



## HANDLING NOTES

### Piper Cub PA – 18 O-200A ZK-BQV

#### ENGINE START (Scan top right to bottom left) \*BTU Differences

1. Brakes - Parked
2. Master Switch - On
3. \* Nav Lights - On
4. Radio/Transponder - Off
5. Primer - Locked (3 pumps if engine cold)
6. Mixture - Rich
7. Fuel - On **lowest** tank
8. Carb Heat - Cold (off)
9. Ignition - On Both
10. Throttle - Set ¼" Open
11. Propellor - Clear
12. Stick Back
13. \* Press Starter
14. Oil Pressure - Indicated within 30 secs (if not, shut down)
15. Tachometer - 1000 Rpm
16. Magneto check - Left – Right – Off – Both
17. Radio - On
18. Transponder - Standby

#### ENGINE RUN-UP

1. Park Brakes - Not over loose objects, slipstream clear, stick back.
2. Throttle - 1000 RPM
3. Fuel - Change to **Fullest** tank
4. \* Throttle - 1700 RPM
5. Engine Instruments - Operating in Green Range  
Oil Pressure 30 – 40 PSI  
Oil Temp 90 – 225°F
6. Carb Heat - check RPM drop
7. \* Magneto Check - Left – Both – Right – Both  
Max RPM drop 175,  
Max differential 50 RPM
8. Generator - Use nav. lights to check operation.
9. Throttle - Full closed, idle 500 – 700 RPM  
- Set 1000 RPM



## PRE-TAKEOFF CHECKS

- |                             |                              |
|-----------------------------|------------------------------|
| <b>T – Trim</b>             | - Set for Takeoff            |
| <b>M – Mixture</b>          | - Rich, Carb Ht Cold         |
| <b>P – Pitch</b>            | - Fixed                      |
| <b>F – Fuel</b>             | - Contents Sufficient        |
|                             | - Cock on Fullest Tank       |
|                             | - Primer Locked              |
| <b>F – Flaps</b>            | - Fixed                      |
| <b>I – Ignition</b>         | - On both                    |
|                             | - Master Switch on Main      |
|                             | - Fuses, Circuit Breakers    |
| <b>I – Instruments</b>      | - Checked left to right      |
| <b>H – Hatches, Harness</b> | - Secure                     |
| <b>C – Controls</b>         | - Full, Free & correct sense |
| <b>T – Traffic</b>          | - Clear on finals,           |
|                             | - Transponder On.            |

## PRE LANDING CHECKS

- |                             |                        |
|-----------------------------|------------------------|
| <b>B – Brakes</b>           | - Check Pressure, Off  |
| <b>U – Undercarriage</b>    | - Fixed                |
| <b>M – Mixture</b>          | - Rich                 |
| <b>P – Pitch</b>            | - Fixed                |
| <b>F – Fuel</b>             | - Contents Sufficient  |
|                             | - Cock on Fullest Tank |
|                             | - Primer Locked        |
| <b>H – Harness, Hatches</b> | - Secure               |

## SHUTDOWN CHECKS

- |                       |                             |
|-----------------------|-----------------------------|
| 1. Idle               | - 1000 RPM                  |
| 2. Radio, Transponder | - Off                       |
| 3. Magnetos           | - Left - Right - Off - Both |
| 4. * Mixture          | - Full Lean                 |
| 5. Magneto Switch     | - Off                       |
| 6. Master Switch      | - Off                       |



## GENERAL HANDLING

### TAKEOFF

#### 1. Normal

- Hold stick back during initial power application.
- As full power is reached, stick forward to raise tail, maintain direction, maintain level attitude until 50 mph, aircraft should be ready to lift off.
- Normal climb speed (best rate) 70 mph.

#### 2. Short

- As above, but hold tail low, until just clear of ground.
- Lift off should occur at a very low IAS, hold in ground effect until best angle of climb speed is reached – 63 mph

### CLIMB

- Best Rate of Climb - 70 mph
- Best Angle of Climb - 57 mph
- Climb at full throttle.

### CRUISE

Power setting of 2350 Rpm – 90 mph, 80 kts TAS

### STALL SPEED

Power off – approx 40 mph

### DESCENT

- Avoid power off descent due to rapid & uneven engine cooling causing cylinder head cracking.
- Power on descent at 2300 Rpm – approx 105 mph (500 fpm)
- Cruise descent at 2000 RPM – 90 mph (500 fpm)
- Normal glide speed - 70 mph



## **APPROACH & LANDING**

### 1. Normal

- Glide approach and 3 point landing is normal. Trim for 70 mph
- Carb ht on during approach. Off at 500' AGL.
- Reduce speed through the flare, land 3 point attitude.
- Maintain direction with rudder.
- Brakes as required, but not abused.
- For powered approach maintain 60 mph.

### 2. Short

- As above, approach at 63 mph, reducing to 55 mph crossing the fence (or at decision point).

### 3. Crosswind

- Approach and flare as normal.
- Hold into wind wing down with aileron, keep straight with rudder, land on into wind wheel.
- **MAXIMUM CROSS WIND COMPONENT – 8 KNOTS.**
- Wheeler landing recommended for maximum control on rollout.

### 4. Specifications

- Engine - Continental O-200A  
 - 100 hp @ 2750 Rpm
- Weights - MAUW - 1500 lbs /681 kgs  
 - Empty - 978 lbs / 444 kgs  
 - Max baggage - 50 lbs / 22 kgs
- Fuel - Total capacity - 132 ltrs  
 - Average consumption - 22.5 ltrs/hr
- Oil - Total capacity 4.8 quarts  
 - Normal, 4 quarts, (3 quarts minimum).
- Grade Shell W100+ (bottles kept in  
 - cupboard in hangar)
- Dimensions - Length - 23 ft  
 - Span - 35 ft.



## Summary of Differences between ZK-BTU and ZK-BQV

**Intercomm** - Right switch controls volume.  
 - Left switch controls VOX operation.

**Starter** - Only requires the starter button to be depressed.

**Airspeed Indicator** – Indicates in mph

**Brakes** - Disc brakes operated by heel pedals, are more effective than disc brakes fitted to BTU. Park brake operates the same way.

**Beacon** - Not fitted to BQV so must operate nav lights during the day.

**Engine Run-up** - Carried out at 1700 RPM, max drop 175 RPM.

**Engine Shut-down** – Idle cutoff fitted to carb, shut-down is accomplished by pulling mixture lever to ICO. Leave fuel cock on.

## Crosswind component calculation

10<sup>0</sup> off runway heading /100 = .1 + .1 = .2 x wind speed  
 20<sup>0</sup> off runway heading /100 = .2 + .1 = .3 x wind speed  
 30<sup>0</sup> off runway heading /100 = .3 + .2 = .5 x wind speed  
 40<sup>0</sup> off runway heading /100 = .4 + .2 = .6 x wind speed  
 50<sup>0</sup> off runway heading /100 = .5 + .2 = .7 x wind speed  
 60<sup>0</sup> off runway heading /100 = .6 + .2 = .8 x wind speed  
 70<sup>0</sup> off runway heading /100 = .7 + .2 = .9 x wind speed  
 80<sup>0</sup> off runway heading /100 = .8 + .2 = 1 x wind speed  
 90<sup>0</sup> off runway heading /100 = .9 + .2 = 1 x wind speed

### For example

Runway 03  
 Wind 060/20

30<sup>0</sup> off runway heading /100 = .3 + .2 = .5 x 20 (wind speed) = 10 kts crosswind component.

