Door Safety - LATCHED
3. Seats - ADJUSTED
4. Seat Belts - FASTENED
5. Parking Brake - SET
6. Circuit Breakers - ON
7. Radios - OFF
8. Alternate Air - OFF
9. Battery and Alternators - ON
10. Fuel Selectors – ON

C. STARTING ENGINES (ON AIRCRAFT BATTERY)

1. Mixture Controls - IDLE CUT-OFF
2. Throttle Controls - OPEN ½ INCH
3. Propeller Controls - FORWARD
4. Master Switch - ON
5. Engine to be Started

5.1 Ignition Switch - LEFT MAGNETO ON

5.2 Auxiliary Fuel Pumps – ON

(continued over page)

5.3 Mixture Controls – Move to RICH position until a fuel flow is indicated and stabilised, then move to IDLE CUT-OFF

5.4 Propeller - CLEAR

5.5 Starter - ENGAGE

5.6 Mixture Control - Advance as Engine Starts

5.7 Ignition Switches - BOTH ON

5.8 Oil Pressure - Check to see that the oil pressure rises within thirty seconds, except in very cold weather when it may take somewhat longer. If the oil pressure does not show an indication, shut down the engine and have it checked.

5.9 Auxiliary Fuel Pumps - OFF. Check Fuel Pressure

6. Repeat steps 5.1 through 5.9 with the other Engine

NOTE: When starting on External Power leave Battery and Alternators OFF.
After disconnecting the External Power, switch ON the battery first and then the Alternators

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D. ENGINE RUN-UP

1. Parking Brake – SET

2. Fuel Selectors – ON SAME SIDE TANK

3. Mixture Controls – FORWARD

4. Propeller Controls - FORWARD

5. Alternate Air - OFF

6. Both Engines at 1200 RPM

7. Left Engine

7.1 Throttle Control – FORWARD TO 1500 RPM

7.2 Alternator Output - CHECK

7.3 Stand by Voltage Regulator - CHECK

7.4 Propeller Control – Check the feather position by bringing the propeller control fully back and then to the full forward position. Do not allow more than a 500 RPM drop during the feathering check

7.5 Mixture Control - CHECK

7.6 Throttle Control – FORWARD TO 2100 RPM

7.7 Alternate Air Control – ON then OFF again

7.8 Magnetos – CHECK

Normal drop – 100 RPM

Maximum drop – 175 RPM

Maximum Differential Drop – 50 RPM

7.9 Throttles – 1200 RPM

8. Repeat steps 7.1 through 7.9 with the Right Engine

E. BEFORE TAKE-OFF

1. Fuel Selectors – ON SAME SIDE TANK
2. Alternators – ON
3. Engine Gauges – IN THE GREEN
4. Vacuum Gauge – 4.5 to 5.2 In. Hg.
5. Altimeter – SET
6. Trim Tabs – SET
7. Clock – WOUND AND SET
8. Mixtures – FORWARD
9. Propellers – FORWARD
10. Quadrant Friction – ADJUSTED
11. Alternate Air – OFF
12. Wing Flaps – SET FOR TAKE-OFF
13. Seat Belts – FASTENED
14. Door – LOCKED
15. Controls – FREE, FULL TRAVEL
16. Auxiliary Fuel Pumps – ON
17. Pitot Heat – AS REQUIRED

F. TAKE-OFF AND CLIMB

1. Throttles – FORWARD
2. Raise Nose Wheel at 62 Kts. IAS (Minimum Control Speed)
3. Accelerate to 90 Kts. IAS (Best Rate of Climb Speed)
4. Retract Flaps at Safe Altitude
5. Maximum Climb Power: 2700 RPM – FULL THROTTLE
6. Auxiliary Fuel Pumps – OFF

G. CRUISE

1. Throttles – SET
2. Engine RPM – SET
3. Mixtures – SET
4. Entering I.M.C.: Watch for possible need of Alternate Air.

H. BEFORE LANDING

1. Auxiliary Fuel Pumps – ON
2. Mixtures – FULL RICH
3. Propellers - FORWARD
4. Alternate Air – OFF
5. Flaps – DOWN 15° below 157 Knots IAS
6. Flaps – DOWN 35° below 101 Knots IAS
7. Minimum Control Speed - 62 Knots IAS

I. AFTER LANDING

1. Auxiliary Fuel Pumps – OFF (During Landing Run)
2. Wing Flaps – UP
3. Unnecessary Radios - OFF

J. SECURING AIRCRAFT

1. Parking Brake - SET
2. Radios - OFF
3. Throttles - IDLE
4. Propellers – FORWARD
5. Mixtures – IDLE CUT-OFF
6. Breaker Switches - OFF
7. Magneto Switches – OFF
8. Battery and Alternators - OFF

LIMITATIONS

ENGINE LIMITS: For all operations 2700 RPM, 200 HP

FUEL: 103 U.S. Gallons (392 Litres)

Usable Capacity: 51.5 U.S. Gallons (196 Litres) each tank

Unusable Fuel 2.5 U.S. Gallons (9 Litres) each tank

Avoid Rapid Taxi Turns before Take-off or Excessive Nose-up Attitude with ¼ fuel or less in each tank

OIL: Total Oil Capacity: 8 Quarts per Engine

Usable Oil: 6 Quarts per Engine

ENGINE INSTRUMENTS:

1. Engine Gauge Unit

a. Oil Temp: Green Arc (Normal) 75 °F to 245 °F Red Radial 245 °F

b. Oil Pressure: Red Radial (Minimum for Idle) 25 PSI

Green Arc 60 PSI to 90 PSI Red Radial (Maximum) 90 PSI

c. CHT: Green Arc (Normal) 200 °F to 475 °F Red Radial 475 °F

2. Tachometer

Green Arc (Normal) 550 RPM to 2700 RPM

Red Arc 2100 RPM to 2350 RPM (for IO-360-A1B only)

Red Radial (Maximum) 2700 RPM

3. Fuel Pressure (Fuel Flow Gauge) Red Radial (Maximum) 12 PSI

4. Suction Green Arc 4.5 to 5.2 in. Hg.

AIRSPEED LIMITATIONS: (*)

Never Exceed (Red Radial) 193 Kts. CAS

Caution Range (Yellow Arc) 153 Kts. CAS to 193 Kts. CAS

Normal Operating Range (Green Arc) 64 Kts.CAS to 153 Kts. CAS

Flap Operating Range (White Arc) 56 Kts. CAS to 99 Kts. CAS

Maximum Flap Extension Speed:

0° to 17° 152 Kts. CAS

17° to 30° 138 Kts. CAS

30° to 35° 99 Kts. CAS

Best Single Engine Rate of Climb (Blue Radial) 89 Kts. CAS

Manoeuvring Speed 125 Kts. CAS

Maximum Structural Cruising Speed 153 Kts. CAS

Minimum Single Engine Control Speed (Red Radial) 60 Kts. CAS

Maximum demonstrated crosswind velocity for Take-off and Landing 25 Kts.

FLIGHT LOAD FACTORS :

At Maximum Gross Weight of 4321 pounds:

Manoeuvre: Flaps 0° Positive 3.8 g; Negative 1.52 g

Flaps 35° Positive 2.0 g; Negative 0.80 g

MAXIMUM TAKE-OFF WEIGHT: 4321 Pounds

MAXIMUM LANDING WEIGHT: 4100 Pounds

SECTION III – EMERGENCY PROCEDURES – EMERGENCY CHECK LIST

1. ENGINE INOPERATIVE PROCEDURE

A. ENGINE FAILURE DURING TAKE-OFF – SPEED BELOW 62 Kts IAS

1. Throttles – CLOSE IMMEDIATELY
2. Brakes – AS REQUIRED

B. ENGINE FAILURE DURING TAKE-OFF – SPEED ABOVE 62 KNOTS IAS RUNWAY STILL AVAILABLE FOR LANDING

1. Cut Power
2. Maintaining Direction, Land Directly

C. ENGINE FAILURE DURING TAKE-OFF – SPEED ABOVE 62 KNOTS IAS AND NO RUNWAY AVAILABLE FOR LANDING

1. Maintain enough speed margin above VMC = 62 Knots IAS and maintain heading with co-ordinated use of Rudder and Ailerons
2. Both Engines: THROTTLES FULL FORWARD
3. Flaps Retracted (If extended)
4. Trim Tabs: ADJUST
5. Inoperative Engine:

5.1 Throttle – CLOSE

5.2 Propeller – FEATHER

5.3 Mixture – IDLE CUT-OFF

5.4 Auxiliary Fuel Pump – OFF

5.5 Magnetos – OFF

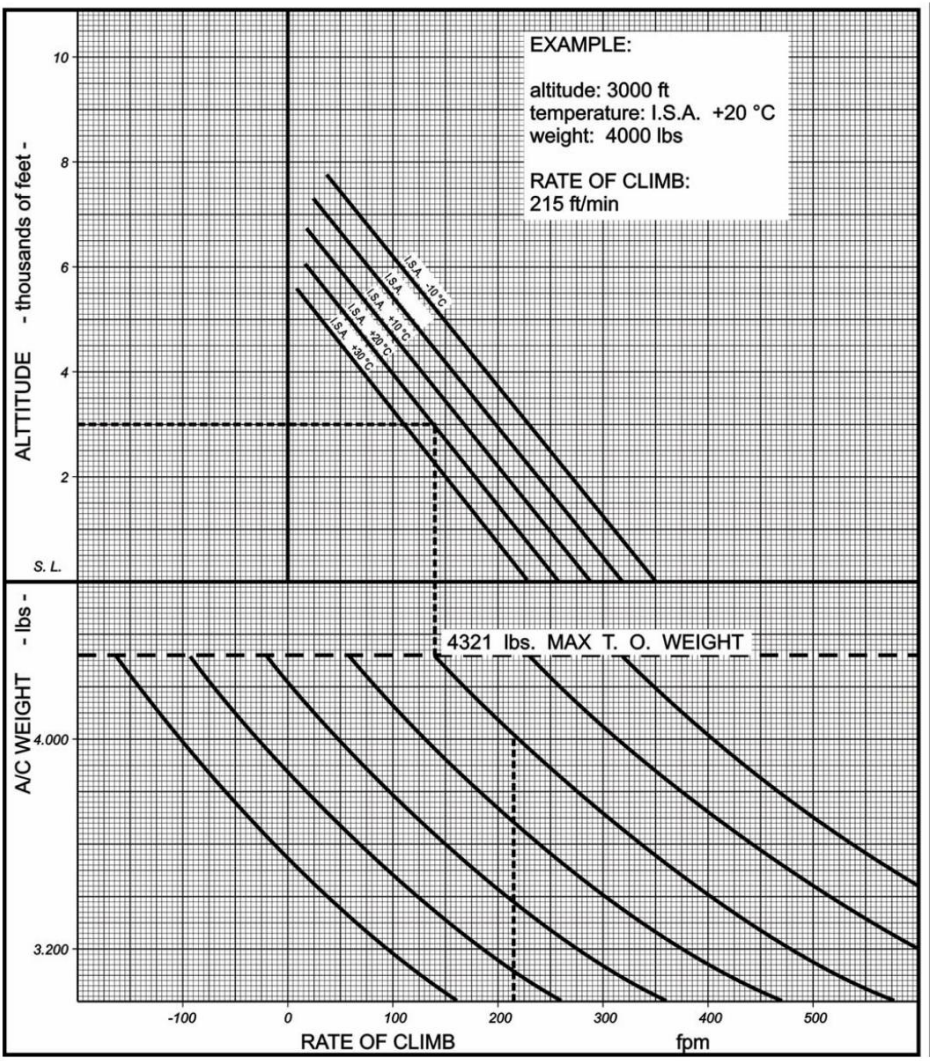
5.6 Fuel Selector – ENG. SHUT OFF

5.7 Alternator - OFF

6. Climb at Best Single Engine Climb Speed 88 Knots IAS
7. Land as soon as practicable

SECTION IV – PERFORMANCE

RATE OF CLIMB – CRITICAL (LEFT) ENGINE INOPERATIVE
(BEST RATE OF CLIMB SPEED – 88 KIAS)



D. PROCEDURE FOR BEST PERFORMANCE AFTER ENGINE FAILURE DURING CRUISE FLIGHT

1. Inoperative Engine – SECURE
2. Operative Engine – ADJUST
3. Trim Tab - ADJUST
4. Fuel Valve Positions: Inoperative Engine – ENG. SHUT OFF
   Operative Engine – ON SAME SIDE TANK.

   Also see Cross-feed Procedure
5. Electrical Load – DECREASE TO MINIMUM REQUIRED
6. As soon as practicable – LAND

E. ENGINE INOPERATIVE LANDING

1. Operative Engine:

1.1 Fuel Selector – ON SAME SIDE TANK

1.2 Mixture – FULL RICH

1.3 Propeller – FORWARD

1.4 Auxiliary Fuel Pumps - ON

2. Approach at – 88 Knots IAS

3. Wing Flaps – DOWN when landing is assured

F. ENGINE INOPERATIVE GO AROUND

1. Throttle – FULL FORWARD

2. Flaps - UP (If extended)

3. Climb at Best Single Engine Climb Speed – 88 Knots IAS

G. ENGINE RESTART IN FLIGHT

1. Fuel Selectors – ON

2. Magneto Switches – ON

3. Throttle – FORWARD APPROXIMATELY ONE INCH

4. Propeller – OUT OF FEATHER POSITION

5. Starter . PRESS AND HOLD UNTIL ENGINE IS WINDMILLING

6. Mixture – FULL RICH

7. Alternator – ON

H. FUEL CROSSFEED PROCEDURE

1. Right Tank to Left Engine (Right Engine Shut Off): LH Fuel Selector - TANK OFF RH Fuel Selector - ENG. SHUT OFF

2. Right Tank to Both Engines: RH Fuel Selector – CROSSFEED
LH Fuel Selector - TANK OFF

3. Left Tank to Right Engine: (Left Engine Shut Off): RH Fuel Selector - TANK OFF LH Fuel Selector - ENG. SHUT OFF

4. Left Tank to Both Engines: RH Fuel Selector - TANK OFF
LH Fuel Selector - CROSSFEED

I. FUEL SYSTEM INDEPENDENCE

To obtain complete independence between the Right Side Fuel System and the Left Side Fuel

System, position each Fuel Selectors ON.

II. FLIGHT INSTRUMENTS – EMERGENCY PROCEDURE

A. VACUUM SYSTEM (Attitude and Directional Gyros)

1. Red Indicator on Gauge will show Failure
2. Automatic Valve will select Operative Source

B. STATIC ALTERNATE AIR DOOR ACTUATION

In the event office, foreign matter or other causes obstructing the external static doors, actuate the Alternate Air Control located on the left hand side of the Engine Pedestal.

The correction on the Altimeter and the Air Speed Indicator is contained in – 30 ft. and – 4 Kts.

III. ELECTRICAL SYSTEM – EMERGENCY PROCEDURES:

1. ALTERNATORS

A. ONE ALTERNATOR EMERGENCY LIGHT COMES ON :

1. Check the Alternator Output
2. If the Alternator's Output is Normal, disregard the light
3. If Output is Zero, Insufficient or Fluctuating, Switch Off the Alternator

B. BOTH ALTERNATOR EMERGENCY LIGHTS COME ON:

1. Reduce Electric Load to a Minimum
2. Switch to Stand-by Regulator
3. If Emergency Lights go off, reconnect electric loads
4. If lights do not go off, switch both Alternators off and prepare to terminate the flight

WARNING

In case of an abnormally high load, it could occur that when switching back on the electrical loads, the failure lights may come on again. In this case leave the abnormal load OFF and repeat the manoeuvre from steps B1 to B3.

IV. SPINS

All spins are prohibited. However, in the event an unintentional spin is encountered, recovery can be accomplished by immediately using the following procedures:

a. Retard both throttles to the idle position

b. Apply full rudder in the opposite direction of the spin.

c. Push control wheel forward.

d. Maintain controls in these positions until the spin stops, then neutralise rudder.

e. Recover from dive with smooth back pressure on the control wheel. No abrupt control movement should be used during recovery from the dive, as the manoeuvring speed and positive limit factor may be exceeded.