Cessna 172 R/S
NORMAL CHECKLIST

Preflight Inspection

WEATHER............................................... CHECK
WEIGHT AND BALANCE............................ CHECK

PITOT HEAT............................................ (IF IFR) CHECK

INTERIOR
FIRE EXTINGUISHER............................... CHECK
AIRCRAFT DOCUMENTS............................. CHECK
CONTROL WHEEL LOCK............................. REMOVE
POH/AFM.................................................. CHECK
IGNITION SWITCH........................................ OFF
MASTER SWITCH......................................... ON
FUEL QUANTITY........................................ CHECK
ALTERNATE STATIC SOURCE........................ OFF
BEACON, STROBES, NAV & LANDING LIGHTS ...... CHECK
FLAPS...........................................FULLY EXTEND
MASTER SWITCH......................................... OFF
FUEL SELECTOR VALVE............................. BOTH
FUEL SHUTOFF VALVE............................... IN
BAGGAGE AND LOOSE ITEMS.................... STOWED

EMPENNAGE
BAGGAGE DOOR......................................... CHECK
RUDDER GUST LOCK................................. (If installed) REMOVE
CONTROL SURFACES.............................(Freedom & security) CHECK
TRIM TAB.............................................. CHECK
ANTENNAS............................................. CHECK

RIGHT WING TRAILING EDGE
FLAP ...........................................(Security) CHECK
AILERON............................................... (Freedom & security) CHECK

RIGHT WING & LEADING EDGE
FUEL QUANTITY.................................... CHECK VISUALLY
FUEL FILLER CAP.................................... SECURE
FUEL TANK SUMPS (S)................................. CHECK
Check for water and sediment.
MAIN WHEEL TIRE, BRAKE DISC & PADS...... CHECK
Check for wear and proper inflation.
Continued...

Avoid Slips with Flaps Extended

After Takeoff (Out of 1000' AGL)
Airspeed.............................................. $V_{n}$ / $V_{y}$ / AS REQ
(If a maximum performance climb is necessary, use speeds in rate-of-climb data charts in section 5 of the POH/AFM.)
FLAPS.................................................. UP
THROTTLE............................................ FULL
MIXTURE........................................... FULL RICH BELOW 3000' MSL

Cruise
Power................................................... ($\leq 75\%$ Power per POH/AFM) SET
ENGINE INSTRUMENTS............................ CHECK
MIXTURE........................................... LEAN AS REQUIRED
MAG COMPASS / HI................................ CHECK / SET

In-Range / Descent
ATIS / AWOS......................................... (As early as possible).................................. CHECK
ALTIMETER.......................................... SET
PRELIMINARY APPROACH BRIEF
Type of Approach
Runway length / Lighting
Field Elevation / Sector Altitude
Highest Obstacle / Terrain Review
NAV / Course / Minimums / Missed
Crosswind Component........................................ COMPLETE
AIRPORT DIAGRAM (Keep available).................. CHECK
SEAT BELTS........................................ FASTENED
MIXTURE........................................... SLIGHTLY ENRICH

Approach (Approx 15 NM from Airport)
ATIS/AWOS.......................................... CHECK
APPROACH BRIEFING................................. COMPLETE
ALTIMETER.......................................... SET
HEADING INDICATOR TO COMPASS............... COMPLETE
FUEL SELECTOR............................ BOTH
PARKING BRAKE.......................... CHECK RELEASED
LANDING LIGHT..................................... ON
WHEN DIRECT TO IAF OR vectored
FLIGHT & NAV INSTRUMENTS.................. SET/IDENT
GPS (As Required for Approach).................. SET
Airspeed.............................................. 90 KIAS

Before Landing Checklist
FUEL SELECTOR.......................... BOTH
MIXTURE........................................... FWD
LANDING LIGHT................................... AS REQ

Go Around / missed Approach
THROTTLE............................................ FULL
FLAPS.............................................. (If $> 20\%$) RETRACT 20°
PITCH.............................................. EST CLimb
FLAPS............................................ (> 60 KIAS) RETRACT 10°
Airspeed.............................................. $V_{n}$ / $V_{y}$ / AS REQ
AT SAFE ALTITUDE & $> 65$ KIAS
FLAPS.............................................. UP
FLY ASSIGNED/PUBLISHED HEADING & ALTITUDE

After Landing (Stopped)
TRIM............................................... CENTERED
FLAPS.............................................. UP
STROBE............................................. (If in interest of safety) OFF
LANDING & TAXI LIGHTS.......................... OFF
MIXTURE........................................... LEAN FOR RPM RISE
TAXI CLEARANCE.................................. OBTAIN & BRIEF

Shutdown/Terminate
AVIONICS MASTER............................... OFF
THROTTLE............................................ 1000 RPM
MIXTURE........................................... CUTOFF
IGNITION SWITCH................................. OFF
MASTER SWITCH..................................... OFF
ELECTRICAL SWITCHES.......................... OFF
BLOCK-IN & MX REPORT...................... SUBMITTED & CONF. REC'D
FLIGHT CONTROLS............................... SECURE
SUNScreens........................................ INSTALL
TIEDOWN / CHOCK................................. SECURE
WALKAROUND.................................... COMPLETE

Avoid Slips with Flaps Extended
Preflight Inspection (Continued)

Nose
- Windshield: Check for cleanliness
- Fuel Sumps (3): Check for water and sediment
- Oil level: Check & secure cap

Do not operate with less than 6.5 quarts for local training or less than 8 quarts for extended flights. Do not over-tighten oil cap.
- Oil access door: Secure
- Engine cooling air inlets: Check
- Propeller & spinner: Check
- Engine air filter: Check
- Nose wheel strut (Approx. 3” Extension): Check
- Nose wheel tire: Check
- Static source opening: Check

Left Wing & Leading Edge
- Fuel quantity: Check visually
- Fuel filler cap: Secure
- Fuel tank sumps (5): Check
- Pitot tube cover: Remove
- Pitot tube: Check unobstructed
- Stall horn opening: Check unobstructed
- Fuel tank vent: Check

Left Wing Trailing Edge
- Aileron: (Freedom & security) check
- Flap: (Security) check
- Main wheel tire, brake disc & pads: Check
- General walkaround: Check

Before Starting Engine
Nose-tips & Chocks: Area cleared
- Preflight inspection: Complete
- WT&B, Docs, performance: Check
- Cell phone: Airplane mode
- Passenger brief: Complete

Doors, Seats & seatbelts (Positive Latch), Fire extinguisher, No smoking, PIC Authority
- Seat & seat belts: Adjust & lock
- Circuit breakers: Check in
- Ignition switch: Off
- Avionics master switch: Off
- Alternate static source: Off
- Fuel selector valve: Both
- Fuel shut off valve: (Push full in)
- Master switch: On
- Beacon: On
- Position light: On

Engine Start
- Throttle: ¼” Open
- Fuel pump: Cold engine

Mixture: Rich 3-5 seconds until stable fuel flow, then cutoff

Warm engine
- Mixture: Rich 1 second then cutoff
- Fuel pump: Off
- Brakes: Hold
- Prop area: Clear
- Ignition: (ATP 8 second Max) Start
- Mixture: Advance smoothly as engine starts: Rich

When engine starts
- Throttle: 1000 RPM
- Oil pressure: (In 15 seconds) check green
- Mixture: Lean for RPM rise
- throttle: 1000 RPM
- Flaps: Up

After Start
- Headsets: On
- Avionics master switch: On
- Coms: ATIS/AWOS/Clearance if req
- Altimeter: Set
- GPS: Set / course navigation
- Flight Instrument (AI/TC/Compass & Hi/VTI): Check

Taxi
- Airport diagram: Out / available
- Taxi clearance: Obtain / brief
- Landing & Taxi lights: On
- Taxi area: Clear
- Brakes: Check
- Flight instruments (AI/TC/Hi/VTI): Check in

Sterile cockpit
- No non-essential conversation

* Turn off your taxi or landing lights when stopped, yielding, or as a consideration to other pilots, drivers or ground personnel. At all other times landing and taxi lights are to remain on for all aircraft movement and flight.

Run Up
- Annunciator panel lights: Check
- Mixture: Rich / full forward
- Throttle: 1800 RPM
- Magneto: Check

(Drop should not exceed 150 RPM on either magneto or a difference of 50 RPM between the two.)

Engine instruments & ammeter: Check
- Throttle: Idle / check 600-800 RPM
- Mixture: Lean for RPM rise

Pre-Takeoff Brief
- Hazards or abnormality during takeoff:
  - Immediately close throttle, stop straight ahead & avoid obstacles if not enough runway remains to stop.
  - Mixture: Cutoff
  - Fuel shut off valve: PULL / OFF
  - Battery master switch: Off
  - Ignition switch: Off
  - Avoid obstacles

Engine failure immediately after takeoff:
- Land on remaining runway / within 30° of centerline.
- Avoid obstacles. Do not attempt 180° turn.
- Airspeed: Lower nose & establish pitch for best glide.
- Flaps: As available
- Throttle: As available
- Ignition: Off
- Battery master: Off

Before Takeoff
- Pre-takeoff brief: Complete
- Flight controls: Free & correct
- Flight instruments: Check & set
- Autopilot (if installed): Off
- Fuel gauge / QTY: Check / sufficient
- Fuel selector: Both
- Trim: Set / off
- GPS: Set / off
- Flaps: (As req. for departure) set / off
- Heading indicator: Set / off
- Departure brief: Initial altitude & heading
- Brief departure procedure: Complete
- Flight instruments: Full forward (or set for altitude)
- Engine instruments: Check
- Seat backs: Most upright position
- Seatbelt & shoulder harness: Fastened

Final items when #1 for takeoff
- Doors & windows: Closed & locked
- Strobe light: On
- Transponder: ALT
- Traffic: Check

172 R-S Normal  172 R-S Normal
**Engine Failure During Flight**

**AIRSPEED**.................................BEST GLIDE
**NOTE WIND DIRECTION AND SPEED**
**PICK & FLY TOWARDS LANDING SITE**
**FLAPS**.........................................UP
**MIXTURE....................................RICH**
**FUEL SELECTOR VALVE**..............BOTH
**FUEL SHUTOFF VALVE**................PUSH IN / ON
**AUX FUEL PUMP SWITCH**............ON
**MAGNETOS**................................CHECK ALL
**IF PROP NOT WINDMILLING**
**IGNITION SWITCH**..........................START
**MAGNETOS**................................CHECK ALL

**Precautionary Landing with Engine Power**

**LANDING AREA**.........................SELECT & INSPECT
**RADIO & ELECTRICAL SWITCHES**......OFF
**ON FINAL APPROACH**
**FLAPS**......................................(30° Recommended) AS REQ
**MASTER SWITCH**..........................OFF
**DOORS**......................................(Prior to touchdown) UNLATCH
**IGNITION SWITCH**........................OFF
**BRAKES**....................................APPLY HEAVILY

**Emergency Landing No Engine Power**

**LANDING AREA**.........................SELECT & INSPECT
**AIRSPEED**.................................BEST GLIDE
**AIRSPEED**.................................BEST GLIDE
**RADIO & ELECTRICAL SWITCHES**......OFF
**MIXTURE**....................................OFF
**FUEL SHUTOFF VALVE**.................PULL OUT / OFF
**IGNITION SWITCH**........................OFF
**FLAPS**......................................(30° Recommended) AS REQ
**MASTER SWITCH**..........................OFF
**DOORS**......................................(Prior to touchdown) UNLATCH
**BRAKES**....................................APPLY HEAVILY

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**Pattern Work**

**Touch & Go’s Prohibited Except With Instructor**

**Before Landing Checklist**

**FUEL SELECTOR**..........................BOTH
**MIXTURE**..................................FWD

**Go Around / Missed Approach**

**THROTTLE**..................................FULL
**FLAPS**......................................(If > 20°) RETRACT 20°
**PITCH**........................................EST CLIMB
**FLAPS**......................................(> 60 KIAS) RETRACT 10°
**AIRSPEED**................................V, V, AS REQ
**FLAPS**......................................UP
**FLY ASSIGNED/PUBLISHED HEADING & ALTITUDE**

**Maintain Centerline**

**FLAPS**......................................UP
**THROTTLE**..................................FULL

**Standardized Speeds**

- **80 KIAS**.................................FLAPS 10° - 1500 RPM
- **70 KIAS**.................................FLAPS 20° - ON BASE
- **65 KIAS**.................................FLAPS 30° - ON FINAL UNTIL ROUNDOUT

**Touch and Go**

- **SOFT FIELD**..............................61 KIAS - FLAPS 30°
- **SHORT FIELD**............................61 KIAS - FLAPS 30°

**After Landing** (Stopped)

**TRIM**........................................CENTERED
**FLAPS**......................................UP
**STROBE**....................................OFF
**LANDING & TAXI LIGHTS**...............ON
**MIXTURE**.................................LEAN FOR RPM RISE
**TAXI CLEARANCE**........................OBTAIN & BRIEF

**Before Takeoff**

**PRE-TOAKEOFF BRIEF**..................COMPLETE
**FLIGHT CONTROLS**.......................FREE & CORRECT
**FLIGHT INSTRUMENTS**....................CHECK & SET
**AUTOPILOT (Installed)**..................OFF
**FUEL GAUGE / QTY**......................CHECK / SUFFICIENT
**FUEL SELECTOR**..........................BOTH
**TRIM**........................................SET T/O
**FLAPS**......................................SET
**GPS**..........................................(As req for departure) SET
**HEADING INDICATOR**....................SET
**DEPARTURE BRIEF**

- Initial Altitude & Heading
- Before Departure Procedure................COMPLETE
- **MIXTURE**.................................FULL FWD (Or set for altitude)
- **ENGINE INSTRUMENTS** ..............CHECK
- **SEAT BACKS**.............................MOST UPRIGHT POSITION
- **SEAT BELT & SHOULDER HARNESS**....FASTENED
- **FINAL ITEMS WHEN #1 FOR TAKEOFF**

**DOORS & WINDOWS**......................CLOSED & LOCKED
**STROBE LIGHT**............................ON
**TRANSPOUNDER**...........................ALT

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**Engine Failure During Takeoff Roll**

**THROTTLE**..................................CLOSE
**BRAKES**.....................................APPLY
**FLAPS**......................................UP
**MIXTURE**....................................CUTOFF
**IGNITION SWITCH**........................CUTOFF
**MASTER SWITCH**..........................OFF

**Engine Failure During Takeoff**

**MAINTAIN AIRCRAFT CONTROL**
**LAND ON REMAINING RUNWAY OR**
**WITHIN 30° OF CENTERLINE. AVOID OBSTACLES.**
**DO NOT ATTEMPT 180° TURN.**
**AIRSPEED.....LOWER NOSE & PITCH FOR BEST GLIDE**
**FLAPS........................................AS REQ.**
**POWER.......................................AS AVAILABLE**
**TIME PERMITTING..................DECLARE EMERGENCY**
**MIXTURE...................................CUTOFF**
**FUEL SHUTOFF VALVE**..................PULL OUT / OFF
**IGNITION SWITCH**........................OFF
**FLAPS**......................................(30° Recommended) AS REQ
**MASTER SWITCH**..........................OFF
**DOORS**......................................UNLATCH
Spin Recovery
In the event the aircraft enters an unintentional spin, proceed as follows.
THROTTLE.................................IMMEDIATELY CLOSED
AILERONS........................................NEUTRALIZE
RUDDER........................................FULL, OPPOSITE ROTATION
ELEVATOR CONTROL...............................
............................BRISKLY FORWARD PAST CENTER
ONCE ROTATION STOPS
RUDDER........................................NEUTRALIZE
SLOWLY RECOVER FROM DIVE
WHEN STRAIGHT AND LEVEL
THROTTLE.......................................FULL

Cabin Fire
MASTER SWITCH ..................................OFF
VENTS, CABIN HEAT & AIR..................................CLOSED
FIRE EXTINGUISHER ....................................ACTIVATE
WHEN FIRE IS OUT
CABIN........................................VENTILATE
LAND AS SOON AS POSSIBLE

Wing Fire
LANDING/TAXI LIGHT SWITCHES .............OFF
NAV LIGHT SWITCH ....................................OFF
STROBE LIGHT SWITCH ..................................OFF
PITOT HEAT SWITCH ..................................OFF
Perform a sideslip to keep the flames away from the fuel tank and cabin.
Land as soon as possible using flaps only as required for final approach
and touchdown.

Electrical Fire
MASTER SWITCH ........................................OFF
ALL ELECTRICAL SWITCHES
(Except ignition switch) ..................................OFF
VENTS, CABIN HEAT & AIR..................................CLOSED
FIRE EXTINGUISHER ..................................ACTIVATE
WHEN FIRE IS OUT
CABIN........................................VENTILATE
IF FIRE APPEARS OUT & ELECTRICAL POWER REQ'D
MASTER SWITCH ........................................ON
CIRCUIT BREAKERS ....................................(Do not reset) CHECK
MASTER AVIONICS SWITCH ......................ON
RADIOS ........................................(One at a time with a delay after each) ON
LAND AS SOON AS POSSIBLE

Engine Fire In Flight
MIXTURE ...........................................IDLE CUT OFF
FUEL SHUTOFF VALVE ..........................OFF (Pull Full Out)
AUX FUEL PUMP SWITCH ........................OFF
MASTER SWITCH ..................................OFF
CABIN HEAT & AIR (Except overhead vents) .................OFF
AIRSPEED ........................................INCREASE AS REQ TO EXTINGUISH FIRE
EXECUTE FORCED LANDING

Engine Fire During Start
Continue cranking to get the engine started which would suck the flames
and accumulated fuel into the engine.
IF ENGINE STARTS
THROTTLE ........................................FULL OPEN
MIXTURE ...........................................IDLE CUT OFF
CRANKING ........................................CONTINUE
FUEL SHUTOFF VALVE ..........................OFF (Pull Full Out)
AUX FUEL PUMP ..................................OFF
FIRE EXTINGUISHER ..................................OBTAIN
MASTER SWITCH ..................................OFF
IGNITION SWITCH ..................................OFF
EVACUATE AIRCRAFT
& SECURE FIRE EXTINGUISHER

Cleaning Fouled Spark Plugs
(CAUTION: Hold brakes securely and remain vigilant for aircraft movement;
only perform runup on surface free from gravel/dirt.)
THROTTLE ........................................2000 RPM
MIXTURE ........................................LEAN FOR SLIGHT RPM DROP
MAINTAIN FOR 60 SECONDS
MIXTURE ..........................................FULL FORWARD
THROTTLE ........................................1800 RPM
PERFORM MAGNETO CHECK

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

Ammeter: Excessive Rate of Charge
for Ammeter Full-Scale Deflection
ALTERNATOR ........................................OFF
NON-ESSENTIAL ELEC. EQUIPMENT ..............OFF
LAND AS SOON AS POSSIBLE
Compass may be off as much as 25°.

Ammeter Shows Discharge
ALTERNATOR ........................................OFF
NON-ESSENTIAL ELEC. EQUIPMENT ..............OFF
LAND AS SOON AS POSSIBLE

Low Voltage Light During Flight
RADIOS, AVIONICS POWER SWITCH ..............OFF
MASTER SWITCH ..................................OFF
MASTER SWITCH ..................................ON
LOW VOLTAGE LIGHT ..........................CHECK OFF
RADIOS, AVIONICS POWER SWITCH ..............ON
IF LOW VOLTAGE LIGHT RE-ILLUMINATES
ALTERNATOR ........................................OFF
NON-ESSENTIAL ELEC. EQUIPMENT ..............OFF
LAND AS SOON AS POSSIBLE

Static Source Blockage
ALTERNATE STATIC SOURCE VALVE ..................
..............................PULL ON
Airspeed ..............................................
..............................CONSULT TABLES IN POH/AFM SECTION 5