

# Piper Comanche 250

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<u>SPEEDS (MPH IAS)</u>	
Vso.....	64
Vs1.....	71
Vr.....	85
Vr ( <i>recommended</i> ).....	65
Vx.....	84
Vy (gear up @ sea level).....	105
Vy (gear down @ sea level).....	95
Vy (5,000 ft.).....	90
Vy (10,000 ft.).....	85
Vfe.....	125
Vfe ( <i>recommended</i> ).....	100
Vno.....	181
Vne.....	203
Va (2800 lbs.).....	144
Va (1900 lbs.).....	118
Vlo.....	150
Vle.....	150
Vlo/Vle ( <i>recommended</i> ).....	125
Best Glide.....	100
Max. Demon. X-Wind.....	20
Approach (Flaps DN).....	85
Enroute Climb.....	100-120

  

<u>PREFLIGHT INTERIOR INSPECTION</u>	
Weather.....	CHECK
Weight & Balance.....	COMPLETE
Documents (AROW).....	CHECK
Inspection/AD status.....	CHECK
Fire Extinguisher.....	CHARGED
Hobbs/Tach.....	CHECK
Control Restraint.....	REMOVE
Avionics Master.....	OFF
Gear Selector.....	DOWN
Ignition.....	OFF

<u>INTERIOR INSPECTION (cont.)</u>	
Master Switch.....	ON
Turn Coordinator.....	ON
Check audible, then OFF	
Fuel Quantity.....	CHECK
Flaps.....	EXTEND
Lights.....	ON/INSPECT/OFF
Master Switch.....	OFF
Oxygen (if required).....	CHECK

  

<u>EXTERIOR INSPECTION</u>	
<u>Right Wing</u>	
Flaps & Aileron.....	CHECK
Wing Tip & Nav. Light.....	CHECK
Leading Edge.....	CHECK
Tie Down.....	REMOVE
Fuel Quantity.....	CHECK
Fuel Cap.....	SECURE
Fuel Tank Vent.....	OPEN
Fuel Overflow.....	OPEN
Main Gear Strut.....	2 ¾ inch
Main Tire.....	CHECK
<u>Nose</u>	
Fuel Sump.....	DRAIN
Windshield.....	CLEAN
Engine Compartment.....	CHECK
Generator Belt.....	CHECK
Brake Fluid.....	CHECK
Oil Quantity (9-10 qts.).....	CHECK
Dipstick.....	SECURE
Oil Inspection Cover.....	SECURE
Air Inlets.....	CLEAR
Propeller.....	CHECK for nicks
Prop. Area.....	CHECK for debris
Nose Gear Strut.....	2 ¾ inch
Nose Tire.....	CHECK

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<u>EXTERIOR INSPECTION (cont.)</u>	
Cowling.....	SECURE
<u>Left Wing</u>	
Fuel Quantity.....	CHECK
Fuel Cap.....	SECURE
Fuel Tank Vent.....	OPEN
Fuel Overflow.....	OPEN
Tie Down.....	REMOVE
Main Gear Strut.....	2 ¾ inch
Tire.....	CHECK
Stall Warning.....	CHECK
Pitot Tube.....	CHECK
Wing Tip & Nav. Light.....	CHECK
Leading Edge.....	CHECK
Flap & Aileron.....	CHECK
<u>Fuselage/Empennage</u>	
Static Vents.....	CLEAR
Fuselage.....	CHECK
Antennas.....	CHECK
Horizontal Stabilizer.....	CHECK
Vertical Stabilizer.....	CHECK
Navigation Lights.....	CHECK
Ventilation Inlet.....	CLEAR
Tie Down.....	REMOVE
Baggage Door.....	SECURE

  

<u>BEFORE ENGINE START</u>	
Preflight Inspection.....	COMPLETE
Passenger Briefing.....	COMPLETE
Seats and Belts.....	SECURE
Parking Brake.....	SET
Carburetor Heat.....	COLD
Fuel Selector.....	FULLEST TANK
Circuit Breakers.....	CHECK IN
Avionics Master.....	OFF
Door.....	LATCHED

<u>ENGINE START (COLD)</u>	
Throttle.....	OPEN 1/4 INCH
Mixture.....	Full RICH
Propeller.....	FULL FWD
Master Switch.....	ON
Beacon.....	ON
Fuel Pump.....	ON
Fuel Pressure.....	CHECK
Fuel Pump.....	OFF
Primer.....	3-5 STROKES
Propeller Area.....	CLEAR
Starter.....	ENGAGE
Throttle.....	1000 RPM
Oil Pressure.....	CHECK
Mixture.....	LEAN for taxi
Fuel Pump.....	OFF
Ammeter.....	CHECK

  

<u>ENGINE START (HOT)</u>	
Throttle.....	OPEN ¼ INCH
Mixture.....	FULL RICH
Propeller.....	FULL FWD
Master Switch.....	ON
Beacon.....	ON
Fuel Pump.....	ON
Fuel Pressure.....	CHECK
Fuel Pump.....	OFF
Primer.....	IN and LOCKED
Propeller Area.....	CLEAR
Starter.....	ENGAGE
Throttle.....	1000 RPM
Oil Pressure.....	CHECK
Mixture.....	LEAN for TAXI
Fuel Pump.....	OFF
Ammeter.....	CHECK

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**ENGINE START (FLOODED)**

Throttle.....FULL OPEN  
 Mixture.....IDLE CUTOFF  
 Propeller.....FULL FWD  
 Master Switch.....ON  
 Beacon.....ON  
 Fuel Pump.....OFF  
 Primer.....IN and LOCKED  
 Propeller Area.....CLEAR  
 Starter.....ENGAGE  
 Throttle.....RETARD to 1000 RPM  
 Mixture.....ADVANCE  
 Oil Pressure.....CHECK  
 Mixture.....LEAN for TAXI  
 Ammeter.....CHECK

**TAXI**

Avionics Master.....ON  
 Radios/Avionics.....SET  
 Transponder.....STBY  
 Turn Coordinator.....ON  
 Flaps.....RETRACT  
 Primer.....IN and LOCKED  
 Landing Gear Indicator.....CHECK  
 Parking Brake.....RELEASE  
 Throttle.....APPLY SLOWLY  
 Brakes.....TEST  
 Steering.....CHECK  
 Flight Instruments.....CHECK

**RUNUP**

Parking Brake.....SET  
 Seats/Belts.....SECURE  
 Doors/Windows.....CLOSED  
 AND LOCKED  
 Controls.....FREE & CORRECT  
 Fuel Quantity.....CHECK  
 Mixture.....SET RICH  
 Fuel Selector...FULLEST TANK  
 Throttle.....2000 RPM  
 Oil Pressure/Temp.....CHECK  
 Mixture.....LEAN for altitude  
 Propeller.....CYCLE 3X  
 (MAP, RPM, Oil Pressure)  
 Magnetos.....CHECK

Max drop 125 RPM  
 Max differential 50 RPM  
 Carburetor Heat.....CHECK  
 Suction.....5.0" hg + 1/ -2" hg  
 Ammeter.....CHECK  
 Oil Temperature.....CHECK  
 Oil Pressure.....check GREEN  
 Throttle.....IDLE then 1000 RPM  
 Flight Instruments.....SET  
 Parking Brake.....RELEASE

**BEFORE TAKEOFF**

Fuel Pump.....ON  
 Fuel Selector...FULLEST TANK  
 Carburetor Heat.....OFF  
 Flaps (as required).....SET  
 Trim.....NEUTRAL  
 Heading Indicator.....SET  
 Transponder.....ALT  
 Engine Gauges.....NORMAL  
 Strobe Light.....ON  
 Emerg. Procedures.....REVIEW

**NORMAL TAKEOFF**

Throttle.....Full OPEN  
 Engine Gauges.....NORMAL  
 Rotate.....85 MPH  
 Climb.....95 MPH  
 Gear.....UP  
 Gear Selector.....NEUTRAL

**SOFT-FIELD TAKEOFF**

Flaps.....18° (2<sup>nd</sup> notch)  
 Trim.....SET  
 Control Wheel.....full AFT  
 Throttle.....APPLY SLOWLY  
 Accelerate in ground effect after  
 breaking ground  
 Climb.....84 MPH (Vx)  
 Gear.....UP  
 Climb.....105 MPH (Vy)  
 Flaps.....RETRACT  
 Power.....AS REQUIRED  
 ABOVE 1,000 ft. AGL  
 Climb.....ENROUTE SPEED

**SHORT-FIELD TAKEOFF**

Flaps.....18° (2<sup>nd</sup> notch)  
 Trim.....SET  
 Brakes.....HOLD  
 Throttle.....Partial OPEN  
 Brakes.....RELEASE  
 Rotate.....65-75 MPH  
 Climb.....84 MPH (Vx)  
 Gear.....UP  
 Climb.....105 MPH (Vy)  
 Flaps.....RETRACT  
 Power..as REQ..abv. 1000 ' AGL)  
 Climb.....ENROUTE SPEED

**CLIMB**

Power...REDUCE at 1,000' AGL  
 Best Angle (Vx).....84 MPH  
 Best Rate (Vy).....105 MPH  
 Enroute.....100-120 MPH  
 CHT/EGT.....CHECK  
 Mixture.....LEAN for ASCENT

**CRUISE**

Throttle.....SET  
 Propeller.....SET  
 Mixture.....SET  
 Fuel Pump.....OFF  
 Fuel Pressure.....VERIFY  
 Engine Gauges.....CHECK  
 Trim.....SET  
 Heading Indicator.....SET

**DESCENT**

Propeller.....CRUISE RPM  
 Manifold Pressure.....15-17" Hg  
 Airspeed.....MAINTAIN  
 CHT/EGT in GREEN  
 Mixture.....ENRICH in descent

**BEFORE LANDING**

Seat Backs.....UPRIGHT  
 Seats/Belts.....SECURE  
 Fuel Pump.....ON  
 Fuel Selector...FULLEST TANK  
 Fuel Pressure.....VERIFY  
 Gear.....DOWN (125 MPH)  
 Gear Indicator.....GREEN  
 Flaps.....AS REQ. (125 MPH)

<p><b><u>BEFORE LANDING (cont.)</u></b></p> <p>Trim.....SET  Mixture.....ENRICH (as req.)  Propeller.....FULL FWD  GUMPS Check.....ON FINAL  Approach Speed.....85 MPH</p> <p><b><u>SOFT-FIELD LANDING</u></b></p> <p>Gear.....VERIFY DOWN  Airspeed.....80 MPH FINAL  Flaps.....Down (27°)  Throttle....carry POWER until flare  Touchdown.....MAINS first  Add power to keep nosewheel off  the ground, hold elevator full aft  Brakes.....MINIMAL</p> <p><b><u>SHORT FIELD LANDING</u></b></p> <p>Fuel Pump.....ON  Gear.....VERIFY DOWN  Airspeed.....80 MPH FINAL  Flaps.....Down (27°)  Power.....IDLE  Touchdown.....MAINS first  Brakes.....APPLY  Flaps.....RETRACT  Elevator.....FULL AFT</p> <p><b><u>GO-AROUND</u></b></p> <p>Throttle.....FULL OPEN  Climb.....95 MPH  Gear.....UP  Climb.....105 MPH  Flaps.....RETRACT  Power...as REQ. (abv. 1000 ' AGL)</p>	<p><b><u>AFTER LANDING</u></b></p> <p>Flaps.....RETRACT  Transponder.....STBY  Landing Light.....OFF  Strobe Light.....OFF  Fuel Pump.....OFF</p> <p><b><u>SHUTDOWN</u></b></p> <p>Throttle.....IDLE  Electrical Equipment.....OFF  Avionics Master.....OFF  Propeller.....FULL FWD  Mixture.....IDLE cutoff  Ignition.....OFF  Master Switch.....OFF  Beacon.....OFF  Control Wheel.....SECURE  Doors/Windows.....LOCKED  Tie-Downs.....SECURE  Flight Plan.....CLOSE</p>
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<p><b><u>EMERGENCY PROCEDURES ENGINE POWER LOSS DURING FLIGHT</u></b></p> <p>Airspeed.....100 MPH  Landing Site.....LOCATE  Fuel Selector.....FULLEST TANK  Fuel Pump.....ON  Ignition.....CHECK ON  Mixture.....FULL RICH  Carburetor Heat.....ON  Primer...CHECK In and LOCKED  Engine Gauges.....CHECK  <b>*IF POWER IS RESTORED*</b>  Carburetor Heat.....OFF  Fuel Pump.....OFF  <b>*IF POWER IS NOT RESTORED PREPARE FOR FORCED LANDING*</b></p> <p><b><u>EMERGENCY LANDING WITHOUT POWER</u></b></p> <p>Airspeed.....100 MPH  Propeller.....FULL AFT  Radio.....121.5  Transponder.....7700  ELT.....ACTIVATE MANUALLY  Throttle.....CLOSED  Fuel Selector.....OFF  Mixture.....IDLE CUTOFF  Ignition.....OFF  Seat Belts.....SECURE  Door.....OPEN  Flaps.....AS REQUIRED  Gear...DOWN (before touchdown)  Doors.....UNLATCH  Master Switch.....OFF  Touchdown.....SLOWEST  PRACTICAL AIRSPEED</p>	<p><b><u>EMERGENCY PROCEDURES PROPELLER OVERSPEED</u></b></p> <p>Throttle.....RETARD  Oil Pressure.....CHECK  Propeller.....FULL AFT  Set if any control available  Airspeed.....REDUCE  Throttle.....AS REQUIRED  TO REMAIN BELOW 2575  RPM  Flaps.....AS REQUIRED  **loss of oil pressure will increase RPM**  Land as soon as possible</p> <p><b><u>EMERGENCY LANDING GEAR EXTENSION</u></b></p> <p>Master Switch.....ON  Circuit Breakers.....CHECK  Navigation Lights...CHECK OFF  Indicator Bulbs.....CHECK</p> <p><b>*IF GEAR IS NOT DOWN AND LOCKED*</b></p> <p>Airspeed.....below 100 MPH  Gear Selector.....OFF  Motor Release Arm.....  DISENGAGE AND PUSH FWD  -Allow landing gear to fall  Emergency Handle....EXTEND  -Rotate handle forward through  FULL travel to extend gear  -Green light on panel indicates  gear is down and locked</p>
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<p><b><u>EMERGENCY PROCEDURES</u></b> <b><u>ENGINE ROUGHNESS</u></b></p> <p>Carburetor Heat.....ON Mixture.....ADJUST Fuel Pump.....ON Fuel Selector.....SWITCH TANKS Engine Gauges.....CHECK Magnetos.....CHECK</p> <p><b><u>ENGINE ROUGHNESS</u></b></p> <p>Carburetor Heat.....ON Throttle.....Full OPEN Mixture....ADJUST for smoothness <b>When ice is cleared:</b></p> <p>Carburetor Heat.....OFF Throttle.....NORMAL CRUISE Mixture.....ADJUST Manifold Pressure.....MONITOR</p> <p><b><u>OPEN DOOR IN FLIGHT</u></b></p> <p>Airspeed.....BELOW 100 MPH Cabin Vents.....CLOSE Storm Window.....OPEN Slip Airplane.....DOOR INTO WIND Latch.....SECURE</p> <p><b><u>SPIN RECOVERY</u></b></p> <p>Throttle.....IDLE Ailerons.....NEUTRAL Rudder.....FULL OPPOSITE Control Wheel.....FORWARD Rudder.....NEUTRAL Control Wheel..BACK PRESSURE</p>	<p><b><u>EMERGENCY PROCEDURES</u></b> <b><u>FIRE DURING ENGINE</u></b> <b><u>START</u></b></p> <p>Cranking.....CONTINUE Mixture.....IDLE CUTOFF Throttle.....FULL OPEN Fuel Pump.....OFF Fuel Selector.....OFF <b>*IF ENGINE FAILS TO START*</b> Cranking.....CONTINUE Fire Extinguisher.....OBTAIN Master.....OFF Ignition.....OFF <b>ABANDON IF FIRE</b> <b>CONTINUES</b></p> <p><b><u>ENGINE FIRE IN FLIGHT</u></b></p> <p>Throttle.....CLOSED Mixture.....IDLE CUTOFF Fuel Selector.....OFF Fuel Pump.....OFF Heater/Defroster.....OFF Gear.....AS NECESSARY Airspeed.....BEST GLIDE or greater Power OFF landing...EXECUTE</p> <p><b><u>ELECTRICAL FIRE</u></b></p> <p>Master Switch.....OFF Generator Circ. Breaker...PULL Vents.....OFF Door (as required).....OPEN Fire Extinguisher.....ACTIVATE Cabin Heat.....OFF Initiate <b>Manual Gear Extension</b></p>
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