PRE-FLIGHT INSPECTION

1. Operating Manual ..... ACCESSIBLE TO PILOT
2. Parking Brake ..... SET
3. ALL Switches ..... OFF
4. TRIM Tabs ..... SET TO ZERO

BEFORE STARTING ENGINE

1. Pre-flight Inspection ..... COMPLETE
2. Seat ..... ADJUST
3. Parking Brake ..... CHECK
4. LANDING GEAR Handle ..... DOWN
5. COWL FLAPS ..... OPEN
6. FUEL SELECTORS ..... ON
7. ALL Switches ..... CHECK OFF
8. EQUIPMENT Controls ..... CHECK
9. Battery Switch ..... ON
10. FUEL QUANTITY Indicators ..... CHECK QUANTITY
11. LANDING GEAR Lights ..... CHECK

STARTING ENGINE

CAUTION

Do not engage starter for more than 30 seconds in any 4 - minute period.

1. LEFT MIXTURE Control ..... FULL RICH
2. LEFT PROPELLER Control ..... HIGH RPM
3. LEFT THROTTLE Control ..... FULL OPEN
4. FUEL PUMP L ..... ON
5. FUEL PUMP R ..... OFF
6. LEFT THROTTLE Control ..... CLOSE, then OPEN approximately 1/2 INCH
7. LEFT MAGNETO ..... START (release to BOTH when left engine starts)
8. LEFT THROTTLE Control (after start) ..... 900 to 1000 RPM

NOTE

If the engine is hot, and the ambient temperature is 32 °C or above, place MIXTURE Control in IDLE CUT-OFF, switch FUEL PUMP to ON for 30 to 60 seconds, then OFF. Return MIXTURE Control to FULL RICH.

9. OIL PRESSURE L ..... 30 PSI within 30 seconds
10. WARM - UP ..... 1000 to 1200 RPM
11. L ALTERNATOR ..... ON
12. AVIONICS Master ..... ON
13. Press Softkey 12 (Only DUO PRO G1) ..... Verify MFD is ON
14. BEACON and NAV Lights Switches ..... ON
15. LOADMETERS and VOLTMETER ..... CHECK for battery charge
16. VOLTMETER ..... CHECK for 28 VOLTS
17. L START ENGD CAS Message ..... CHECK (illuminated during start and extinguished after start)

CAUTION

If the yellow START anunciator is inoperative and the total of both loadmeters exceeds 20 amperes after two minutes at 900 - 1000 RPM, with

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no additional electrical equipment on, and the indication shows no signs of decreasing, an electrical malfunction is indicated. The battery and both alternator switches should be placed in the OFF position. Do not take off.

18. Using the same procedure, start right engine

BEFORE TAKEOFF

1. Parking Brake ..... CHECK
2. FUEL PUMPS ..... OFF (if ambient temperature is 32 °C o above ON)
3. Flight Instruments CHECK (DUO PRO G1 CHECK no red X's appear in PFD)
4. Barometer ..... SET
5. Standby Altimeter ..... SET
6. ALT SEL ..... SET
7. FUEL Indicators ..... RECHECK QUANTITY INDICATED
8. MIXTURE Controls FULL RICH and ADJUST as required by field elevation when setting full power for takeoff
9. FUEL SELECTORS ..... CHECK ON
10. THROTTLE Controls ..... 2200 RPM
11. THROTTLE Controls ..... 1700 RPM
12. MAGNETOS CHECK (individual magnetos variance should not exceed 50 RPM, max drop 150 RPM)
13. THROTTLE Controls ..... IDLE (note RPM)
14. THROTTLE Controls ..... 900 to 1000 RPM
15. TRIM ..... as required for takeoff
16. FLAPS ..... CHECK and SET for takeoff
17. FLIGHT Controls ... CHECK (for proper direction and freedom movement)
18. COM and NAV Frequencies ..... SET
19. FMS/GPS Flight Plan ..... AS DESIRED
20. Ice Protection Systems ..... as required
21. XPDR ..... SET
22. Parking Brake ..... RELEASE
23. CDI Softkey (Only DUO PRO G1) ..... SELECT NAV 1 / NAV 2 SOURCE

TAKEOFF

1. POWER ..... SET BEFORE BRAKE RELEASE
   (a) THROTTLE Controls ..... FULL FORWARD
   (b) PROPELLER Controls ..... HIGH RPM
   (c) MIXTURE Controls ..... FULL RICH
2. Airspeed ..... Accelerate to and maintain recommended speeds
3. LANDING GEAR RETRACT (when positive rate of climb is established)
4. Airspeed establish DESIRED CLIMB SPEED (when clear of obstacles)

CLIMB

NORMAL CLIMB

1. POWER ..... SET
   (a) PROPELLER Controls ..... 2700 RPM
   (b) THROTTLE Controls ..... FULL FORWARD
   (c) MIXTURE Controls .. FULL RICH and MANUALLY LEAN DURING THE CLIMB

CAUTION

Engine roughness at high altitudes, fuel flow fluctuation, or low fuel flow can occur when climbing on hot days. These conditions can be eliminated by switching the fuel boost pump to LO and manually leaning to the appropriate fuel flow schedule. For those airplanes with altitude compensating fuel pumps, the fuel flow will continue to lean automatically making the first adjustment.

CAUTION

Use mixture control manually enrich fuel flow as needed before switching the fuel boost pump to OFF.

2. COWL FLAPS ..... CHECK OPEN
3. Airspeed ..... 105 KTS

CRUISE CLIMB

1. POWER ..... SET
   (a) PROPELLER Controls ..... 2500 PM
   (b) THROTTLE Control ..... FULL FORWARD
   (c) MIXTURE Control ... FULL RICH and MANUALLY LEAN DURING THE CLIMB
2. COWL FLAPS ..... as required
3. Airspeed ..... 136 KTS
4. FUEL PUMPS ..... as required

CRUISE

1. COWL FLAPS ..... CLOSED
2. POWER ..... SET
   Maximum Cruise Power ..... 2500 RPM
   Recommended Cruise Power ..... 2300 RPM
   Economy Cruise Power ..... 2100 RPM
3. FUEL PUMPS ..... as required
4. MIXTURE Controls ..... SET USING EGT

Leaning using the Exhaust Gas Temperature indicator (EGT): A thermocouple-type exhaust gas temperature (EGT) probe is mounted to the indicators in the engine instrument array. The indicators are calibrated in degrees Celsius. The EGT system is used to lean the fuel/air mixture when cruising at 2500 rpm and 25 in. Hg manifold pressure power setting or less in the following manner:

i. Slowly lean the mixture and note the point on the indicator where the EGT temperature peaks. Further lean or enrich the mixture to the desired cruise mixture. Further leaning is referred to as operation on the lean side of peak EGT. Enriching the mixture is referred to as operation on the rich side of peak EGT.

ii. At lower power settings, the engines may be continuously operated at any mixture setting from FULL RICH to 27 °C on the lean side of peak EGT. At higher power settings, the engines should not be operated closer to peak EGT than 20 °C (rich side or lean side).

iii. If engine roughness is encountered operating at lower power settings

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on the lean side of peak, enrich the mixture slightly for smooth engine operation.

iv. Changes in altitude and power settings require the peak EGT to be rechecked and the mixture reset.

DESCENT

1. Altimeter ..... SET
2. MIXTURE Controls ..... ENRICH as required
3. COWL FLAPS ..... CONFIRM CLOSED
4. FLAPS ..... as required
5. Power ..... as required (avoid prolonged idle settings. Cylinder Head Temperatures are not to fall below GREEN arc, 116 °C)

Recommended Descent Speeds:

16,000 to 13,000 ft ..... 160 kts

Below 13,000 ft ..... 170 kts

BEFORE LANDING

1. FUEL SELECTOR Valves ..... CHECK ON
2. FUEL PUMPS ..... as per ambient temperature
3. COWL FLAPS ..... as required
4. MIXTURE Controls ..... as required by FIELD ELEVATION
5. LAND and TAXI Lights Switches ..... ON
6. FLAPS (152 kts max.) ..... APPROACH, APR STEP (15°)
7. LANDING GEAR (152 kts max.) ..... DOWN
8. FLAPS (122 kts max.) ..... FULL DOWN, DN STEP (30°)
9. Airspeed ..... Establish NORMAL LANDING APPROACH SPEED
10. PROPELLER Controls ..... HIGH RPM

BALKED LANDING

1. PROPELLER Controls ..... HIGH RPM
2. POWER ..... MAXIMUM ALLOWABLE
3. Airspeed ..... BALKED LANDING CLIMB SPEED (95 kts)
4. FLAPS ..... UP (0°)
5. LANDING GEAR ..... UP
6. COWL FLAPS ..... as required

AFTER LANDING (clear of Runway)

1. LANDING and TAXI Lights ..... as required
2. FLAPS ..... UP
3. TRIM Tabs ..... SET TO ZERO
4. COWL FLAPS ..... OPEN
5. FUEL PUMPS ..... as required

SHUTDOWN

1. Parking Brake ..... SET
2. PROPELLER Control ..... HIGH RPM
3. THROTTLE Control ..... 1000 RPM
4. FUEL PUMPS ..... OFF
5. Electrical and Avionic Equipment ..... OFF
6. MIXTURE Control ..... IDLE CUT - OFF
7. MAGNETOS ..... OFF (after engines stop)
8. Alternators ..... OFF
9. Battery ..... OFF

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