Cessna 172 P Checklist

Airspeeds (KIAS)

V_R ---------- 55
V_X ---------- 60
V_Y ---------- 76
V_{S1} ---------- 44
V_{S0} ---------- 33
V_{FE} ---------- 110 (10^O Flaps)
85 (20^O & 30^O Flaps)
V_A ---------- 99 (2,400 lbs.)
92 (2,000 lbs.)
82 (1,600 lbs.)
V_{NE} ---------- 158
Short field takeoff (Flaps 10^O) ---------- Rotate - 51
Climb (until clear of obstacles) - 56
Normal approach ---------- 65-75 (Flaps Retracted)
60-70 (Flaps 30^O)
Short field approach ---------- 61 (Flaps 30^O)
Best glide ---------- 65
Maximum crosswind ---------- 15

Weight Limits

Maximum takeoff ---------- 2,400 lbs.
Maximum landing ---------- 2,400 lbs.

Fuel Limits

Total fuel ---------- 43 gal.
Usable fuel ---------- 40 gal.

PREFLIGHT INSPECTION

CABIN

TACH/HOBBS time ---------- RECORD
A.R.O.W. ---------- ON BOARD
Gust lock ---------- REMOVE
Ignition switch ---------- OFF
Avionics power switch ---------- OFF
Master switch ---------- ON
Fuel quantity ---------- CHECK
Flaps ---------- 20^O
Fuel selector valve ---------- BOTH
Exterior lights ---------- CHECK
Master switch ---------- OFF
Windshield ---------- CLEAN
Cargo door ---------- CLOSED

EMPENNAGE

Horizontal stabilizer ---------- INSPECT
Elevator ---------- CHECK MOVEMENT
Trim tab ---------- INSPECT
Vertical stabilizer ---------- INSPECT
Rudder ---------- INSPECT
Tail tie down ---------- REMOVE

RIGHT WING

Flap ---------- INSPECT
Aileron ---------- CHECK MOVEMENT
Wing tip ---- INSPECT TIP & NAV LIGHT
Leading edge ---------- INSPECT
Wing tie down ---------- REMOVE
Main wheel tire ---------- INSPECT
Fuel sample ---------- INSPECT
(IMPURITIES/COLOR)
Fuel quantity ---------- VISUALLY INSPECT
Fuel cap ---------- SECURE

NOSE

Engine oil level ---------- MIN 5 QUARTS
Fuel strainer ---------- DRAIN 4-SECS
Prop & spinner ---------- INSPECT
Alternator belt ---------- SECURE
Landing light ---------- INSPECT
Carburetor air filter ---------- INSPECT
Nose wheel tire ---------- INSPECT
Nose wheel strut ---------- INSPECT
Static port ---------- CLEAR

LEFT WING

Fuel ---------- VISUALLY INSPECT
Fuel cap ---------- SECURE
Pitot tube ---------- STOW COVER & INSPECT
Fuel vent ---------- CLEAR
Stall horn ---------- CLEAR
Leading edge ---------- INSPECT
Wing tie down ---------- REMOVE
Wing tip ---- INSPECT TIP & NAV LIGHT
Aileron ---------- CHECK MOVEMENT
Flap ---------- INSPECT
Main wheel tire ---------- INSPECT
Fuel sample ---------- INSPECT
(IMPURITIES/COLOR)

OTHER

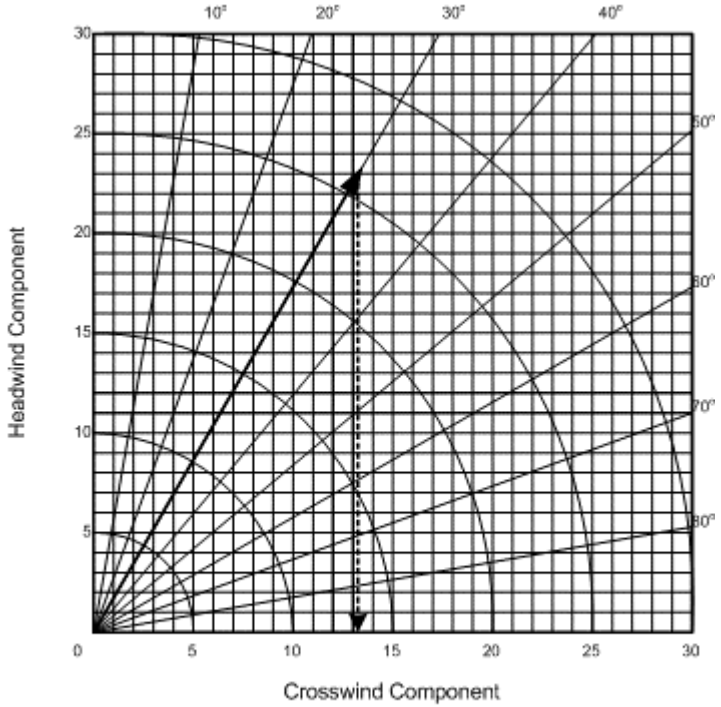
Pilot --------- EXPERIENCE, RECENCY, & PHYSICAL CONDITION
Aircraft --------- FUEL, PERFORMANCE, & EQUIPMENT
Environment -- AIRPORT CONDITIONS & WEATHER

I'M SAFE ----- ILLNESS, MEDICATION, STRESS, ALCOHOL, FATIGUE, EATING

Local Airport Data

Airport	Frequencies	Bearing / Range from FDW	Pattern	Runways Available
Fairfield (KFDW)	AWOS-3: 119.075 APPR: 133.4 (CAE) CTAF: 123.05	000°M 0 NM	1,400' Left	04 / 22
Columbia Metro (KCAE)	ATIS: 120.15 APPR 110-289: 124.15 APPR 290-109: 133.4 Tower: 119.5 Ground: 121.9	188°M 23 NM	1,300' Left or As directed	05 / 23 & 11 / 29
Columbia Owens (KCUB)	ASOS: 118.675 APPR: 133.4 (CAE) CTAF: 123.075	172°M 21 NM	1,000' Rwy13: Right Rwy31: Left	13 / 31
Woodward Field (KCDN)	AWOS-3: 119.975 APPR: 125.4 (SSC) CTAF: 123.0	102°M 27 NM	1,300' Left	06 / 24 & 14 / 32
Chester (KDCM)	AWOS-3: 120.975 APPR: 120.05 (CLT) CTAF: 122.7	006°M 29 NM	1,800' Rwy05:Right Rwy23: Left Rwy17: Right Rwy35: Left	05 / 23 & 17 / 35
Newberry (KEOE)	AWOS-3: 124.275 APPR: 133.4 (CAE) CTAF: 122.8	276°M 26 NM	1,600' Rwy04: Left Rwy22: Right	04 / 22
Union (35A)	Weather: None APPR: 1194 (GMU) CTAF: 122.7	322°M 35 NM	1,600' Left	05 / 23
Greenwood (KGRD)	ASOS: 121.125 APPR: 120.6 (GMU) CTAF: 122.975	272°M 52 NM	1,600' Left	05 / 23 09 / 27

Crosswind Chart



Example: The winds are 30° off the runway heading at 27 KTS. The crosswind component is approximately 13 KTS.

Transponder Codes:

7500 – Hijacking
7600 – Lost Comms
7700 – Emergency

Light Gun Signals

Signal	On Ground	In Flight
Steady Green	Clear for Takeoff	Clear to Land
Flashing Green	Clear to Taxi	Return to Land
Steady Red	Stop	Give Way
Flashing Red	Taxi Clear of Rwy	Do Not Land
Flashing White	Return to Ramp	-
Alternating Red & Green	Exercise Extreme Caution	

BEFORE START

Preflight inspection ---------- COMPLETE
Passenger briefing ---------- COMPLETE
Seats & seatbelts ---------- ADJUSTED
Fuel selector valve ---------- BOTH
Avionics power switch ---------- OFF
Circuit breakers ---------- CHECK IN

STARTING ENGINE

Mixture ---------- RICH
Throttle ---------- OPEN 1/8 INCH
Carburetor heat ---------- OFF
Beacon ---------- ON
Primer ---------- AS REQUIRED, IN & LOCKED

If you are wearing a jacket, it is probably cold enough to prime. Prime no more than twice, then continue with the next step in the checklist. If the aircraft does not start in 8-10 secs, turn off the master switch, wait 30 secs, reprime once, then try again. If it still fails to start, wait 30 secs, do not prime, and try one more time. If it fails to start again, contact maintenance.

Master switch ---------- ON
Propeller area ---------- CLEAR
Ignition switch ---------- START (8-10 SECS)
Oil pressure ---------- CHECK
Throttle ---------- 1,000 RPM

AFTER START

Flaps ---------- RETRACTED
Avionics power switch ---------- ON
Navigation lights ---------- ON (IF REQUIRED)
ATIS/AWOS/ASOS ---------- OBTAIN
Flight instruments ---------- CHECK
Avionics ---------- SET
Transponder ---------- ALT
Taxi ---------- CLEARANCE/ANNOUNCE
Throttle ---------- AS REQUIRED
Brakes ---------- TEST

DESCENT

Mixture ---------- ADJUST
Throttle ---------- AS REQUIRED

CAUTION: AVOID RAPID DESCENTS AT LOW POWER SETTINGS

Carburetor heat ---------- AS REQUIRED
ATIS/ASOS/AWOS ---------- OBTAIN
Airport information ---------- REVIEW

BEFORE LANDING

Fuel selector valve ---------- BOTH
Mixture ---------- RICH
Seat belts ---------- SECURE
Landing light ---------- AS REQUIRED

LANDING

Airspeed ---------- 60–70 KIAS (FLAPS 30^{O})
Flaps ---------- 30^{O} (OR AS REQUIRED)
Touchdown ---------- MAIN WHEELS FIRST
Braking ---------- MINIMUM

SHORT FIELD LANDING

Flaps ---------- 30^{O}
Airspeed ---------- 61 KIAS
Touchdown ---------- MAX BRAKING ONLY IF REQUIRED
SIMULATE BY SAYING "MAX BRAKING"
Flaps ---------- RETRACT[1]

BEFORE TAKEOFF

Throttle ---------- 1,000 RPM
Flight controls ---------- FREE & CORRECT
Fuel selector valve ---------- BOTH
Elevator trim ---------- TAKEOFF
Mixture ---------- RICH
Throttle ---------- 1,700 RPM
- Engine gauges ---------- CHECK
- Ammeter ---------- CHECK
- Magnetos ---------- CHECK (125 RPM/50 RPM LOSS)
- Carburetor heat ---------- ON
- Throttle ---------- IDLE
- Carburetor heat ---------- OFF

Throttle ---------- 1,000 RPM
Flight instruments & radios ---------- CHECK & SET
Transponder ---------- ALT
Takeoff briefing ---------- COMPLETE
Doors & windows ---------- CLOSED
Takeoff time ---------- NOTE

FINAL ITEMS

Fuel selector valve ---------- BOTH
Mixture ---------- RICH
Lights ---------- ON

TAKEOFF

Throttle ---------- MAX
Rotate ---------- 55 KIAS
Centerline ---------- MAINTAIN
Climb speed ---------- 70-80 KIAS

SHORT FIELD TAKEOFF

Flaps ---------- 10^{O}
Brakes ---------- APPLY
Throttle ---------- MAX
Engine gauges ---------- CHECK
Brakes ---------- RELEASE
Rotate ---------- 51 KIAS
Climb speed ---------- 56 KIAS (UNTIL OBSTACLES CLEARED)
Flaps ---------- RETRACT (WHEN AIRSPEED ALLOWS)

SOFT FIELD TAKEOFF (SIMULATED ONLY)

Flaps ---------- 10^{O}
Yoke ---------- FULL AFT
Taxi ---------- KEEP OFF BRAKES
Nose wheel ---------- OFF RUNWAY
Rotate ---------- AS SOON AS PRACTICAL
Accelerate to V_X or V_Y ---------- IN GROUND EFFECT
Clear of obstacles ---------- CLIMB AT V_Y (76 KIAS)
Flaps ---------- RETRACT

ENROUTE CLIMB

Throttle ---------- MAX
Airspeed ---------- 70–85 KIAS
Mixture ---------- RICH (LEAN ABOVE 3,000 FEET)
Landing light ---------- OFF
Flight plan ---------- OPEN (IF REQUIRED)

CRUISE

Throttle ---------- CRUISE THROTTLE SETTING
Trim ---------- SET
Mixture ---------- LEAN

SOFT FIELD LANDING (SIMULATED ONLY)

Flaps ---------- 30^{O}
Airspeed ---------- 60–70 KIAS
Touchdown ---------- SLIGHTLY NOSE HIGH
Nose wheel ---------- OFF RUNWAY
Braking ---------- MINIMAL

GO AROUND

Throttle ---------- MAX
Carburetor heat ---------- OFF
Flaps ---------- 20^{O}
Climb speed ---------- 55 KIAS
Flaps ---------- 10^{O} (UNTIL OBSTACLES CLEARED)
Flaps retract ---------- CLEAR OF OBSTACLES, SAFE ALTITUDE, & 60 KIAS

AFTER LANDING

Runway clear ---------- ANNOUNCE
Flaps ---------- RETRACTED
Carburetor heat ---------- OFF
Transponder ---------- ALT
Landing/taxi light ---------- AS REQUIRED

PARKING

Landing/taxi light ---------- OFF
Avionics power switch ---------- OFF
Navigation light ---------- OFF
Throttle ---------- 1,000 RPM
Mixture ---------- IDLE CUT-OFF
Ignition switch ---------- OFF
Master switch ---------- OFF

ROUGH ENGINE OPS / LOSS OF POWER

GRADUAL LOSS OF RPM; TROUBLESHOOT FOR:
CARB ICING OR FOULED PLUGS

Possible carburetor icing ---------- APPLY FULL THROTTLE
Carburetor heat ---------- ON
Wait ---------- UNTIL ENGINE RUNS SMOOTHLY
IF ENGINE RUNS SMOOTHLY: Carburetor heat ---------- OFF
Note: If continued use of carburetor heat is required for cruise flight, use the minimum amount of carburetor heat required & lean the mixture for smoothest possible engine operation.

IF ENGINE STILL RUNNING ROUGH: POSS SPARK PLUG FOULING

Ignition ---------- QUICKLY SWITCH FROM BOTH TO LEFT TO BOTH
Ignition ---------- QUICKLY SWITCH FROM BOTH TO RIGHT TO BOTH
If a power loss was noted ---------- LEAN MIXTURE FOR CRUISE

IF ROUGH ENGINE OPS PERSIST AFTER SEVERAL MINUTES

Mixture ---------- RICH
Ignition ---------- BOTH
Land ---------- AS SOON AS PRACTICAL

SUDDEN LOSS OF RPM; TROUBLESHOOT FOR:
LOW OIL PRESSURE OR MAGNETO MALFUNCTION

Check ---------- OIL PRESSURE
If oil pressure within limits ---------- TROUBLESHOOT MAGNETO
If low oil pressure ---------- CHECK OIL TEMP
If oil temp is normal ---------- LAND AS SOON AS PRACTICAL
Inspect ---------- FOR OIL LEAK
If oil temp is high ---------- PREPARE FOR FORCED LANDING
Engine power ---------- REDUCE & KEEP LOW FOR APPROACH
Forced landing ---------- EXECUTE

TROUBLESHOOT MAGNETO

Ignition ---------- QUICKLY SWITCH FROM BOTH TO LEFT TO BOTH
Ignition ---------- QUICKLY SWITCH FROM BOTH TO RIGHT TO BOTH
Note ---------- WHICH MAGNETO LOST POWER
Change ---------- POWER SETTINGS
Mixture ---------- RICH
Determine ---------- IF FLIGHT WITH BOTH MAGNETOS PRACTICABLE
If no ---------- SWITCH TO THE GOOD MAGNETO
Land ---------- AS SOON AS PRACTICAL

ABORT TAKEOFF / ENGINE FAILURE DURING TAKEOFF RUN

Throttle ---------- **IDLE**
Brakes ---------- **AS NEEDED**
Flaps ---------- RETRACT
Mixture ---------- IDLE CUT-OFF
Ignition switch ---------- OFF
Master switch ---------- OFF

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

Airspeed ---------- **BEST GLIDE** 65/60 KIAS (FLAPS RET./EXT.)
Best landing field ---------- **SELECT**
Mixture ---------- IDLE CUT-OFF
Fuel selector valve ---------- OFF
Flaps ---------- AS REQUIRED
Master switch ---------- OFF
Doors ---------- UNLATCH PRIOR TO TOUCHDOWN

ENGINE FAILURE DURING FLIGHT

Airspeed ---------- **BEST GLIDE** (65 KIAS)
Best landing field ---------- **SELECT**
Carburetor heat ---------- ON
Fuel selector valve ---------- BOTH
Mixture ---------- RICH
Ignition switch ---------- BOTH (START IF PROPELLER STOPPED)
Primer ---------- IN & LOCKED
Forced landing ---------- EXECUTE

SECURING AIRPLANE

TACH/HOBBS meters ---------- RECORD
Control lock ---------- INSTALL
Pitot tube cover ---------- INSTALL
Trash ---------- REMOVE
Tie downs ---------- SECURE
Doors/windows ---------- CLOSED & LOCKED
Flight plan ---------- CLOSE

FOOTNOTES

Footnote 1: Immediately after touchdown, lower the nose wheel and apply heavy braking as required. For max brake effectiveness, retract the flaps, hold the control wheel full aft and apply max brake pressure without sliding the tires.
Footnote 2: All bold face items in the emergency procedures checklists are critical action procedures (CAPs). All pilots should commit these CAPs to memory to maximize the likelihood of a safe outcome of an emergency.

FORCED LANDING: EMERGENCY LANDING WITHOUT ENGINE POWER

Airspeed ---------- 65/60 KIAS (FLAPS RET./EXT.)
Mixture ---------- IDLE CUT-OFF
Fuel selector valve ---------- OFF
Ignition switch ---------- OFF
Flaps ---------- AS REQUIRED (30^{O} RECOMMENDED)
Radios ---------- 121.5 & SQUAWK 7700 (IF ALTITUDE PERMITS)
Master switch ---------- OFF
Doors ---------- UNLATCH PRIOR TO TOUCHDOWN
Touchdown ---------- SLIGHTLY TAIL LOW
Brakes ---------- APPLY HEAVILY

FORCED LANDING: PRECAUTIONARY LANDING WITH ENGINE POWER

Flaps ---------- 20^{O}
Airspeed ---------- 60 KIAS
Selected field ---------- OVERFLY, NOTE TERRAIN & OBSTACLES, RETRACT FLAPS AT SAFE ALTITUDE & AIRSPEED
Avionics power & electrical switches ---------- OFF
Flaps ---------- 30^{O} ON FINAL APPROACH
Airspeed ---------- 60 KIAS
Master switch ---------- OFF
Doors ---------- UNLATCH PRIOR TO TOUCHDOWN
Touchdown ---------- SLIGHTLY TAIL LOW
Ignition switch ---------- OFF
Brakes ---------- APPLY HEAVILY

ELECTRICAL FIRE IN FLIGHT

Master switch ---------- OFF
Avionics power switch ---------- OFF
All other switches (except ignition switch) ---------- OFF
Vents/cabin air/heat ---------- CLOSED
Fire extinguisher ---------- ACTIVATE (IF AVAILABLE)

WARNING

After discharging an extinguisher within a closed cabin, ventilate the cabin.

If fire appears out and electrical power is necessary for continuance of flight:

Master switch ---------- ON
Circuit breakers ---------- CHECK FOR FAULTY CIRCUIT, DO NOT RESET
Radio switches ---------- OFF
Avionics power switch ---------- ON
Radio/electrical switches ---------- ON ONE AT A TIME, WITH DELAY AFTER EACH UNTIL SHORT CIRCUIT LOCALIZED
Vents/cabin air/heat ---------- OPEN IF FIRE COMPLETELY EXTINGUISHED

INADVERTENT ICING ENCOUNTER

Pitot heat ---------- ON
Altitude/heading ---------- CHANGE TO LEAVE ICING CONDITIONS
Cabin heat & defroster ---------- MAX
Throttle ---------- INCREASE TO MINIMIZE ICE BUILDUP ON PROPELLER
Carburetor heat ---------- AS NEEDED
Mixture ---------- LEAN FOR PEAK RPM
Find - EMERGENCY LANDING FIELD (IF FORCED LANDING NECESSARY)
Approach speed ---------- INCREASE
Flaps ---------- LEAVE RETRACTED
Landing ---------- PERFORM FORWARD SLIP FOR IMPROVED VISIBILITY
Approach speed ---------- 65 TO 75 KIAS
Landing ---------- PERFORM AT A LEVEL ATTITUDE

ENGINE FIRE IN FLIGHT

Mixture ---------- IDLE CUT-OFF
Fuel selector valve ---------- OFF
Master switch ---------- OFF
* IF FIRE CONTINUES
Cabin heat & air ---------- OFF (EXCEPT OVERHEAD VENTS)
Airspeed ---------- 100-110 KIAS
If fire is not extinguished ---------- INCREASE GLIDE SPEED TO FIND AN AIRSPEED WHICH WILL PROVIDE AN INCOMBUSTIBLE MIXTURE
Forced landing ---------- EXECUTE

CABIN FIRE

Master switch ---------- OFF
Vents/cabin air/heat ---------- CLOSED
Fire extinguisher ---------- ACTIVATE (IF AVAILABLE)

WARNING

After discharging an extinguisher within a closed cabin, ventilate the cabin.

Land ---------- AS SOON AS POSSIBLE

WING FIRE

Landing/taxi light switches ---------- OFF
Navigation light switch ---------- OFF
Pitot heat switch ---------- OFF
Sideslip ---------- PERFORM (TO KEEP FLAMES AWAY FROM CABIN & FUEL TANK)

FORCED LANDING: DITCHING

Radio ---------- TRANSMIT MAYDAY ON 121.5 & SQUAWK 7700
Heavy objects in baggage area ---------- SECURE OR JETTISON
Approach ---------- HIGH WINDS, HEAVY SEAS – INTO THE WIND
LIGHT WINDS, HEAVY SWELLS – PARALLEL TO SWELLS
Flaps ---------- 20^{O} TO 30^{O}
Power ---------- ESTABLISH 300FT/MIN DESCENT AT 55 KIAS
NOTE: If no power is available, approach at 65 KIAS with flaps retracted or at 60 KIAS with 10^{O} flaps.
Cabin doors ---------- UNLATCH
Touchdown ---------- LEVEL ATTITUDE AT ESTABLISHED DESCENT RATE
Face ---------- CUSHION AT TOUCHDOWN
Airplane ---------- EVACUATE
Life vests & raft ---------- INFLATE

STATIC SOURCE BLOCKAGE

Alternate static source valve ---------- PULL ON
Airspeed ---------- CONSULT POH CALIBRATION TABLES IN SECTION 5

LANDING WITH A FLAT MAIN TIRE

Approach ---------- NORMAL
Touchdown --- GOOD TIRE FIRST, HOLD OFF FLAT TIRE AS LONG AS POSSIBLE

FIRE DURING START ON GROUND

Cranking ---------- CONTINUE, TO GET A START
If engine starts:
Power ---------- 1,700 RPM FOR A FEW MINUTES
Engine ---------- SHUTDOWN AND INSPECT FOR DAMAGE
If engine fails to start:
Throttle ---------- FULL OPEN
Mixture ---------- IDLE CUT-OFF
Cranking ---------- CONTINUE
Fire extinguisher --- OBTAIN (CALL FOR GROUND ATTENDANT SUPPORT)
When support arrives ---------- RELEASE STARTER SWITCH
Master switch ---------- OFF
Ignition switch ---------- OFF
Fuel selector valve ---------- OFF
Fire ---------- EXTINGUISH
Fire damage ---------- INSPECT

AMMETER SHOWS EXCESSIVE RATE OF CHARGE

Alternator ---------- OFF
Alternator circuit breaker ---------- PULL
Nonessential electrical equipment ---------- OFF
Flight ---------- TERMINATE AS SOON AS PRACTICAL

LOW-VOLTAGE LIGHT ILLUMINATES DURING FLIGHT

Avionics power switch ---------- OFF
Alternator circuit breaker ---------- CHECK IN
Master switch ---------- OFF (BOTH SIDES)
Master switch ---------- ON
Low-voltage light ---------- CHECK OFF
Avionics power switch ---------- ON

<u>If low-voltage light illuminates again:</u>

Alternator ---------- OFF
Nonessential radio & electrical equipment ---------- OFF
Flight ---------- TERMINATE AS SOON AS PRACTICAL

DISORIENTATION IN THE CLOUDS

Transition to ---------- INSTRUMENTS
Perform ---------- 180^{O} STANDARD RATE TURN TO EXIT CLOUDS

IF STILL DISORIENTED IN THE CLOUDS

Contact ---------- ATC (USE 121.5 IF NECESSARY)
Request ---------- VECTORS TO BETTER WEATHER, SAFE ALTITUDE, CLOSEST EMERGENCY LANDING FIELD, OR OTHER OPTIONS
Prepare for ---------- OFF FIELD LANDING

SPIN RECOVERY

Power ---------- THROTTLE TO IDLE
Ailerons ---------- NEUTRAL
Rudder ---------- FULL OPPOSITE SPIN DIRECTION & HOLD
Elevator ------- YOKE FULL FORWARD & HOLD UNTIL ROTATION STOPS
When rotation stops ---------- RECOVER FROM DIVE