

RAM Aviation Piper Tomahawk

SPEEDS (KTS)

Vso.....	35
Vs1.....	40
Vr.....	50-60
Vx	61
Vy	70
Vfe.....	89
Vno.....	110
Vne.....	138
Va (1670#).....	103
Va (1277#).....	90
Best Glide.....	70
Max. Demon. X-Wind.....	15
Approach (Flaps DN).....	70
Short Field Approach.....	65
Enroute Climb.....	80
Max Gross Weight.....	1670
Basic Empty Weight.....	1166
Useful Load.....	504
Cruise Speed.....	100
Fuel Consumption.....	6.5

PREFLIGHT

Weather.....	CHECK
Weight & Balance.....	COMPLETE
Documents (AROW).....	CHECK
Inspection/AD status.....	CHECK
Hobbs.....	RECORD
Electrical/Radios.....	OFF
Ignition.....	OFF
Master.....	ON
Fuel Quantity.....	CHECK
Fuel Pump.....	ON/LISTEN/OFF
Turn Coordinator.....	AUDIBLE
Flaps.....	EXTEND
Lights/Stall Horn.....	ON/INSPECT
Lights.....	OFF
Master.....	OFF

EXTERIOR INSPECTION

Left Wing	
Flap & Aileron.....	CHECK
Leading Edge.....	CHECK
Pitot Mast.....	CHECK
Tie Down.....	REMOVE
Fuel Quantity.....	CHECK
Fuel Tank Vent.....	CHECK
Fuel Sump.....	CHECK
Strut/Tire/Brake.....	CHECK
Nose	
Windshield/Cowling.....	CHECK
Brake Res.....	CHECK
Fuel Sump.....	CHECK
Prop/Spinner.....	CHECK
Air Inlet.....	CHECK
Alternator Belt.....	CHECK
Nose Strut/Tire.....	CHECK
Cowling.....	CHECK
Oil Quantity (5-6 qts).....	CHECK
Windshield/Cowling.....	CHECK
Right Wing	
Strut/Tire/Brake.....	CHECK
Fuel Sump.....	CHECK
Fuel Quantity.....	CHECK
Tie Down.....	REMOVE
Fuel Tank Vent.....	CHECK
Aileron & Flap.....	CHECK
Aft Fuselage & Empennage	
Fuselage.....	CHECK
Antennas.....	CHECK
Static Source.....	CHECK
Horizontal Stabilizer.....	CHECK
Vertical Stabilizer.....	CHECK
Tie Down.....	REMOVE
Static Source.....	CHECK

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BEFORE ENGINE START

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

ENGINE START

Parking Brake.....	SET
Circuit Breakers.....	CHECK IN
Electrical Equipment.....	OFF
Avionics Master.....	OFF
Fuel Selector...FULLEST TANK	
Throttle.....	1/4' OPEN
Mixture.....	RICH
Prime.....	AS REQUIRED
Master.....	ON
Nav Lights.....	ON
Propeller Area.....	CLEAR
Ignition.....	ENGAGE
Throttle.....	1000 RPM
Oil Pressure.....	CHECK
Mixture.....	LEAN for taxi
Ammeter.....	CHECK

BEFORE TAXI CHECK

Avionics Master.....	ON
Radios/Avionics.....	ON
Atis/Awos/Asos.....	CHECK
Transponder.....	STBY
Flaps.....	RETRACT
Parking Brake.....	RELEASE
Brakes.....	TEST
Instrument Taxi.....	CHECK

RUNUP CHECK

Parking Brake.....	SET
Seats/Belts.....	SECURE
Doors/Windows.....	CLOSED
	AND LOCKED
Controls.....	FREE & CORRECT
Trim.....	SET
Fuel Quantity.....	CHECK
Mixture.....	RICH
Fuel Selector...FULLEST TANK	
Throttle.....	1800 RPM
Oil Pressure/Temp.....	CHECK
Mixture.....	SET for Altitude
Magnetos.....	CHECK
	Max drop 175 RPM
	Max differential 50 RPM
Carb Heat.....	CHECK
Suction.....	5" hg +/- 1" hg
Ammeter/Alt.....	CHECK
Instruments.....	CHECK and SET
Throttle.....	IDLE CHECK
Throttle.....	1000 RPM
Radios and Avionics.....	SET
Brakes.....	RELEASE

BEFORE TAKEOFF CHECK

Fuel Pump.....	ON
Landing Light.....	ON
Mixture.....	RICH/AS REQ.
Fuel Selector.....	FULLEST TANK
Carb Heat.....	OFF
Flaps (as required).....	SET
Transponder.....	ALT
Emerg. Procedures.....	REVIEW
CHT.....	Min.250
Time Up.....	START

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NORMAL TAKEOFF

Throttle.....Full OPEN
Engine Instruments.....CHECK
Rotate.....50-55 KTS
Climb.....70 KTS

SHORT-FIELD TAKEOFF

Flaps.....21°
Brakes.....APPLY
Throttle.....Full OPEN
Engine Instruments.....CHECK
Brakes.....RELEASE
Rotate.....40-45 KTS
Climb.....61 KTS
(until clear of obstacle)
Climb.....70 KTS
Flaps.....RETRACT

SOFT FIELD TAKEOFF

Flaps.....21°
Elevator.....Full AFT
Throttle.....Full OPEN
Liftoff.....Slowest Poss. Airspeed
Accelerate while in ground effect
Climb.....70 KTS
Flaps.....RETRACT

CLIMB CHECK (1000AGL)

Pitch.....80 KTS
Mixture.....SET
Fuel Pump.....OFF
Fuel Pressure.....VERIFY
Landing Light.....OFF
Check CHT.....Below 380

CRUISE CHECK

Throttle.....SET
Mixture.....RICH BELOW 4000
Mixture.....LEAN ABOVE 4000
Find Peak.....SET 100 RICH
Engine Gauges.....CHK/CHT 380
Trim.....SET
Heading Indicator.....SET

DESCENT CHECK

Power.....AS DESIRED
Fuel Pump.....ON
Fuel Pressure.....VERIFY
Landing Light.....ON
Mixture.....RICH
Fuel Selector.....FULLEST TANK
Seats/Belts.....SECURE

FINAL LANDING CHECK

Airspeed.....70 KTS
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.....70 (Flaps DN)
Crosswind.....INPUT

SOFT FIELD LANDING

Airspeed.....70 KTS
Flaps.....Down (40°)
Touchdown.....MAINS first
Add power to keep nose-wheel
off the ground, hold elevator aft
Brakes.....MINIMAL

SHORT-FIELD LANDING

Airspeed.....65 KTS
Flaps.....Down (40°)
Power.....IDLE
Touchdown.....MAINS first
Flaps.....RETRACT
Brakes.....APPLY
Elevator.....FULL AFT

GO-AROUND

Throttle.....FULL POWER
Pitch.....LEVEL
Flaps.....RETRACT to 21°
Climb.....70 KTS
Flaps.....RETRACT
Offset.....RIGHT/LEFT

AFTER LANDING CHECK

Flaps.....RETRACT
Trim.....ADJUST
Transponder.....STBY
Fuel Pump.....OFF
Landing Light.....OFF
Mixture.....LEAN for TAXI

SHUTDOWN

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

HOT START

Parking Brake.....SET
Throttle.....FULL OPEN
Master.....ON
Fuel Pump.....OFF
Mixture.....IDLE CUT OFF
Ignition.....ENGAGE

*When engine fires, advance
mixture and retard throttle*

FLOODED START

Parking Brake.....SET
Throttle.....FULL OPEN
Master.....ON
Fuel Pump.....OFF
Mixture.....IDLE
Starter.....ENGAGE

*When engine fires, advance
mixture and retard throttle*

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**EMERGENCY PROCEDURES
ENGINE FAILURE DURING
TAKEOFF**

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

**ENGINE FAILURE AFTER
TAKEOFF**

Airspeed.....70 KTS
Mixture.....IDLE CUTOFF
Ignition.....OFF
Master.....OFF
Cabin Door.....UNLATCH
Land.....STRAIGHT AHEAD

**ENGINE FAILURE DURING
FLIGHT (RESTART)**

Airspeed/Trim.....70 KTS
Landing Site.....LOCATE
Fuel Selector.....FULLEST TANK
Fuel Pump.....ON
Mixture.....RICH
Carb Heat.....ON
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.....70 KTS
Mixture.....IDLE CUTOFF
Ignition.....OFF
Fuel Selector.....OFF
Master.....OFF
Flaps.....AS REQUIRED
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 for Best Glide.....70KTS
Trim.....70KTS
Landing Site.....HEAD FOR
FLOW:
MAGS.....L/R/BOTH
Fuel Pump.....ON
Carb Heat.....ON
Fuel Valve.....SWITCH
Mixture.....RICH
Primer.....LOCKED
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.

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.....70 KTS
Power OFF landing.....EXECUTE

ELECTRICAL FIRE

Master.....OFF
Vents.....OPEN
Heat.....OFF
Fire Extinguisher.....ACTIVATE
*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

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
Flight.....TERMINATE