**ELECTRICAL**

**EXCESSIVE RATE OF CHARGE**

**If ALTR Circuit Breaker is Popped**

Alternator………………...……...……....OFF

NON ESS Electrical Equipment…….…OFF

Alternator Circuit Breaker………………......Pull

 **EXIT IMC, LAND AS SOON AS PRACTICAL**

**ELECTRICAL FAILURE**

Battery Master Switch….……..…...…..OFF

ALTR Switch……………………...….….OFF

***Land as Soon as Possible***

**LOW VOLTAGE**

**Low-Voltage Light Illuminates**

Avionics Master……………………..……..OFF

Circuit Breaker…………………..……Check in

Battery Master/Alternator………………..OFF

Battery Master/Alternator………………….ON

**If Low-Voltage Light Turns OFF**

Avionics Master……………………………...ON

**If Voltage Light returns**

Alternator…………………………….…..OFF

NON ESS Electrical Equipment…….…OFF

**Anticipate electrical failure**

**Exit IMC, LAND AS SOON AS PRACTICAL**



***Pre-Flight Checklist***

***Initial Items***

**Fuel/Oil Quantity**………………….……………...……….**Check**

**Covers/Plugs/Locks**………………………………...…**Remove**

**Sumps**……………………………………....……**Drain & Check**

**Tie downs/Chocks**……………………………..………**Remove**

***Interior***

**Required Documents**…………………………………..**Present**

**Fire Extinguisher**…………………………...……**Check Gauge**

**Compass Card**……………………………………..……**Present**

**Fuel Selector**…………………………………….…**Proper Tank**

**Mixture**………………………………………………..…….**Cutoff**

**CarbHeat**…………………………………………………..….**OFF**

**Magnetos**………………………………………………….….**OFF**

**All Switches**………………………………………...………..**OFF**

**Alternate Static Source**……………………...……………..**OFF**

**Trim**………………………………………………….……..**Neutral**

**Flaps**………………………………………………………….…**30\***

***Electrical***

**Battery Master**…………………………………...……………**ON**

**Interior Lighting**……………………………………..……**Check**

**Exterior Lights**……………………………………………..….**ON**

**Pitot Heat**………………………………………………………**ON**

**Fuel Gauges**…………………………………………….....**Check**

**Annunciator Panel**…………………………….………….**Check**

**Exterior Lights**………………………………………..…..**Check**

**Stall Tab**…………………………………………….………**Check**

**Pitot Tube/Static**………………...……………...…..**Warm/Cear**

**All Lights**………………………………………….…………..**OFF**

**Pitot Heat**……………………………………………….…….**OFF**

**Battery Master**……………………………………………….**OFF**

**—---------------------------------------------------------------------**

**Flight Controls**………………………………………..…..**Check**

**Baggage/Items**……………………………………...……**Secure**

**Baggage Door**………………………………………...….**Secure**

***Right & Left Wing***

**Surface**…………………………………….…**No Damage/Clear**

**Flap & Hinges**……………………………….**No Damage/Clear**

**Aileron & Hinges**……………………………**No Damage/Clear**

**Static Wicks**………………………………….…..**Check Secure**

**Fuel Tank Vent**……………………………………...………**Clear**

**Main Gear**………………………………………………..…**Check**

**Fresh Air Inlet**………………………………………………**Clear**

***Nose***

**Cowling**…………………………………….**No Damage/Secure**

**Windshield**………………………………………………….**Clean**

**Oil Filler Door**………………………………………...…..**Secure**

**Propeller & Spinner**……………………………….……..**Check**

**Air Inlets**/**Alternator Belt**………………..……….….**Clear/Taut**

**Nose Gear**……………………………………………….…**Check**

**Fuselage**

**Antennas**………………………………………………...…**Check**

**Empennage**……………………………………………..…..**Clear**

**External Data Plate**……………………………………....**Check**

**Elevator & Trim Tab**…...……………………**No Damage/Clear**

**Rudder**………………………………….…….**No Damage/Clear**

**Static Wicks**……………………………………………….**Check**

**Final Items**

**Flaps**…………………………………………………...………..**Up**

**Area**………………..………….…..**Clear**(Tie Downs/Chocks/Other)



**C-172 Emergency Checklist**

**ENGINE FAILURE-TAKEOFF ROLL**

Throttle………………………...…………….…Idle

Brakes…….………….……………...…….…Apply

Flaps…………………………………...…..Retract

Mixture……………….……………..…..Idle Cutoff

Magnetos…………….……………..…….…..OFF

Battery Master/Alternator……...……..…......OFF

**ENGINE FAILURE AT TAKEOFF**

Airspeed Best Glide…………75 MPH(Flaps Up)

70 MPH(Flaps Down)

Insufficient.Altitude….……….………………….…**PERFORM POWER-OFF LANDING**

**If Time & Altitude Allows**

Fuel Selector…………………….......Check Tank

Mixture……………………...………..Check RICH

Carb Heat……………….………..………...…..ON

Primer…………………………………...….Locked

**If Power is not restored**

 **PREPARE FOR POWER-OFF LANDING**

**POWER-OFF LANDING**

**Emergency Landing Without Power**

Airspeed Best Glide……...…………...…75 MPH

Landing Area………...………...….Select/Inspect

**When Committed to Landing**

Throttle…………………………..……..Close

Mixture……………………..……..Idle Cutoff

Fuel Selector…………………..…….….OFF

Magnetos……………………………..…OFF

Flaps…………………………………As Req.

Battery Master/Alternator…….…..……OFF

Door………………………………….….Open

Seat Belts & Shoulder Harness…....Tightened

Touchdown……..…………....Slightly Tail Low

**ENGINE ROUGHNESS**

Maintain Aircraft Control……………………….

Carb Heat……………...…...………..…..…..ON

**If Roughness continues after 1 minute**

Carb Heat………………...………….……...OFF

Mixture………..…*Adjust for Maximum smoothness*

Fuel Selector…………………….…Switch Tanks

Engine Instruments…….……...…….....Check

Magnetos………………....Check Left & Right

\*If Operation is Satisfactory on either Magneto, continue on that Magneto at reduced Power and full RICH mixture to the First Suitable Airport

**PREPARE FOR POWER-OFF LANDING**

**ENGINE POWER LOSS IN FLIGHT**

Airspeed…………….....…...Maintain 75 MPH

Carb Heat………………….…...………...…..ON

Fuel Selector……..Switch to Tank containing Fuel

Mixture…………………..……………..Full Rich

Magnetos….…..Both(or START if Prop is Stopped)

Primer………………………….…………Locked

Engine.Instruments…………………...………..

***Check for Indication of cause of Power Loss***

**Declare Emergency**……..…….**121.5 / 7700**

**PREPARE FOR POWER-OFF LANDING**

**LOW OIL PRESSURE**

Throttle……………..….Don't change Unnecessarily

Land………….……..AS SOON AS PRACTICAL

**PREPARE FOR POWER-OFF LANDING**

**HIGH OIL TEMPERATURE**

Throttle…………….……..…..Minimum Required

Mixture………………………...………….Full Rich

Airspeed………………….…Increase(If Practical)

Land……………..…........AS SOON AS POSSIBLE

**PREPARE FOR POWER-OFF LANDING**

**CARBURETOR ICING**

Throttle……………………….……………….Full

CarbHeat……..…………………….…....On Full

**When Engine Runs Smoothly**

CarbHeat…………………..………………..OFF

Throttle……………………….…..…….Readjust

**If Conditions Require CarbHeat**

CarbHeat……….Minimum(for smooth operation

**OPEN DOOR**

Airspeed……………………....…Slow to 95 MPH

Cabin Vents…………..……………....….….Close

Window……………………………..………..Open

Door.…………………..…Open & Close, then Latch

***Land as soon as practical & check security***

**CLEANING FOULED SPARK PLUGS**

(CAUTION: Hold Breaks securely and remain vigilant for aircraft movement: only perform runup on surface from gravel/dirt.)

Throttle…………………………...….1600 RPM

Mixture……….…...Lean for slight RPM Drop

Maintain for 60 seconds………….

Mixture……………...………….……....Full Rich

Perform Magneto Check…………..

**Note:** While Performing the above checklist, do not allow oil temperature to reach redline and be vigilant of oil pressure.

**Spin Recovery**

Throttle………………………………….….....Idle

Ailerons…………………….………….....Neutral

Rudder…………….....….Full opposite of spin

Elevator………………………..…...…..Forward

***When Rotation Stops***

Rudder…..…………………….…………Neutral

Elevator………….....As REQ to become level

**FIRES**

**ENGINE FIRE DURING START**

Starter……………...………….…Crank Engine

**If Engine Fails to Start**

Throttle………………….……….……Full Open

Mixture……………………………..…Idle Cutoff

Starter………………………...….Crank Engine

Fuel Selector…………………………...…..OFF

Fire Extinguisher…...…Pull Pin & Spray at Base

**If Engine Starts**

Power…………..…….1600 RPM(for a few minutes)

Engine………...Shutdown & Inspect for Damage

**ELECTRICAL FIRE IN-FLIGHT**

**(**Smoke in the Cabin)

Battery Master/Alternator……….………..….OFF

Avionics…………………………………….….OFF

All Switches………………………..……...….OFF

Vents/Cabin Air/Heater……...…...OFF/CLOSED

Fire…………………...……...….………Extinguish

**After Fire is Extinguished**

Window………..…….....Open to Ventilate Cabin

LAND AS SOON AS POSSIBLE

**If Electrical Power is Necessary to flight**

Battery Master………………………………….ON

Circuit Breakers………...…..….Check(do not reset)

Radio Switches……………………………….OFF

Avionics……………………..…………...……..ON

Radio/Electrical Switches……….…..ON(one at a time)

(Localize Short Circuit)

Vents/Cabin Air/Heater.………..Open(if fire is Extinguished)

**ENGINE FIRE IN-FLIGHT**

Mixture……………...………………..Idle Cutoff

Fuel Selector…………...…………………..OFF

Throttle……………..…….………………Closed

Battery Master/Alternator………………..OFF

Heater & Defroster……...…………………OFF

Emergency Descent……...…Extinguish Fire

**POWER-OFF LANDING**

**VNE - 160 MPH**