

**Challenge Response**

**AIRCRAFT ACCEPTANCE**

Control Lock .....	<b>REMOVE</b>
Master Switch .....	<b>ON</b>
Flaps .....	<b>DOWN</b>
Fuel Quantity .....	<b>CHECKED</b>
Avionics Master Switch .....	<b>ON</b>
Avionics Fan .....	<b>CHECK OPERATION</b>
Annunciator Panel .....	<b>TEST</b>
Avionics Master Switch .....	<b>OFF</b>
Master Switch .....	<b>OFF</b>
Alternate Static Air .....	<b>OFF</b>
Maintenance Status / Tachometer .....	<b>CHECKED</b>
Hobbs .....	<b>RECORDED</b>
AR(R)OW .....	<b>CHECKED</b>

**BEFORE STARTING ENGINE**

Preflight Inspection .....	<b>COMPLETE</b>
Doors .....	<b>CLOSED AND LATCHED</b>
Passenger Briefing .....	<b>COMPLETE</b>
Seat Belts / Harnesses .....	<b>ON</b>
Circuit Breakers .....	<b>CHECKED IN</b>
Fuel Selector .....	<b>BOTH</b>
Fuel Shutoff Valve .....	<b>ON</b>
Electrical Equipment .....	<b>OFF</b>

**STARTING ENGINE**

Master Switch .....	<b>ON</b>
Beacon .....	<b>ON</b>
Throttle .....	<b>OPEN ¼ INCH</b>
Fuel Pump .....	<b>AS REQUIRED</b>
Mixture .....	<b>IF REQUIRED ADVANCE to ≈ 5 GPH</b>
Mixture .....	<b>IDLE CUT-OFF</b>
Fuel Pump .....	<b>OFF</b>
Propeller Area .....	<b>CLEAR</b>
Ignition Switch .....	<b>START</b>
Mixture .....	<b>ADVANCE AFTER START</b>
Throttle .....	<b>1000 RPM</b>
Oil Pressure .....	<b>CHECKED</b>
Avionics .....	<b>ON</b>
Flaps .....	<b>UP</b>
Mixture .....	<b>AS REQUIRED</b>

**TAXI**

Exterior Lights .....	<b>AS REQUIRED</b>
Brakes / Steering .....	<b>CHECKED</b>
Instruments .....	<b>CHECKED</b>
Transponder .....	<b>VERIFY ALT</b>

**BEFORE TAKEOFF**

Parking Brake .....	<b>SET</b>
Doors & Windows .....	<b>CHECKED</b>
Flight Controls & Trim .....	<b>CHECKED</b>
Fuel Quantity .....	<b>CHECKED</b>
Mixture .....	<b>RICH</b>
Throttle .....	<b>1800 RPM</b>
Magnetos (Max. 150 RPM / 50 Difference) .....	<b>CHECKED</b>
Engine Instruments & Ammeter .....	<b>CHECKED</b>
Annunciator Panel .....	<b>CHECKED</b>
Throttle .....	<b>IDLE / 1000 RPM</b>
Mixture .....	<b>AS REQUIRED</b>
Flaps .....	<b>SET</b>
Flight Instruments .....	<b>SET</b>
Departure Briefing / Avionics .....	<b>COMPLETE / SET</b>
Parking Brake .....	<b>OFF</b>

**Challenge Response**

**LINE UP**

Exterior Lights .....	<b>ON</b>
Pitot Heat .....	<b>AS REQUIRED</b>
Mixture .....	<b>RICH (below 3,000' pressure altitude)</b>

**CLIMB**

Flaps .....	<b>UP</b>
Mixture .....	<b>AS REQUIRED</b>
Engine Gauges .....	<b>CHECKED</b>
Airspeed .....	<b>V<sub>y</sub> (74) until 1000' then 75-85 KIAS</b>

**CRUISE**

Power .....	<b>SET</b>
Mixture .....	<b>AS REQUIRED</b>
Landing Light .....	<b>AS REQUIRED</b>
Heading Indicator / Compass .....	<b>CHECKED</b>

**DESCENT**

Weather .....	<b>CHECKED</b>
Power .....	<b>AS DESIRED</b>
Mixture .....	<b>AS REQUIRED</b>
Altimeter .....	<b>SET</b>
Fuel Selector .....	<b>BOTH</b>
Landing Light .....	<b>AS REQUIRED</b>
Approach Briefing .....	<b>COMPLETE</b>

**BEFORE LANDING**

Passenger Briefing .....	<b>COMPLETE</b>
Seat Belts / Harnesses .....	<b>ON</b>
Fuel Selector .....	<b>BOTH</b>
Mixture .....	<b>AS REQUIRED</b>
Flaps .....	<b>SET</b>
Landing Light .....	<b>ON</b>
Autopilot .....	<b>OFF</b>

**AFTER LANDING**

Landing Light / Anti-Collision Light .....	<b>OFF</b>
Trim .....	<b>RESET</b>
Mixture .....	<b>AS REQUIRED</b>
Flaps .....	<b>UP</b>
Pitot Heat .....	<b>OFF</b>

**SECURING**

Brakes .....	<b>HOLD</b>
Avionics .....	<b>OFF</b>
Magnetos .....	<b>GROUND CHECK</b>
Mixture .....	<b>IDLE CUT-OFF</b>
Magnetos / Keys .....	<b>OFF &amp; OUT</b>
Tach Time .....	<b>CHECK</b>
Electrical Equipment .....	<b>OFF</b>
Master Switch .....	<b>OFF</b>
Fuel Selector .....	<b>LEFT or RIGHT</b>
Hobbs / Tach Time .....	<b>RECORD</b>
Chocks / Control Lock & Tie Down .....	<b>IN &amp; SECURE</b>

## Challenge Response

### ENGINE FAILURE DURING TAKEOFF ROLL

Throttle.....	<b>IDLE</b>
Brakes.....	<b>APPLY</b>
Wing Flaps.....	<b>RETRACT</b>
Mixture.....	<b>IDLE CUT-OFF</b>
Fuel Shutoff Valve.....	<b>PULL OFF</b>
Magneto Switch.....	<b>OFF</b>
Master Switch.....	<b>OFF</b>

### ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

Airspeed.....	<b>(flaps up) 70 KIAS</b>
Mixture.....	<b>IDLE CUT-OFF</b>
Fuel Shutoff Valve.....	<b>PULL OFF</b>
Magnetos.....	<b>OFF</b>
Wing Flaps.....	<b>AS REQUIRED</b>
Master Switch.....	<b>OFF</b>

### ENGINE FAILURE IN FLIGHT

Trim for Best Glide.....	<b>68 KIAS</b>
Pick Suitable Landing Site	
Fly Toward Landing Site	
Fuel Selector.....	<b>BOTH</b>
Fuel Shutoff Valve.....	<b>IN</b>
Mixture.....	<b>AS REQUIRED</b>
Fuel Pump.....	<b>ON</b>
Magnetos.....	<b>ON / BOTH</b>

IF NO RESTART OR AN OFF AIRPORT LANDING IS NECESSARY:

Squawk Code: 7700 (121.5)	
Passenger Briefing.....	<b>COMPLETE</b>
Mix, Mags, Fuel Shutoff Valve.....	<b>OFF</b>
Flaps.....	<b>AS REQUIRED</b>
Master Switch.....	<b>OFF</b>
Seats / Seat Belts.....	<b>SECURE</b>
Sharp Objects.....	<b>STOW</b>
Doors.....	<b>AJAR</b>

### ENGINE FIRE DURING START UP

Cranking.....	<b>CONTINUE</b>
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IF ENGINE STARTS:

Throttle.....	<b>1800 RPM</b>
Engine.....	<b>SHUTDOWN</b>
Engine.....	<b>INSPECT</b>

IF ENGINE FAILS TO START:

Throttle.....	<b>FULL OPEN</b>
Mixture.....	<b>IDLE CUT-OFF</b>
Cranking.....	<b>CONTINUE</b>
Fuel Shutoff Valve.....	<b>OFF / PULL OUT</b>
Fuel Pump.....	<b>OFF</b>
Fire Extinguisher.....	<b>OBTAIN / ARM</b>
Engine.....	<b>SECURE</b>
Magnetos.....	<b>OFF</b>
Master Switch.....	<b>OFF</b>
Engine.....	<b>INSPECT</b>

Highlighted Items Should be Committed to Memory

## Challenge Response

### ENGINE FIRE IN FLIGHT

Mixture.....	<b>IDLE CUT-OFF</b>
Fuel Shutoff Valve.....	<b>OFF / PULL OUT</b>
Fuel Pump.....	<b>OFF</b>
Vents Heat / Air.....	<b>CLOSED</b>
(except wing root vents)	
Airspeed.....	<b>100 KIAS</b>
(If fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture.)	
Forced Landing.....	<b>EXECUTE</b>
SEE ENGINE FAILURE IN FLIGHT: NO RESTART CHECKLIST	

### ELECTRICAL FIRE IN FLIGHT

Master Switch.....	<b>OFF</b>
All Other Switches Except Ignition.....	<b>OFF</b>
Vents Heat / Air.....	<b>CLOSED</b>
Fire Extinguisher.....	<b>ACTIVATE</b>

WARNING: AFTER DISCHARGING FIRE EXTINGUISHER WITHIN CLOSED CABIN, VENTILATE CABIN

IF FIRE APPEARS OUT AND ELECTRICAL POWER IS NECESSARY.....FOR CONTINUANCE OF FLIGHT

Master Switch.....	<b>ON</b>
Circuit Breakers.....	check for faulty circuit, do not reset
Radio / Electrical Switches.....	<b>ON</b>
(One at a time, with delay after each until short circuit is localized.)	
Vents Heat / Air.....	<b>OPEN</b>
(When it is ascertained that fire is completely extinguished.)	

### LANDING WITH A FLAT MAIN TIRE

Wing Flaps.....	<b>AS DESIRED</b>
Approach.....	<b>NORMAL</b>
Touchdown.....	<b>GOOD TIRE FIRST</b>
(Hold airplane off flat tire as long as possible with aileron control.)	

### AMMETER SHOWS EXCESSIVE RATE OF CHARGE

Master.....	<b>OFF</b>
Alternator Circuit Breaker.....	<b>PULL</b>
Non-Essential Electrical Equip.....	<b>OFF</b>
Flight.....	<b>LAND AS SOON AS PRACTICAL</b>

### LOW VOLTAGE LIGHT ILLUMINATES IN FLIGHT

Radios.....	<b>OFF</b>
Alternator Circuit Breaker.....	<b>CHECK IN</b>
Master Switch.....	<b>OFF (both sides)</b>
Master Switch.....	<b>ON</b>
Low Voltage Light.....	<b>CHECK OFF</b>
Radios.....	<b>ON</b>

IF LOW VOLTAGE LIGHT ILLUMINATES AGAIN

Alternator.....	<b>OFF</b>
Non-Essential Radio / Electrical Equip.....	<b>OFF</b>
Flight.....	<b>LAND AS SOON AS PRACTICAL</b>

Highlighted Items Should be Committed to Memory