

## Piper Warrior PA28-161 QUICK Reference Handbook



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## NORMAL CHECKLIST & PROCEDURE

### PRE-FLIGHT CHECK

1. AS PER POH AND CAR SCHEDULE 5

### BEFORE STARTING ENGINE

1. PRE-FLIGHT INSPECTION.....COMPLETE
2. POH & MR.....COMPLETE & ONBOARD
3. W&B, T/O & LANDING CHARTS.....COMPLETE & ONBOARD
4. SEATS, BELTS, SHOULDER HARNESS.....LOCK FASTEN & ADJUST
5. FUEL SELECTOR.....LEFT OR LEAST
6. PARK BRAKE.....SET ON
7. ELEVATOR TRIM.....CHECK TRAVEL, THEN SET FOR NEUTRAL
8. CIRCUIT BREAKERS.....CHECK IN
9. ALTERNATE STATIC.....OFF
10. FLIGHT INSTRUMENTS.....NO BREAKAGE
11. RADIOS, ELECTRICAL EQUIPMENT.....OFF
12. EXTERNAL LIGHTS.....AS DESIRED
13. CARBURETTOR HEAT.....FULL OFF

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**ENGINE START (COLD)**

- |   |                                  |                            |
|---|----------------------------------|----------------------------|
| 1.  | MIXTURE.....                     | FULL RICH                  |
| 2.  | THROTTLE.....                    | 1/4 INCH OPEN              |
| 3.  | BATTERY MASTER & ALTERNATOR..... | ON                         |
| 4.  | ELECTRIC FUEL PUMP.....          | ON & CHECK FUEL PRESSURE   |
| 5.  | PRIME.....                       | HOLD FOR 5 SECS            |
| 6.  | PROPELLER AREA.....              | CLEAR                      |
| 7.  | STARTER.....                     | ENGAGE                     |
| <b>(CRANK THE ENGINE NO MORE THAN 10 SECONDS)</b> |                                  |                            |
| 8.  | THROTTLE.....                    | SET 1000 RPM               |
| 9.  | OIL PRESSURE.....                | CHECK GREEN WITHIN 30 SECS |

**ENGINE START (HOT)**

- |   |                                  |                            |
|---|----------------------------------|----------------------------|
| 1.  | MIXTURE.....                     | FULL RICH                  |
| 2.  | THROTTLE.....                    | 1/2 INCH OPEN              |
| 3.  | BATTERY MASTER & ALTERNATOR..... | ON                         |
| 4.  | ELECTRIC FUEL PUMP.....          | ON & CHECK FUEL PRESSURE   |
| 5.  | PROPELLER AREA.....              | CLEAR                      |
| 6.  | STARTER.....                     | ENGAGE                     |
| <b>(CRANK THE ENGINE NO MORE THAN 10 SECONDS)</b> |                                  |                            |
| 7.  | THROTTLE.....                    | SET 1000RPM                |
| 8.  | OIL PRESSURE.....                | CHECK GREEN WITHIN 30 SECS |

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**ENGINE START (FLOODED)**

1. MIXTURE.....IDLE CUT-OFF
2. THROTTLE..... FULL OPEN
3. BATTERY MASTER & ALTERNATOR.....ON
4. ELECTRIC FUEL PUMP..... OFF
5. PROPELLER AREA..... CLEAR
6. STARTER.....ENGAGE  
**(CRANK THE ENGINE NO MORE THAN 10 SECONDS)**
7. MIXTURE..... ADVANCE TO FULL RICH
8. THROTTLE..... RETARD & SET 1000 RPM
9. OIL PRESSURE.....CHECK GREEN WITHIN 30 SECS

**ENGINE START (EXTERNAL POWER)**

1. BATTERY MASTER & ALTERNATOR.....OFF
2. ALL ELECTRICAL EQUIPMENT.....OFF
3. TERMINALS..... CONNECT
4. EXTERNAL POWER PLUG..... INSERT IN FUSELAGE  
**(CONTINUE WITH NORMAL START WITH BATT/ALT SWITCH OFF)**
5. THROTTLE..... LOWEST POSSIBLE RPM
6. EXTERNAL POWER PLUG.....DISCONNECT FROM FUSELAGE
7. BATTERY MASTER SWITCH & ALTERNATOR.....ON
8. OIL PRESSURE..... CHECK GREEN WITHIN 30 SECS

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**AFTER START**

1. POWER..... SET 1000 RPM
2. OIL PRESSURE.....CHECK GREEN WITHIN 30 SECS.
3. AMMETER..... POSITIVE LOAD
4. SUCTION..... INDICATING
5. ELECTRIC FUEL PUMP..... OFF
6. FUEL PRESSURE..... CHECK
7. AVIONICS..... ON & ADJUST
8. FREQUENCY..... SET

**TAXI**

1. BRAKES/STEERING.....CHECK
2. DI & COMPASS..... NUMBERS INCREASE OR DECREASE
3. TURN CO-ORDINATOR.....SKID LEFT OR RIGHT
4. ATTITUDE INDICATOR..... WINGS LEVEL
5. NAVAIDS..... TRACKING

**ENGINE RUN-UP**

1. POSITION..... PARK INTO WIND
  2. PARK BRAKE..... SET ON
  3. THROTTLE.....1000 RPM
  4. OIL PRESSURE..... GREEN
  5. FUEL SELECTOR..... RIGHT OR FULLEST TANK
  6. THROTTLE.....2000 RPM
- (CONFIRM AIRCRAFT NOT MOVING)**
7. ENGINE INSTRUMENTS.....ALL IN GREEN
  8. AMMETER..... POSITIVE CHARGE
  9. SUCTION GAUGE.....5.0" HG
  10. MAGNETOS..... CHECK
- (MAX DROP 150 RPM/MAX DIFF 50 RPM)**
11. CARBURETTOR HEAT..... OPERATE/CHECK RPM DROP
  12. ANNUNCIATOR PANEL..... PRESS TO TEST
  13. THROTTLE.....IDLE CHECK RPM ABOVE 600
  14. THROTTLE..... SET 1000 RPM

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**BEFORE TAKE-OFF**

- |   |                        |
|---|------------------------|
| 1. FUEL SELECTOR.....                       | FULLEST TANK           |
| 2. FUEL CONTENTS.....                       | SUFFICIENT             |
| 3. ENGINE INSTRUMENTS.....                  | WITH IN GREEN RANGE    |
| 4. FLIGHT INSTRUMENT, RADIOS & NAVAIDS..... | CHECK & SET            |
| 5. BATTERY MASTER AND ALTERNATOR.....       | ON                     |
| 6. ELECTRIC FUEL PUMP.....                  | ON                     |
| 7. CIRCUIT BREAKERS.....                    | IN                     |
| 8. PRIMER.....                              | LOCKED                 |
| 9. MAGNETOS.....                            | BOTH                   |
| 10. MIXTURE.....                            | SET                    |
| 11. THROTTLE FRICTION .....                 | SET                    |
| 12. CARBURETTOR HEAT.....                   | OFF                    |
| 13. FLAPS.....                              | TEST THEN SET 0        |
| 14. TRIM.....                               | SET NEUTRAL            |
| 15. CABIN DOORS.....                        | CLOSED AND LATCHED     |
| 16. SEATS.....                              | ADJUST, ERECT & SECURE |
| 17. HARNESSSES.....                         | FASTENED & SECURE      |
| 18. FLIGHT CONTROLS.....                    | FULL, FREE AND CORRECT |
| 19. DEPARTURE BRIEF & SAFETY BRIEF.....     | COMPLETED              |
| 20. PARK BRAKE.....                         | RELEASE                |

**LINE-UP CHECK**

- |                     |                   |
|---------------------|-------------------|
| 1. PITOT HEAT.....  | AS REQUIRED       |
| 2. INSTRUMENTS..... | ALIGNED & CHECKED |
| 3. SWITCHES.....    | AS REQUIRED       |
| 4. TRANSPONDER..... | CODE AND ALT SET  |
| 5. DI/COMPASS.....  | CHECK ELEVATION   |

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**ROLLING CHECK**

- |                            |                         |
|----------------------------|-------------------------|
| 1. RPM.....                | STATIC                  |
| 2. ENGINE INSTRUMENTS..... | GREEN                   |
| 3. AIRSPEED.....           | ...ALIVE AND INCREASING |

**AFTER TAKE OFF CHECK**

- |                            |           |
|----------------------------|-----------|
| 1. POWER.....              | SET       |
| 2. CARBURETTOR HEAT.....   | OFF       |
| 3. ENGINE INSTRUMENTS..... | GREEN     |
| 4. FLAPS.....              | RETRACTED |
| 5. LIGHTS.....             | SET       |
| 6. AIRSPEED.....           | 79 KTS    |

**TOP OF CLIMB CHECK**

- |                      |                    |
|----------------------|--------------------|
| 1. POWER.....        | SET                |
| 2. MIXTURE.....      | SET                |
| 3. FUEL PUMP.....    | OFF                |
| 4. LIGHTS.....       | SET                |
| 5. DI & COMPASS..... | ALIGNMENT CHECKED  |
| 6. FUEL.....         | CHECKED AND LOGGED |
| 7. QNH.....          | SET                |
| 8. FREQUENCY.....    | SET                |

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**CRUISE CHECK**

- |                             |                     |
|-----------------------------|---------------------|
| 1. COMPASS & DI.....        | ALIGNED             |
| 2. LOG.....                 | COMPLETE            |
| 3. ENGINE.....              | GREEN, MIXTURE LEAN |
| 4. ALTITUDE.....            | CHECK               |
| 5. RADIOS.....              | SET                 |
| 6. ORIENTATION.....         | CHECK               |
| 7. FUEL.....                | LOG                 |
| 8. FORCED LANDING AREA..... | CONSIDER            |

**DESCENT & APPROACH CHECK**

- |                      |              |
|----------------------|--------------|
| 1. FUEL.....         | FULLEST TANK |
| 2. MIXTURE.....      | FULL RICH    |
| 3. QNH.....          | SET          |
| 4. ALTITUDE.....     | CHECK        |
| 5. DI & COMPASS..... | ALIGNED      |
| 6. FREQUENCY.....    | SET          |

**PRE-LANDING CHECK**

- |                              |                     |
|------------------------------|---------------------|
| 1. BRAKE.....                | CHECK PRESSURE      |
| 2. UNDERCARRIAGE.....        | FIXED               |
| 3. MIXTURE.....              | SET                 |
| 4. FUEL.....                 | SUFFICIENT, PUMP ON |
| 5. INSTRUMENTS.....          | GREEN               |
| 6. SWITCHES.....             | AS REQUIRED         |
| 7. HATCHES & HARNESSSES..... | ADJUSTED & LOCKED   |



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**FINAL CHECK**

- |                          |          |
|--------------------------|----------|
| 1. FLAPS.....            | SET      |
| 2. CARBURETTOR HEAT..... | OFF      |
| 3. CLEARANCE.....        | OBTAINED |

**AFTER LANDING CHECK**

- |                                |             |
|--------------------------------|-------------|
| 1. RUNWAY.....                 | VACATE      |
| 2. STROBES/LANDING LIGHTS..... | OFF         |
| 3. ELECTRIC FUEL PUMP.....     | OFF         |
| 4. CARBURETTOR HEAT.....       | OFF         |
| 5. FLAPS.....                  | RETRACTED   |
| 6. TRIM.....                   | SET NEUTRAL |
| 7. TRANSPONDER.....            | STANDBY     |

**PARKING AND SHUT DOWN CHECK**

- |                                     |               |
|-------------------------------------|---------------|
| 1. PARKING BRAKE.....               | SET           |
| 2. THROTTLE.....                    | 1000 RPM      |
| 3. LIGHTS.....                      | OFF           |
| 4. AVIONICS.....                    | OFF           |
| 5. MAGNETOS.....                    | CHECK         |
| 6. MIXTURE.....                     | IDLE CUT OFF  |
| 7. THROTTLE.....                    | AFT           |
| 8. MAGNETOS.....                    | OFF & KEY OUT |
| 9. BATTERY MASTER & ALTERNATOR..... | OFF           |
| 10. ALL SWITCHES.....               | OFF           |

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AFTER SHUT DOWN CHECK

1.	PARKING BRAKE.....	OFF
2.	AVIONICS.....	OFF
3.	MAGNETOS.....	OFF
4.	MIXTURE.....	IDLE CUT OFF
5.	THROTTLE.....	CLOSED
6.	BATTERY MASTER & ALTERNATOR.....	OFF

POST FLIGHT

1.	AIRCRAFT LOG SHEET.....	COMPLETED
2.	SEATS.....	ADJUSTED
3.	CABIN.....	RUBBISH REMOVED
4.	CONTROLS.....	SECURED
5.	SEAT BELTS.....	DRESSED
6.	PARK BRAKE.....	OFF
7.	DOORS & WINDOWS.....	CLOSED
8.	FUEL.....	CHECKED
9.	LOCKS/CHOCKS/TIE DOWNS.....	SECURE

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**DEPARTURE BRIEFING (M)**

- ◆ AIRPORT & ATIS/TAF.....REVIEW
- ◆ SIGNIFICANT ENVIRONMENTAL FACTORS.....DISCUSS
- ◆ A/C TAKE-OFF DATA & SPEED.....REVIEW
- ◆ NORMAL DEPARTURE PROCEDURE..... REVIEW
- ◆ MALFUNCTION OR EMERGENCY.....REVIEW ACTIONS

**PRE-TAKEOFF SAFETY BRIEFING (M)**

- ◆ IF THE ENGINE FAILS ON THE RUNWAY, I WILL CLOSE THE THROTTLE AND APPLY BRAKING AS REQUIRED TO STOP IN A STRAIGHT LINE.
- ◆ IF THE ENGINE FAILS AFTER TAKE-OFF WITH RUNWAY REMAINING, I WILL CLOSE THE THROTTLE, LOWER THE NOSE AND LAND ON THE AVAILABLE SURFACE IN A STRAIGHT LINE.
- ◆ IF ENGINE FAILS WITH NO RUNWAY REMAINING, BELOW 300FT I WILL CLOSE THE THROTTLE ADOPT A 73KIAS GLIDE, SELECT A FIELD WITHIN 30° EITHER SIDE OF THE NOSE AND CARRY OUT THE EMERGENCY SHUTDOWN CHECKS IF TIME PERMITS
- ◆ IF THE ENGINE FAILS ABOVE 300FT I WILL CHOOSE A FIELD 60° EITHER SIDE OF THE NOSE AND ATTEMPT TO RESTART THE ENGINE IF TIME PERMITS.
- ◆ I WILL NOT TURN BACK FOR THE RUNWAY UNLESS I'M AT OR ABOVE 1000FT OR ESTABLISHED ON DOWNWIND

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**PASSENGER BRIEFING (M)****DISCUSS**

- ◆ LOCATION OF ENTRY & EXIT POINTS OF AIRCRAFT FOR NORMAL AND EMERGENCY OPERATIONS
- ◆ HOW TO OPEN AND CLOSE MAIN DOOR
- ◆ SEAT ADJUSTMENT
- ◆ SEAT BELT USAGE: TAXI, TURBULENCE, TAKE-OFF, LDG AND PILOT REQUIRED
- ◆ STOWAGE OF LOOSE ITEMS
- ◆ VENTILATION OUTLETS AND CONTROLS
- ◆ EMERGENCY EQUIPMENT & HOW TO USE (FIRE EXTINGUISHER ETC.)
- ◆ NO SMOKING POLICY
- ◆ FLIGHT DETAILS (I.E. ETA DESTINATION, BASIC ROUTE DETAILS ETC.)

**PASSENGER SAFETY BRIEFING (M)**

WE HAVE HAD AN EMERGENCY, WE WILL BE LANDING AT \_\_\_\_\_ LOCATION, REMOVE ALL SHARP OBJECTS, DENTURES AND GLASSES. STORE ALL LOOSE ITEMS AND ASSUME THE BRACE POSITION. YOUR EXIT IS \_\_\_\_\_ AND WE WILL ASSEMBLE BEHIND THE AEROPLANE AFTER LANDING.

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**EMERGENCY PROCEDURE****ENGINE FIRE DURING START CHECK**

- |                            |                          |
|----------------------------|--------------------------|
| 1. STARTER.....            | CONTINUE TO CRANK ENGINE |
| 2. MIXTURE.....            | IDLE CUT-OFF             |
| 3. THROTTLE.....           | OPEN                     |
| 4. ELECTRIC FUEL PUMP..... | OFF                      |
| 5. FUEL SELECTOR.....      | OFF                      |
| 6. ABANDON.....            | IF FIRE CONTINUES        |

**FIRE IN FLIGHT CHECK**

- |                        |       |
|------------------------|-------|
| 1. SOURCE OF FIRE..... | CHECK |
|------------------------|-------|

**ELECTRICAL FIRE (SMOKE IN CABIN)**

- |   |      |
|---|------|
| 1. BATTERY MASTER SWITCH & ALTERNATOR SWITCH..... | OFF  |
| 2. CABIN VENTS.....                               | OPEN |
| 3. CABIN HEAT.....                                | OFF  |

**LAND AS SOON AS PRACTICABLE****ENGINE FIRE**

- |                            |              |
|----------------------------|--------------|
| 4. FUEL SELECTOR.....      | OFF          |
| 1. THROTTLE.....           | CLOSED       |
| 2. MIXTURE.....            | IDLE CUT OFF |
| 3. ELECTRIC FUEL PUMP..... | OFF          |
| 4. HEATER.....             | OFF          |
| 5. DEFROSTER.....          | OFF          |

**PROCEED WITH POWER OFF LANDING PROCEDURE**

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**CARBURETTOR ICING**

- |                          |                       |
|--------------------------|-----------------------|
| 1. CARBURETTOR HEAT..... | ON                    |
| 2. MIXTURE.....          | ADJUST FOR SMOOTHNESS |

**EMERGENCY ENGINE SHUTDOWN**

- |                                     |                |
|-------------------------------------|----------------|
| 1. FUEL SELECTOR.....               | OFF            |
| 2. MIXTURE.....                     | IDLE CUT OFF   |
| 3. MAGNETOS.....                    | OFF            |
| 4. BATTERY MASTER & ALTERNATOR..... | OFF            |
| 5. SEAT BELTS.....                  | TIGHT          |
| 6. PASSENGERS.....                  | BRACE POSITION |

**EMERGENCY RESTART**

- |  |                     |
|--|---------------------|
| 1. CARBURETTOR HEAT.....                                       | ON                  |
| 2. MIXTURE.....  | FULL RICH           |
| 3. ELECTRIC FUEL PUMP.....                                     | ON                  |
| 4. FUEL SELECTOR.....  | FULLEST TANK        |
| 5. PRIMER.....   | IN & LOCKED         |
| 6. IGNITION & MAGNETORS.....                                   | CHECK/BOTH/START    |
| <b>(IF POWER RESTORED)</b>                                     |                     |
| 7. CARBURETTOR HEAT.....                                       | OFF                 |
| 8. FUEL PUMP.....  | OFF, CHECK PRESSURE |
| <b>(IF POWER NOT REGAINED, PROCEED WITH POWER OFF LANDING)</b> |                     |

**LOSS OF OIL PRESSURE**

- |   |                    |
|---|--------------------|
| 1. OIL PRESSURE GAUGE.....                    | CORSS CHECKED      |
| 2. OIL TEMPERATURE.....                       | CHECKED            |
| 3. POWER.....                                 | REDUCED TO MINIMUM |
| <b>4. ANTICIPATE ENGINE FAILURE IN FLIGHT</b> |                    |
| <b><u>LAND AS SOON AS POSSIBLE</u></b>        |                    |

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**LOSS OF FUEL PRESSURE**

- |                            |              |
|----------------------------|--------------|
| 1. ELECTRIC FUEL PUMP..... | ON           |
| 2. FUEL SELECTOR.....      | FULLEST TANK |

**ENGINE OIL TEMPERATURE HIGH**

- |  |          |
|--|----------|
| 1. OIL PRESSURE.....                   | CHECK    |
| 2. AIRSPEED.....                       | INCREASE |
| 3. POWER.....                          | REDUCE   |
| 4. ANTICIPATE ENGINE FAILURE IN FLIGHT |          |

**LAND AS SOON AS POSSIBLE****OPEN DOOR IN FLIGHT**

- |                      |                  |
|----------------------|------------------|
| 1. AIRSPEED.....     | REDUCE TO 89 KTS |
| 2. CABIN VENTS.....  | CLOSE            |
| 3. STORM WINDOW..... | OPEN             |
| 4. DOOR.....         | LATCH            |

**ENGINE ROUGHNESS**

- |                            |                           |
|----------------------------|---------------------------|
| 1. CARBURETTOR HEAT.....   | ON                        |
| 2. PRIMER.....             | IN & LOCKED               |
| 3. CARBURETTOR HEAT.....   | OFF                       |
| 4. MIXTURE.....            | ADJUST FOR MAX SMOOTHNESS |
| 5. FUEL SELECTOR.....      | CHANGE TANKS              |
| 6. ENGINE INSTRUMENTS..... | CHECK                     |
| 7. MAGNETO SWITCH.....     | CHECK LEFT/RIGHT/BOTH     |
| 8. FUEL PUMP.....          | ON                        |
| 9. CONSIDER LANDING        |                           |

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**FORCED LANDING PROCEDURE****IMMEDIATE MEMORY ACTIONS**

1. CONTROL THE AIRCRAFT & ESTABLISH THE GLIDE.....73 KTS
2. FIRE & SMOKE..... CHECK
3. EMERGENCY RESTART INITIAL ACTIONS.....ATTEMPT

**TROUBLE SHOOT**

- ◆ CARBURETTOR HEAT.....ON
- ◆ FUEL SELECTOR..... CHECK
- ◆ MIXTURE CONTROL.....OPERATE THROUGH RANGE
- ◆ OIL..... CHECK GREEN
- ◆ SWITCH.....MAGNETOS CHECK
- ◆ THROTTLE.....OPERATE THROUGHT RANGE

**SAFETY CHECK (WHEN COMMITTED TO FORCED LANDING)**

- ◆ PAX / SAFETY BRIEFING..... CONDUCT IF TIME PERMITS
- ◆ HARNESES.....SECURE
- ◆ EMERGENCY ENGINE SHUTDOWN.....EXECUTE

**ELECTRICAL FAILURE PROCEDURE**

1. ALT ANNUNCIATOR LIGHT ILLUMINATED. CHECK AMMETER TO VERIFY INOP ALT
2. AMMETER..... IF AMMETER READS 0, SELECT ALT SWITCH OFF
3. ELECTRICAL LOAD.....REDUCE TO MINIMUM
4. ALT CIRCUIT BREAKER..... CHECK AND RESET
5. ALTERNATOR SWITCH.....ON  
IF UNSUCCESSFUL (IF POWER NOT RESTORED)
6. ALTERNATOR SWITCH.....OFF
7. ELECTRICAL LOAD.....REDUCE TO MINMUM



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**ELECTRICAL OVERLOAD PROCEDURE**

**IF OUTPUT IS GREATER THAN 20 AMPS ABOVE KNOWN ELECTRICAL LOAD**

**FOR AEROPLANES WITH SEPARATE 'BATT' AND 'ALT' SWITCH OPERATION**

1. ALT SWITCH.....ON
  2. BATT SWITCH..... OFF
- IF ALTERNATOR LOADS ARE REDUCED
3. ELECTRICAL LOAD.....REDUCE TO A MINIMUM

**LAND AS SOON AS POSSIBLE**

"IF ALTERNATOR LOADS ARE NOT REDUCED"

1. ALT SWITCH.....OFF
2. BATT SWITCH.....AS REQUIRED

**LAND AS SOON AS POSSIBLE. ANTICIPATE COMPLETE ELECTRICAL FAILURE**

**SPIN RECOVERY**

1. AILERONS .....NEUTRAL
2. THROTTLE..... IDLE
3. SPIN DIRECTION..... CHECK
4. RUDDER..... FULL OPPOSITE TO DIRECTION OF ROTATION
5. CONTROL COLUMN.....EASE BACK AS REQUIRED TO SMOOTHLY REGAIN LEVEL FLIGHT ALTITUDE.

**POST LOSS OF CONTROL PROCEDURE**

1. SAFETY ALTITUDE..... CONFIRM & CLIMB IF REQ
2. AIRFRAME..... CHECK FOR DAMAGE
3. FLAPS.....CONFIRM UP – NO DAMAGE
4. ENGINE INSTRUMENTS.....CHECKED
5. ORIENTATION.....POSITION CHECKED & DI ALIGNED

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**AIRCRAFT TYPE INFORMATION****ENGINE & SYSTEMS****1. POWER PLANT**

ENGINE TYPE.....4 CYLINDER NATRUALLY ASPIRATED  
 ENGINE MANUFACTURER..... LYCOMING O-320-D3G  
 MAX POWER OUTPUT.....160 BHP @2700 RPM MSL/ISA  
 TAKE-OFF & MAXCONT. POWER.....FULL THROTTLE / 2700 RPM  
 RPM LIMITATIONS.....2700 RPM RED LINE  
 FUEL CONSUMPTION RATE @ 65% POWER.....35 L/HR

**2. FUEL SYSTEM & SPECIFICATIONS**

MINIMUM GRADE.....AVGAS 100 OR 100LL  
 STANDARD TANKS(USABLE).....182 LTS

**3. PROPELLER**

NUMBER OF BLADES..... TWO  
 TYPE..... FIXED PITCH  
 STATIC RPM (MSA/ISA) .....2350 RPM MIN – 2450 RPM MAX

**4. OIL SYSTEM & SPECIFICATIONS**

OIL QUANTITY.....MIN 5 QTS MAX 8 QTS  
 OIL GRADE..... SAE-50  
 OIL TEMP/GREEN ARC.....100°F -245°F  
 OIL TEMP/RED LINE.....245°F  
 MIN OIL TEMP TAKE-OFF.....100°F  
 OIL PRESSURE/GREEN ARC.....55-95 PSI  
 OIL PRESSURE/YELLOW ARC (IDLE RPM) .....25-55 PSI  
 OIL PRESSURE/YELLOW ARC (GROUND WARM-UP) .....95-115 PSI  
 OIL PRESSURE/RED LINE (MIN).....25 PSI  
 OIL PRESSURE/RED LINE (MAX).....115 PSI

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**5. ELECTRICAL SYSTEM**

ALTERNATOR.....28 V/ 70 AMPERE

BATTERY.....24 V/ 30 AMPERE

**6. SUCTION/VACUUM RANGE**

NORMAL OPERATING RANGE.....4.8" TO 5.2" HG

**7. UNDERCARRIAGE**

MAIN GEAR STRUT.....OIL – AIR OLEO/EXTENSION 4.5"

MAIN GEAR WHEELS.....24 PSI INFLATION

NOSE GEAR STRUT..... OIL – AIR OLEO/EXTENSION 3.25"

NOSE GEAR WHEEL.....30 PSI INFLATION

**AIRSPEDS**

1. VNE.....160 KIAS

2. VNO.....126 KIAS

3. VA (@1109KG GW) .....111 KIAS

4. VA (@695KG GW) .....88 KIAS

5. VFE.....103 KIAS

6. VR..... 60 KIAS

7. VTOSS.....63 KIAS

8. VY.....79 KIAS

9. VX.....63 KIAS

10. MAX GLIDE.....73 KIAS

11. MAX DEMONSTRATED XW.....17 KIAS

12. VS (0 DEGREES FLAP) .....50 KTS

13. VSO (40 DEGREES FLAP) .....44 KTS

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**WEIGHT & LOAD LIMITS****AIRCRAFT WEIGHTS GENERAL**

1. MAX RAMP WIGHT .....1112 KG
2. MAX TAKE-OFF WEIGHT .....1110 KG
3. MAX BAGGAGE .....90 KG

**MANOEUVRE LOAD FACTOR**

1. MAX NORMAL CATEGORY .....+3.8 g
2. MAX UTILITY CATEGORY .....+4.4 g

**NEGATIVE MANOEUVRE LOAD FACTOR**

1. MAX.....0.0 g

NO INVERTED MANOEUVRES APPROVED

**FLAP LIMITATION**

2. APPROVED TAKE-OFF.....0-25
3. APPROVED LANDING.....0-40

**POWER SETTING TABLE**

PRESS.ALT. FEET	TEMP.STD. ALT °C	55% POWER	65% POWER <b>M</b>	75% POWER
S. L	15			
1000	13			
2000	11	2250	<b>2400</b>	2525
3000	9			
4000	7	2300	<b>2450</b>	2600
5000	5			
6000	3	2350	<b>2500</b>	2640
7000	1			
8000	-1	2475	<b>2550</b>	2700
9000	-3			
10000	-5	2425	<b>2600</b>	N/A

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