

INITIAL

Filed Intentions
Ck Wx & Den. Alt Within Wgt & Bal Performance Req.
 Camera Flight Plan: **LOADED**
 Documents: **AROW AFM and Garmin Guide**
 Control Locks: **REMOVED**
 Gear handle: **DOWN**
 Master: **ON**
 Fuel: **Check QUANTITY**
 Flaps: **EXTEND**
 Cross Busses: **ON**
 Avionics: **ON**
 Pitot Heat: **TEST (LEFT)**
 Stall Indicator: **TEST**
 Lights: **INT/ EXT**
 Fuel Gauges: **CHECK**
 Hobbs: **RECORD**
 Avionics: **OFF**
 Cross Busses: **OFF**
 Master: **OFF**
 Mission Gear/Pilot Gear

EXTERIOR

Fuel Quantity: **CHECK**
 Caps / Drafts / Vents
 Engine Oil/Belt/Coolant
 Prop / Air Intake
 Gear / Tires / Brakes
 Remove Towbar
 Ck Surfaces & Controls
 Pitot & Static Ports
 Exhaust System
 Hydraulic: **20 BAR min.**
 Antennas
 Rear Passenger Door
 Brake Fluid: **QUANTITY**
 Final Walk Around

INTERIOR

Crew Brief
 Seat Belt: **ON**
 Circuit Breakers: **IN**
 Alt Static: **OFF**
 Brakes: **PEDAL TEST**
 Gear Handle: **DOWN**
 Master: **ON**
 Check Fuel: **Desired Qty**
 LH Fuel Selector: **LEFT**
 RH Fuel Selector: **RIGHT**
 LH Fuel Pump: **ON ✓**
 RH Fuel Pump: **ON ✓**
 Strobes: **ON**
 Landing Gear Lt.: **TEST**
 ELT: **ARM**
 Fire Detector: **TEST**

START

Seat Track / Back: **LOCK**

(Start Right Engine)
 Avionics: **OFF**
 Throttle Lever: **IDLE**
 Carb Heat: **OFF**
 Prop: **FULL FORWARD**
 Choke: **ON**
 Ignition Switches: **ON**
 Start Button: **PUSH**
 Field: **ON**
 Oil Bar: **RISE**
 Choke: **OFF**
 Prop: **1100 RPM**
 Avionics: **ON**
 Cross Bus: **ON**
 Ammeter: **POSITIVE**
 Voltmeter: **12-14v**
(Repeat Left Engine)
 Idle: **CHECK**
 Mission Power: **ON**

PRE-TAXI

Engines Warm: **50° C**
 Nav, Taxi, Land Lt.: **ON**
 LH Fuel: **CROSSFEED**
 RH Fuel: **CROSSFEED**
 Fuel Pumps: **OFF**
 LH Fuel Pres.: **MONITOR**
 RH Fuel Pres.: **MONITOR**
 Parking Brake: **OFF**
 Flight Controls: **FREE**
 Eng. Inst.: **CHECK**
 Altimeters: **SET**
 XPDR: **SQUAWK**
 Radio: **TEST**
 Brakes: **TEST**

RUN-UP

Pitch Trim: **NEUTRAL**
 Rudder Trim: **NEUTRAL**
 Trim Disconnect: **CHECK**
 Flight Controls: **FREE**
 LH Fuel Select: **LEFT**
 RH Fuel Select: **RIGHT**
 LH Fuel Press: **CHECK**
 RH Fuel Press: **CHECK**
 Oil Temp: **>50°**
 CT: **GREEN**
 Oil Bar: **GREEN**
 Gen. Lights: **OFF**
 Props: **Full Forward**
 Throttles: **1650 RPM**
 LH Ignition: **TEST**
 RH Ignition: **TEST**
 LH Prop-CYCLE **200 RPM**
 RH Prop-CYCLE **200 RPM**
 LH Carb Heat: **ON ✓ OFF**
 RH Carb Heat: **ON ✓ OFF**
 LH Engine Inst.: **CHECK**
 RH Engine Inst.: **CHECK**
 LH/RH Fuel: **CHECK**
 Annunciators: **CHECK**

PRE T/O

Flaps: **T/O**
 Props: **FULL FORWARD**
 Pitot Heat: **AS REQ.**
 Fuel Pumps: **ON**
 XPDR: **ALT + SQWK**
 Doors / Windows
 Landing Light: **ON**
 Time: **NOTE**
 Brakes: **RELEASE**
 Abort Plan: **READY**

TAKE-OFF

Throttles: **FULL**
 Manifold Pressure: **>27"**
 Oil Bar: **GREEN**
 Rotate: **65 KNOTS**
 Vy: **84 KNOTS**
 Gear: **UP (LIGHTS OFF)**
 Gear Pump Annum.: **OFF**

CLIMB

1000 feet Flaps: **UP**
 Throttles: **27" OR LESS**
 Prop: **2250 RPM**
 95-105 (Gear/Flaps up)
 Instruments: **CHECK**
 Taxi/Landing Light: **OFF**
 Fuel Pumps: **OFF**
 Flight Plan: **OPEN**

CLIMB

Throttle: **SET**
 Prop: **SET**
 Oil Temp: **> 50° C**
 CT: **GREEN**
 Oil Bar: **GREEN**
 Fuel Press: **2.2-5.8 PSI**
 Carb Heat: **AS NEEDED**
 Fuel Balance: **CHECK**
(See MP/RPM Below)

360 Turn within 5 min of starting lines

DESCENT

After completion of project: **360 TURN**
 Prop: **MAX 2250 RPM**
 Carb Heat: **AS NEEDED**
 LH Fuel Selector: **LEFT**
 RH Fuel Selector: **RIGHT**
 ATIS / AWOS
 Altimeters: **SET**
 Instruments: **CHECK**

PRE-LAND

Landing Light: **ON**
 Fuel Pumps: **ON**
 Autopilot: **CHECK**
 Seat Belts
 Speed: **122 KTS OR LESS**
 Gear: **DOWN (3 GREEN)**
 Gear Pump Annum.: **OFF**

LANDING

Gear: **DOWN (3 GREEN)**
 Gear Pump Annum.: **OFF**
 Parking Brake: **OFF**
 Chokes: **OFF**
 Props: **FULL FORWARD**
 Carb Heat: **OFF**
 Fuel Pumps: **On**
 Downwind Leg: **<122**
 Flaps: **T/O**
 Base: **< 84 (BLUE LINE)**
 Flaps: **FULL**
 Final: **71**
 Touchdown: **65**

MISSED

Props: **FULL FORWARD**
 Throttles: **FULL**
 Flaps: **T/O (3 SECOND)**
 Speed: **OVER 62**
 Vy: **84**
 Gear: **UP**
 Flaps: **UP**

AFT. LAND

Fuel Pumps: **OFF**
 Flaps: **UP**
 Landing Light: **OFF**
 Pitot Heat: **OFF**
 Trim: **NEUTRAL**
5 MIN STATIC
 Mission power: **OFF**

AFT. LAND

Taxi Light: **OFF**
 Engines: **1 min. @ IDLE**
 Avionics: **OFF**
 Cross Busses: **OFF**
 Flaps: **UP**
 Nav. Lights: **OFF**
 RH Ignition: **OFF**
 LH Ignition: **OFF**
 External lights: **OFF**
 Emergency Batt.: **OFF**
 Master: **OFF**
 Control lock: **SEATBELT**
 Hobbs: **Record**
 Chocks
 Tie Downs
 Pitot Cover
 Cabin Doors

Xwind Max:.....17
 Vmca:.....62
 Vr (T/O):.....65
 Vr (0 Flaps):.....70
 Vyse:.....84
 Vxse:.....83
 Vsse:.....70

Vx.....72
 Vy.....84
 Vso:.....53
 Vs1:.....66
 1.3 Vso:.....69
 1.5 Vso:.....80
 1.3 Vs1:.....85

Vfe (T/O Flaps):.....122
 Vfe (Full Flaps):.....93
 Vle:.....122
 Va.....122
 Vno:.....138
 Vne:.....171
 Best Glide:.....84

DEPARTURE

Rotation.....
 Best Angle Climb.....
 Best Rate Climb.....

CRUISE – 3000' MSL @ ISA

Economy..... 114.....0.....22" MP-2100 RPM – 7.5 Gal / Hr: 54%
 Normal..... 127.....0.....24" MP-2100 RPM – 9.5 Gal / Hr: 62%
 Maximum..... 141.....0.....26.4" MP-2250 RPM – 12.4 Gal / Hr: 89%

ARRIVAL

Final Approach..... 71.....T/O.....Prop: 2250 RPM
 Short Field..... 65.....Full.....Prop: High RPM

KNOTS FLAPS

65.....T/O
 72.....0.....Short Field: T/O Flaps. 64 Knots
 84.....0

NOTES

EMERGENCY PROCEDURES

ENGINE FAILURE DURING TAKEOFF ROLL

Throttles: **IDLE**
Brakes: **APPLY/STOP STRAIGHT**
Master: **OFF**
Ignition: **OFF**
Fuel Selectors: **OFF**
Continue Straight Ahead

ENGINE FAILURE ON TAKEOFF (CONT.)

Minimum Airspeed: **84 knots**
Props, Throttles, Full Forward
Gear, Flaps: **UP**
Directional Control: **MAINTAIN**
Identify: **DEAD FOOT / ENGINE**
Verify: **PARTIALLY CLOSE THROTTLE**
Prop: **FEATHER**
Maintaining: **84 KNOTS**
Bank: **3-5 DEGREES GOOD ENG.**
Ball: **1/2 OUT OF CAGE**
Throttle: **AS REQUIRED**
Return for Landing
Dead Engine: **SECURE**

ONE ENGINE INOP (IN FLIGHT) DUAL ENGINE OUT

Autopilot: **OFF**
Directional Control: **MAINTAIN**
Airspeed: **84 KNOTS (VYSE)**
Props, Throttle: **FULL FORWARD**
Flaps: **UP**
Gear: **UP**
Identify: **DEAD FOOT / ENGINE**
Verify: **PARTIALLY CLOSE THROTTLE**
Troubleshoot
Secure INOP Engine: **CHECKLIST**

ENGINE RESTART TROUBLESHOOT

Good Engine: **THROTTLE/PROP**
InOp Engine Fuel Pump: **ON**
Fuel Quantity: **CHECK**
Fuel Selector: **CROSSFEED (IF NEEDED)**
Pressure/Temp: **GREEN**
Carb. Heat: **ON**
Ignition Switches: **ON**
Propeller: **Forward**
Starter: **ENG**
(If Prop not wind milling)

SECURING INOP ENGINE

Throttle: **IDLE**
Ignition: **OFF**
Prop: **Feather**
Field (INOP Side): **OFF**
Fuel Pump: **OFF**
Good Engine: **THROTTLE/PROP**
Rudder Trim: **ADJUST**

RESTARTING INOP ENGINE

84-95 Knots
Carb Heat: **ON (IF REQUIRED)**
Fuel Pump: **ON**
Fuel Quantity: **CHECK**
Fuel Selector: **CHECK**
Field (INOP Side): **OFF**
Ignition: **ON**
Throttle: **IDLE**
Prop: **FULL FORWARD**
Start Button: **PUSH**
Engine Starts: **PROP RPM**
Oil Pressure: **CHECK**
Oil Temp/CHT: **GREEN**
Rudder Trim: **RETRIM**
Field: **On (INOP SIDE)**

SINGLE ENGINE LANDING

SECURE INOP. ENGINE

Maintain: **84 KNOTS (VYSE)** Approach Checklist: **COMPLETE**
Fuel Pump: **ON**
Avoid Steep Turns
Gear: **LOWERED**
Flaps: **WHEN LANDING**

DO NOT ATTEMPT GO AROUND UNLESS YOU CLEAN UP THE AIRPLANE

DUAL ENGINE OUT LANDING

Airspeed: **84 KNOTS**
Flaps: **UP**
Fuel Selectors: **OFF**
Fuel Pump: **OFF**
Ignition: **OFF**
Flaps: **WHEN LANDING**
Gear: **DOWN (LANDING MADE)**
Declare Emergency
Master: **OFF**
Door: **UNLATCH**

ENGINE FIRE DURING START

Fuel Pump: **OFF**
Ignition: **OFF**
Starter: **CONTINUE CRANKING**
Throttle: **OPEN**
Fuel Selectors: **OFF**
Battery/Alternators: **OFF**
Operating Engine: **SHUTDOWN**
Evacuate/Fire Extinguisher

ENGINE FIRE IN FLIGHT

Fuel Pump: **OFF**
Fuel Selector: **OFF TO ENGINE**
Throttle: **CLOSED**
Prop: **FEATHER**
Ignition Switch: **OFF TO ENGINE**
Heater/Defrost: **OFF**
Alternator: **OFF**
Airspeed: **INCREASE**
Land: **IMMEDIATELY**

AFTER LANDING

Ignition: **OFF**
Fuel Sectors: **OFF**
Battery/Alternators: **OFF**
Operating Engine: **SHUTDOWN**
Evacuate/Fire Extinguisher

ICING

Pitot Heat: **ON**
Alternate Static: **AS NEEDED**
Cabin Heat / Defrost: **MAX**
Altitude: **ATTAIN HIGHER/LOWER**
Throttle/Prop: **INCREASE**
Flaps: **FULL NOT RECOMMENDED**
Airspeed: **INCREASE**
180 Deg. Turn: **RECOMMENDED**

MANUAL GEAR EXTENSION

Troubleshoot: **CIRCUIT BREAKERS**
Lights: **CHECK**
Airspeed: **LESS THAN 122 KNOTS**
Landing Gear Handle: **DOWN**
Access Door: **REMOVE**
RH Control Lever: **ROTATE 90° LEFT**

Wait 20 Seconds

LH Control Lever: **ROTATE 180° LEFT**

GEAR UP LANDING

Normal Approach: **FULL FLAPS**
Choose Hard Surface
Runway Assured
Throttles: **CLOSED**
Fuel Selectors: **OFF**
Ignition Switches: **OFF**
Wings Level
Touch Down Gentle
Master Switch: **OFF**

EMERGENCY DESCENT

Throttles: **CLOSED**
Props: **FULL FORWARD**
Flaps: **UP**
Airspeed: **<122 KNOTS**
Gear: **DOWN**

DUAL ALTERNATOR FAILURE

LH/RH Field: **BOTH OFF**
LH/RH Field: **BOTH ON**

NO ALTERNATOR RESTART:

LH/RH Field: **BOTH OFF**
LH/RH Cross Busses: **OFF**
Battery Life: **30 MINUTES**
Emergency Switch: **TO EXTEND**

SINGLE ALTERNATOR FAILURE

Field Switch (LH or RH): **OFF**
Field Switch (LH or RH): **ON**

NO ALTERNATOR RESTART:

Field Switch: **OFF**

LOW FUEL PRESSURE

IF FUEL PRESSURE DECREASES BELOW THE LOWER LIMIT (2.2 PSI)

Fuel press: **CHECK**
Fuel quantity: **CHECK**
Fuel consumption: **MONITOR**

*If a fuel leakage is deemed likely:
LAND AS SOON AS POSSIBLE*

*If a fuel leakage can be excluded:
Electrical fuel pump: **ON**
Crossfeed from opposite tank*

*If pressure does not come back within the limits:
Land as soon as practical*