

## RAM Aviation Piper Cherokee 180

### SPEEDS (MPH)

Vso.....	57
Vs1.....	67
Vr.....	50-60
Vx .....	74
Vy .....	85
Vfe.....	115
Vno.....	140
Vne.....	171
Va (2400#).....	129
Va (1950#).....	123
Best Glide.....	82
Max. Demon. X-Wind.....	15
Approach (Flaps DN).....	80
Short Field Approach.....	70
Enroute Climb.....	90
Max Gross Weight.....	2400
Basic Empty Weight.....	1422
Useful Load.....	980
Cruise Speed.....	125
Fuel Consumption.....	10.0
<b><u>PREFLIGHT</u></b>	
Weather.....	CHECK
Weight & Balance.....	COMPLETE
Inspection/AD status.....	CHECK
Fuel Level.....	CHECK Left & Right Call for fuel if required
Hobbs.....	RECORD
Documents (AROW).....	CHECK
Avionics Master.....	OFF
Ignition.....	OFF
Master.....	ON
Fuel Quantity.....	CHECK
Lights/Stall Light.....	ON/INSPECT
Master.....	OFF
Flight Controls..	FREE&CORRECT
Flaps.....	EXTEND

### EXTERIOR INSPECTION

Right Wing	
Flap & Aileron.....	CHECK
Tip&Leading Edge.....	CHECK
Tie Down.....	REMOVE
Fuel Quantity.....	CHECK
Fuel Tank Vent.....	CHECK
Fuel Sump.....	CHECK
Strut/Tire/Brake.....	CHECK
Nose	
RT Windshield/Cowling.....	CHECK
Oil Quantity (6-7 qts).....	CHECK
Prop/Spinner.....	CHECK
Air Inlet.....	CHECK
Alternator Belt.....	CHECK
Nose Strut/Tire.....	CHECK
Fuel Sump.....	CHECK
LT Windshield/Cowling.....	CHECK
Left Wing	
Strut/Tire/Brake.....	CHECK
Fuel Sump.....	CHECK
Fuel Quantity.....	CHECK
Tie Down.....	REMOVE
Fuel Tank Vent.....	CHECK
Pitot / Static Mast.....	CHECK
Leading Edge&Tip.....	CHECK
Aileron & Flap.....	CHECK
Aft Fuselage & Empennage	
Fuselage.....	CHECK
Antennas.....	CHECK
Stabilator.....	CHECK
Vertical Stabilizer.....	CHECK
Rudder.....	CHECK
Tie Down.....	REMOVE
Baggage Door	
.....	CLOSED&SECURE

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### BEFORE ENGINE START

Preflight Inspection..	COMPLETE
Passenger Briefing..	COMPLETE
Seats and Belts.....	SECURE

### ENGINE START

Avionics Masters .....	OFF
Beacon.....	ON
Circuit breakers.....	CHECK IN
Fuel Selector.....	DESIRED TANK
Seatbelts.....	SECURE
Door.....	CLOSED & LATCHED
Brakes .....	HOLD
Carb Heat .....	COLD / OFF
Mixture .....	RICH / FORWARD
Throttle .....	¼ INCH OPEN
Master Switch.....	ON
Prop Area .....	CLEAR
Starter.....	ENGAGE
(ONLY CRACK 4 TURNS)	
(USE NO START PROCEDURE)	
Throttle .....	1000 RPM
Oil Pressure .....	CHECK
Mixture.....	LEAN
Strobe lights .....	ON
Other lights .....	AS REQUIRED

### IF NO START

Primer.....	Prime 2X
Starter.....	ENGAGE

### BEFORE TAXI CHECK

Avionics Master .....	ON
Transponder.....	ALT
ATIS/AWOS/ASOS.....	RECORD
Altimeter .....	SET
Garmin430W.....	
CONFIRM CURRENT DATABASE	
Ammeter .....	CHECK CHARGING
Brakes .....	CHECK ON TAXI

### RUNUP CHECK

Fuel Selector.....	DESIRED TANK
Oil Temperature.....	GREEN ARC
Mixture.....	RICH / FORWARD
HOLD BRAKES	
Throttle.....	1800 RPM
Magnetos.....	
.....check (max drop 175 / diff 50)	
Engine Instruments.....	GREEN
Fuel Pressure.....	CHECK
Suction gauge.....	4" to 6"
Carb Heat.....	CHECK
Throttle.....	1000 RPM
Flight controls.....	
.....FREE & CORRECT	
Attitude Indicator.....	
.....STRAIGHT & LEVEL	
HI.....	CONFIRM WITHIN
±10° OF COMPASS HEADING	
Altimeter .....	WITHIN 75' OF
FIELD ELEVATION	
Radios / transponder.....	
.....SET UP FOR FLIGHT	
Doors / Windows.....	
.....CLOSED & LOCKED	
Passenger Briefing.....	COMPLETE
Takeoff Briefing.....	COMPLETE

### BEFORE TAKEOFF CHECK

FLAPS.....	AS REQUIRED
TRIM.....	SET
FUEL PUMP .....	ON
LANDING LGT.....	ON
MIXTURE.....	RICH
FUEL.....	ON FULLEST TANK
EMERGENCY.....	REVIEW

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### NORMAL TAKEOFF

Throttle.....Full OPEN  
Engine Instruments.....CHECK  
Rotate.....50-60 MPH  
Climb.....85 MPH

### SHORT-FIELD TAKEOFF

Flaps.....2<sup>nd</sup> NOTCH  
Brakes.....APPLY  
Throttle.....Full OPEN  
Engine Instruments.....CHECK  
Brakes.....RELEASE  
Rotate.....50 MPH  
Climb.....74 MPH  
(until clear of obstacle)  
Climb.....85 MPH  
Flaps.....RETRACT

### SOFT FIELD TAKEOFF

Flaps.....2<sup>nd</sup> NOTCH  
Elevator.....Full AFT  
Throttle.....OPEN GRADUALLY  
Liftoff.....Slowest Poss. Airspeed  
Accelerate while in ground effect  
Climb.....85 MPH  
Flaps.....RETRACT

### CLIMB CHECK (1000AGL)

Pitch.....90 MPH  
Mixture.....SET  
Fuel Pump.....OFF  
Landing Light.....OFF  
Fuel Pressure.....VERIFY  
Transponder.....CONFIRM ALT  
Check CHT.....Max 380

### CRUISE CHECK

Throttle.....SET  
Mixture.....RICH BELOW 4000  
Mixture.....LEAN ABOVE 4000  
Find Peak.....SET 100 RICH  
Engine Gauges.....SHADEN  
Trim.....SET

### DESCENT CHECK

ATIS/AWOS/ASOS.....RECORD  
Altimeter.....SET  
Carb Heat.....AS REQUIRED  
Fuel Pump.....ON  
Fuel Pressure.....VERIFY  
Landing Light.....CONFIRM ON  
Mixture.....RICH  
Fuel Selector.....FULLEST TANK  
Seats/Belts.....SECURE

### FINAL LANDING CHECK

Airspeed.....80 MPH  
Mixture.....RICH

### PRE-MANEUVER CHECK

Clearing Turns.....DO  
Fuel Pump/Press.....ON/CHECK  
Landing Light.....ON  
Mixture.....RICH  
Fuel Selector.....FULLEST TANK  
Power.....AS REQUIRED  
Emergency Field.....Pick

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### NORMAL LANDING

Airspeed.....80 (Flaps DN)  
Crosswind.....INPUT

### SOFT FIELD LANDING

Airspeed.....80 MPH  
Flaps.....Down (40°)  
Touchdown.....MAINS first  
Add power to keep nose-wheel  
off the ground, hold elevator aft  
Brakes.....MINIMAL

### SHORT-FIELD LANDING

Airspeed.....70 MPH  
Flaps.....Down (40°)  
Power.....IDLE  
Touchdown.....MAINS first  
Flaps.....RETRACT  
Brakes.....APPLY  
Elevator.....FULL AFT

### GO-AROUND

Throttle.....FULL POWER  
Pitch.....LEVEL  
Flaps.....RETRACT 1/2  
Climb.....85 MPH  
Flaps.....RETRACT  
Offset.....RIGHT/LEFT

### AFTER LANDING CHECK

Flaps.....RETRACT  
Transponder.....CONFIRM ALT  
Fuel Pump.....OFF  
Landing Light.....OFF  
Mixture.....LEAN

### SHUTDOWN

Throttle.....1000 RPM  
All Electrical (Gray).....OFF  
Avionics Master.....OFF  
Mixture.....IDLE cutoff  
Ignition.....OFF  
Master Switch (Red).....OFF  
Hobbs.....RECORD  
Trash.....REMOVE  
Doors/Windows.....LOCKED  
Gust Lock.....INSTALL  
Tie-Downs.....SECURE  
Flight Plan.....CLOSE

### HOT START

Brakes.....HOLD  
Throttle.....1/2" OPEN  
Master.....ON  
Fuel Pump.....ON  
Mixture.....FULL RICH  
Ignition.....ENGAGE  
Oil Pressure.....CHECK

### FLOODED START

Brakes.....HOLD  
Throttle.....FULL OPEN  
Master.....ON  
Fuel Pump.....OFF  
Mixture.....IDLE  
Starter.....ENGAGE

\*When engine fires, advance  
mixture and retard throttle\*  
Oil Pressure.....CHECK

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### EMERGENCY PROCEDURES ENGINE FAILURE DURING TAKEOFF ROLL

Throttle.....IDLE  
Brakes.....APPLY  
Flaps.....RETRACT  
Mixture.....IDLE CUTOFF  
Ignition.....OFF  
Master.....OFF

### ENGINE FAILURE AFTER TAKEOFF BELOW 1000 AGL

Airspeed.....82 MPH  
Mixture.....IDLE CUTOFF  
Ignition.....OFF  
Master.....OFF  
Cabin Door.....UNLATCH  
Land.....STRAIGHT AHEAD

### ENGINE FAILURE DURING FLIGHT (RESTART)

Airspeed/Trim.....82 MPH  
Landing Site.....LOCATE  
Fuel Selector.....FULLEST TANK  
Fuel Pump.....ON  
Mixture.....RICH  
Carb Heat.....ON  
Primer.....CHECK LOCKED  
Ignition.....L,R, BOTH  
Engine Gauges.....CHECK

#### **\*IF POWER IS RESTORED\***

Carb Heat.....OFF  
Fuel Pump.....OFF

#### **\*IF POWER IS NOT RESTORED PREPARE FOR FORCED LANDING\***

### EMERGENCY PROCEDURES EMERGENCY LANDING WITHOUT POWER

Seat Backs.....UPRIGHT  
Seats/Belts.....SECURE  
Airspeed.....82 MPH  
Mixture.....IDLE CUTOFF  
Ignition.....OFF  
Fuel Selector.....OFF  
Master.....OFF  
Flaps.....AS REQUIRED  
Final Approach Speed.....80 MPH  
Doors.....UNLATCH  
Touchdown.....TAIL LOW

### PROPELLER OVERSPEED

Throttle.....RETARD  
Oil Pressure.....CHECK  
Airspeed.....REDUCE  
Throttle.....AS REQUIRED  
TO REMAIN BELOW 2700 RPM  
Flaps.....AS REQUIRED

### ROUGH ENGINE / ENGINE OUT

Pitch & Trim for.....82 MPH  
Landing Site.....HEAD FOR  
FLOW:  
Carb Heat.....ON  
Mixture.....RICH  
Fuel Pump.....ON  
Primer.....LOCKED  
MAGS.....L/R/BOTH  
Fuel Valve.....SWITCH  
Squawk.....7700  
Talk.....121.50  
Crack.....DOORS

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### EXCESSIVE LOAD ON ALTERNATOR GAUGE

Alternator.....ON  
Battery Switch.....OFF  
Non-Essential Equipment.....OFF

#### **\*IF LOADS ARE NOT REDUCED\***

Alternator.....OFF  
Battery Switch.....AS REQUIRED

#### **Terminate flight as soon as Practical.**

### ALTERNATOR FAILURE

Electrical Equipment.....OFF  
Alt. Switch.....OFF for 30 secs.  
Circuit Breaker.....CHECK/RESET  
Alternator Switch.....ON  
Alternator Gauge.....CHECK  
Electrical Equipment.....ON

#### **\*IF AMMETER RETURNS TO ZERO\***

Alternator.....OFF  
Non-Essential Equipment.....OFF  
LAND AS SOON AS PRACTICAL

### FIRE DURING ENGINE START

Cranking.....CONTINUE  
Mixture.....IDLE CUTOFF  
Throttle.....FULL OPEN  
Fuel Pump.....OFF  
Fuel Selector.....OFF

#### **\*IF ENGINE FAILS TO START\***

Cranking.....CONTINUE  
Fire Extinguisher.....OBTAIN  
Master.....OFF  
Ignition.....OFF

#### **ABANDON IF FIRE CONTINUES**

### EMERGENCY PROCEDURES ENGINE FIRE IN FLIGHT

Fuel Selector.....OFF  
Throttle.....CLOSED  
Mixture.....IDLE CUTOFF  
Fuel Pump.....OFF  
Heater/Defroster.....OFF  
Airspeed.....82 MPH  
Power OFF landing.....EXECUTE

### ELECTRICAL FIRE

Master.....OFF  
Vents.....OPEN  
Heat.....OFF

*If fire is out and electrical is  
necessary for flight*

Master.....ON  
Circuit Breakers.....CHECK

***do not reset!***

Radios.....OFF  
Avionics Master.....ON  
Radios/Electrical.....ON, one at a  
time