

# EMERGENCY LANDING

Belts / Harnesses	<b>SECURE</b>
Backrests	<b>UPRIGHT</b>
Landing Area	<b>SELECT</b>
Wind	<b>CONSIDER</b>
Flaps	<b>LDG</b>
Fuel Selector	<b>OFF</b>
Ignition Switch	<b>OFF</b>
Master	<b>OFF</b>

The glide ratio is 8.8 (1.45nm per 1000ft) with a windmilling propeller, or 10.3 (1.7nm per 1000ft) with a stationary propeller. Flaps UP for best glide. With inoperative flaps in the UP position, land at best glide speed.

## Emergency Airspeeds

Weight	Best Glide	Flaps T/O	Flaps LDG
2535 - 2646lbs	76 KIAS	74 KIAS	73 KIAS
2205 - 2535lbs	73 KIAS	72 KIAS	71 KIAS
1874 - 2205lbs	68 KIAS	66 KIAS	63 KIAS
Below 1874lbs	60 KIAS	59 KIAS	58 KIAS

# ENGINE PROBLEMS

Weight	Best Glide
2535 - 2646lbs	76 KIAS
2205 - 2535lbs	73 KIAS
1874 - 2205lbs	68 KIAS
Below 1874lbs	60 KIAS

Airspeed	BEST GLIDE
Fuel Pump	ON
Fuel Selector	CHECK
Engine Instruments	CHECK
Throttle	CHECK
RPM Level	CHECK
Mixture	SET
Alternate Air	OPEN
Ignition Switch	CHECK BOTH

Fly 130KIAS to restart with a stationary propeller.

# ENGINE FIRE

Cabin Heat	<b>OFF</b>
Fuel Selector	<b>OFF</b>
Throttle	<b>MAX POWER</b>
Fuel Pump	<b>OFF</b>
Emergency Window	<b>OPEN</b>
Front Canopy	<b>UNLATCH</b>

Carry out emergency landing with engine off.

# ELECTRICAL FIRE

Master Switch	<b>OFF</b>
Cabin Heat	<b>OFF</b>
Emergency Window	<b>OPEN</b>
Front Canopy	<b>UNLATCH</b>
Emergency Switch	<b>ON IN IMC ONLY</b>

# ALTERNATOR FAILURE

Circuit Breakers	<b>CHECK</b>
Essential Bus Switch	<b>ON</b>
Voltmeter	<b>MONITOR</b>

# NO FLAP LANDING

Keep airspeed in white sector. With only UP or T/O available, land at a flat approach angle, use throttle to control airplane speed and rate of descent. Use modified airspeed below.

Weight	Airspeed
2535lbs - 2646lbs	76 KIAS
2205lbs - 2535lbs	73 KIAS
1874lbs - 2205lbs	68 KIAS
Below 1874lbs	60 KIAS

# OVERWEIGHT LANDING

Perform a normal approach and landing, but maintain an increased airspeed during the landing approach. Damage of the landing gear can result from a hard landing with a flight mass above the maximum landing mass.

Weight	Airspeed
2535 - 2646lbs	73 KIAS
Below 2535lbs	71 KIAS

# PREFLIGHT

## CABIN

All Electrical	<b>OFF</b>
Ignition Key	<b>OFF AND REMOVED</b>
Main Canopy	<b>CHECK LOCKING</b>
Rear Door	<b>CHECK LOCKING</b>
Paperwork	<b>CHECK</b>
Flight Controls	<b>RELEASE AND CHECK</b>
Trim	<b>CHECK</b>
Circuit Breakers	<b>CHECK</b>
Engine Control Levers	<b>CHECK TRAVEL</b>
Mixture	<b>FULL LEAN</b>
Throttle	<b>IDLE</b>
Prop	<b>FULL FORWARD</b>
Master	<b>ON</b>
Fuel Quantity	<b>CHECK</b>
Oil Quantity	<b>4QT VFR / 6QT IFR</b>
Lights	<b>CHECK</b>
Master	<b>OFF</b>
Prop	<b>1/8" PLAY, 2DEG ROT</b>

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The airplane may not be operated when its temperature prior to operation is less than -40F or higher than 129F.

## RIGHT GEAR

Landing Gear Strut	<b>INSPECT</b>
Strut Fairing	<b>INSPECT</b>
Wheel Fairing	<b>INSPECT</b>
Tire Pressure	<b>36 PSI</b>
Tire Wear, Tread	<b>INSPECT</b>
Brake Line	<b>INSPECT</b>
Slip Mark	<b>CHECK ALIGNED</b>
Chocks	<b>REMOVE</b>

## RIGHT WING

Entire Wing Surface	<b>INSPECT</b>
Foot Step	<b>INSPECT</b>
Openings on Lower Surface	<b>INSPECT</b>
Tank Filler	<b>INSPECT</b>
Tank Vent on Lower Surface	<b>INSPECT</b>
Two Stall Strips on Wing	<b>INSPECT</b>
Wing Tip	<b>INSPECT</b>
Light Cluster	<b>INSPECT</b>
Mooring	<b>INSPECT, UNTIE</b>
Aileron	<b>INSPECT</b>
Flaps	<b>INSPECT</b>

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## PASSENGER BRIEF

Controls, Belts, Egress, No Smoking

## LEFT GEAR

Landing Gear Strut	<b>INSPECT</b>
Strut Fairing	<b>INSPECT</b>
Wheel Fairing	<b>INSPECT</b>
Tire Pressure	<b>36 PSI</b>
Tire Wear, Tread	<b>INSPECT</b>
Brake Line	<b>INSPECT</b>
Slip Mark	<b>CHECK ALIGNED</b>
Chocks	<b>REMOVE</b>

## LEFT WING

Entire Wing Surface	<b>INSPECT</b>
Foot Step	<b>INSPECT</b>
Air Intake on Lower Surface	<b>INSPECT</b>
Openings on Lower Surface	<b>INSPECT</b>
Stall Warning	<b>CHECK</b>
Tank Filler	<b>INSPECT</b>
Tank Vent on Lower Surface	<b>INSPECT</b>
Two Stall Strips on Wing	<b>INSPECT</b>
Pitot Probe	<b>INSPECT</b>
Landing / Taxi Lights	<b>INSPECT</b>
Wing Tip	<b>INSPECT</b>
Light Cluster	<b>INSPECT</b>
Mooring	<b>INSPECT, UNTIE</b>
Aileron	<b>INSPECT</b>
Flaps	<b>INSPECT</b>

## FUSELAGE

Canopy	<b>INSPECT</b>
Rear Door and Window	<b>INSPECT</b>
Fuselage Skin	<b>INSPECT</b>
Antennas	<b>INSPECT</b>

## EMPENNAGE

Stabilizers / Surfaces	<b>INSPECT</b>
Hinges	<b>INSPECT</b>
Elevator Trim Tab	<b>INSPECT</b>
Rudder Trim Tab	<b>INSPECT</b>
Fin Tie Down	<b>INSPECT</b>
Tail Skid	<b>INSPECT</b>

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Depending on the type of fuel probes installed, the indicator can read a maximum of 15 or 17 US gallons. Long range tanks read a maximum of 16 gallons.

With long range tanks, when reading 16, the quantity of auxiliary fuel can be determined by switching the AUX FUEL QTY switch to the LH or RH position. The auxiliary quantity is added to the 16gal. An auxiliary fuel quantity of less than 3 gallons cannot be indicated by the system.



# BEFORE STARTING

Fuel Sumps	<b>ALL DRAINED</b>
Fuel Quantity	<b>VERIFY</b>
Baggage	<b>STOWED / SECURE</b>
Rudder Pedals	<b>ADJUSTED</b>
Seat Backrests	<b>UPRIGHT</b>
Ties / Chains	<b>CHECK REMOVED</b>
Chocks	<b>CHECK REMOVED</b>
Prop	<b>CHECK CLEAR</b>
Fuel Caps	<b>CHECK SECURE</b>
Cowl Access	<b>CHECK SECURE</b>
WX / NOTAMs / TFRs	<b>CHECK</b>
Weight and Balance	<b>CHECK</b>
Headset	<b>MONO / STEREO</b>
Sunglasses	<b>AS REQUIRED</b>
ATIS / AWOS	<b>LISTEN</b>
Altimeter	<b>SET</b>
Rear Door	<b>LATCHED / UNLOCKED</b>
Front Canopy	<b>LATCHED IN (1) OR (2)</b>
Departure Clearance	<b>AS REQUIRED</b>
Flight Controls	<b>CHECK FREE</b>
Trim Wheel	<b>TAKEOFF</b>
Prop	<b>FULL FORWARD</b>
Alternate Air	<b>CLOSED</b>
Alternate Static	<b>CLOSED</b>
Avionics Switch	<b>OFF</b>
Essential Bus	<b>OFF</b>

# START

Avionics Switch	<b>OFF</b>
Essential Bus Switch	<b>OFF</b>
Master	<b>ON</b>
Strobes	<b>ON</b>
G1000	<b>PWR / ACK</b>
MFD	<b>ENG SYS PAGE</b>
Fuel Selector	<b>FULLEST TANK</b>
Throttle	<b>1 1/4" Open</b>
Mixture	<b>RICH</b>
Fuel Pump	<b>PRIME ENGINE</b>
<i>3-5 seconds cold, 1-3 seconds warm</i>	
Mixture	<b>FULL LEAN</b>
Throttle	<b>1/2" OPEN IF COLD</b>
Brakes	<b>HOLD</b>
Starter	<b>ENGAGE</b>
Mixture	<b>RICH ON START</b>
Oil Pressure	<b>GREEN IN 15 SECONDS</b>
Alternator	<b>ON</b>
Ammeter	<b>CHECK</b>
Fuel Pressure	<b>CHECK</b>
G1000	<b>CLEAR ANNS</b>

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## FLOODED ENGINE

Crank with throttle half open and no prime. When engine fires, pull throttle before pushing mixture.

# TAXI

Avionics Switch	<b>ON</b>
Electrical Equipment	<b>ON AS REQUIRED</b>
Flaps	<b>TEST</b>
Flaps	<b>SET T/O</b>
Instruments	<b>AS REQUIRED</b>
Flood Light	<b>AS REQUIRED</b>
Ammeter	<b>NOT DISCHARGING</b>
Idle RPM	<b>TEST 600 - 800 RPM</b>
Fuel Selector	<b>CHANGE TANKS</b>
Pitot Heat	<b>TEST</b>
Transponder	<b>ALT</b>
Lights	<b>AS REQUIRED</b>
Taxi Clearance	<b>AS REQUIRED</b>
Parking Brake	<b>RELEASE</b>
Brakes	<b>TEST</b>

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Do not overheat the starter motor. Do not operate the starter for more than 10 seconds. After operating the starter motor, let it cool off for 20 seconds. After 6 attempts to start the engine, let the starter cool off for half an hour.

*Approach, N12345, over the XYZ VOR, request flight following to XXX, type DA40, altitude YYYY*

# RUN-UP

Seat Backrests	<b>UPRIGHT</b>
Belts / Harnesses	<b>CHECK FASTENED</b>
Rear Door	<b>CLOSED AND LOCKED</b>
Front Canopy	<b>CLOSED AND LOCKED</b>
Door Warning Light	<b>CHECK OFF</b>
Fuel Selector	<b>FULLEST TANK</b>
Engine Instruments	<b>GREEN RANGES</b>
Circuit Breakers	<b>CHECK</b>
Flaps	<b>CHECK T/O</b>
Trim	<b>CHECK T/O</b>
Flight Controls	<b>FREE AND CORRECT</b>
Fuel Pressure	<b>14 - 35 PSI</b>
Mixture	<b>BEST POWER</b>
Alternate Air	<b>CHECK CLOSED</b>
Fuel Pump	<b>ON</b>
Throttle	<b>2000 RPM</b>
Prop Control	<b>CYCLE THREE TIMES</b>
Magnetos	<b>175 RPM / 50 RPM</b>
Voltmeter	<b>CHECK GREEN</b>
Throttle	<b>IDLE</b>

# TAKEOFF

Landing Light	ON
Flaps	CHECK T/O
Prop Control	CHECK FULL FORWARD
Mixture	RICH
Fuel Pump	ON

## Rotate at 59 KIAS

Weight	Initial Airspeed
2535lbs - 2646lbs	67 KIAS
2205lbs - 2535lbs	66 KIAS
Below 2205lbs	60 KIAS

# CLIMB

Fuel Pump	<b>OFF</b>
Prop Control	<b>2400 RPM</b>
Throttle	<b>MAX POWER</b>
Mixture	<b>RICH</b>

<b>Weight</b>	<b>Best Climb</b>	<b>Cruise Climb</b>
2535lbs - 2646lbs	67 KIAS	76 KIAS
2205lbs - 2535lbs	66 KIAS	73 KIAS
1874lbs - 2205lbs	60 KIAS	68 KIAS
Below 1874lbs	54 KIAS	60 KIAS

Flaps T/O for best climb, UP for cruise climb

# CRUISE

Flaps	<b>UP</b>
Throttle	<b>SET</b>
Prop Control	<b>1800 - 2400 RPM</b>
Mixture	<b>SET</b>
Trim	<b>SET</b>
Fuel Selector	<b>AS REQUIRED</b>
<i>Max imbalance 10gal STD, 8gal LR</i>	
Fuel Pump	<b>OFF</b>

# DESCENT

Mixture	<b>ADJUST</b>
Prop Control	<b>1800 - 2400 RPM</b>
Throttle	<b>SET</b>
Fuel Pump	<b>OFF</b>

# APPROACH

Seat Backrests	<b>UPRIGHT</b>
Belts / Harnesses	<b>FASTENED</b>
Fuel Selector	<b>FULLEST TANK</b>
Airspeed (for flaps)	<b>BELOW 108 KIAS</b>
Flaps	<b>T/O</b>
Trim	<b>SET</b>
Landing Light	<b>ON</b>

# LANDING

Mixture	<b>RICH</b>
Prop Control	<b>FULL FORWARD</b>
Airspeed (for flaps)	<b>BELOW 91 KIAS</b>
Flaps	<b>LDG</b>
Fuel Pump	<b>ON</b>

Weight	Airspeed
2535lbs - 2646lbs	73 KIAS
2407lbs - 2535lbs	71 KIAS
2205lbs - 2407lbs	67 KIAS
1874lbs - 2205lbs	63 KIAS
Below 1874lbs	58 KIAS

# GO AROUND

Throttle	<b>MAX POWER</b>
Flaps	<b>T/O</b>

Weight	Airspeed
2535lbs - 2646lbs	67 KIAS
2205lbs - 2535lbs	66 KIAS
1874lbs - 2205lbs	60 KIAS
Below 1874lbs	54 KIAS



# (CLIMB)

Fuel Pump	<b>OFF</b>
Prop Control	<b>2400 RPM</b>
Throttle	<b>MAX POWER</b>
Mixture	<b>RICH</b>

<b>Weight</b>	<b>Best Climb</b>	<b>Cruise Climb</b>
2535lbs - 2646lbs	67 KIAS	76 KIAS
2205lbs - 2535lbs	66 KIAS	73 KIAS
1874lbs - 2205lbs	60 KIAS	68 KIAS
Below 1874lbs	54 KIAS	60 KIAS

Flaps T/O for best climb, UP for cruise climb

*(This is a duplicate copy of CLIMB for a go around)*

# AFTER LANDING

Fuel Pump	<b>OFF</b>
Pitot Heat	<b>CHECK OFF</b>
Strobes	<b>AS REQUIRED</b>
Lights	<b>AS REQUIRED</b>
Transponder	<b>ALT</b>
Flaps	<b>UP</b>

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When taxiing at close range to other aircraft, the strobe lights should be switched OFF. The position lights must always be switched ON during night flight.

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## WHAT ARE YOU FORGETTING?

Stratux, Cameras, iPad, Phone, Headset, Jacket, Sunglasses, Checklists, Foggles, Kneeboard, Timer, Charts, Passenger(s), Litter, Tach Book, Radios, Bags, Luggage.

# SHUTDOWN

Brakes	<b>HOLD</b>
Avionics	<b>OFF</b>
Throttle	<b>1000 RPM</b>
Mixture	<b>LEAN</b>
Ignition	<b>OFF</b>
Master	<b>OFF</b>
Timer / Tracker	<b>STOP</b>

# FINAL

Ignition	<b>OFF</b>
All Electrical	<b>OFF</b>
Parking Brake	<b>RELEASED</b>
Rear Canopy	<b>LOCKED</b>
Ties / Chocks	<b>IN PLACE</b>
Hobbs Time	<b>RECORD</b>
Pitot / Cowl Covers	<b>ON</b>
Front Canopy	<b>LOCKED</b>