

PIPER COMANCHE 250



N5448P (1958-1960)

BEFORE STARTING

External visual inspection Complete
 Fuel quantity in tanks Checked
 Oil level Checked (7-9 qt)
 Control lock Unlocked, Free
 Documents Onboard
 Ignition Key Off
 Avionics Master (or Radios) Off
 Landing Gear Selector **Down**
 Master Switch On
 Fuel Gauges Check Each Tank
 Landing, Nav, Beacon, Cabin Lights Check
 Flaps Down
 Master Switch Off
 Oxygen Quantity (If Equipped & Req) Adequate

STARTING THE ENGINE

Parking brake Set
 Belts and Harness Fastened & Adjusted
 Avionics Master (Or Radios) Off
 Fuel Selector Desired Tank
 Circuit Breakers CHECK: In
 Carburetor Heat Full Cold
 Alternate Static Source (If Installed) Closed
 Controls Free & Correct
 Door Latched
 Throttle 1/4 in Open (1/2 in When Hot)
 Mixture Full Rich
 Prop Control Full Forward - Increase RPM
 Beacon Light On
 Master Switch On
 Electric Fuel Pump On (Listen / Check Pressure) - Off
 Prime 3 - 5 times (As necessary), Lock
 Magnetos Both
 Prop "Clear"
 Starter Engage (Max 15 Seconds)
Immediately after the engine fires
 Oil pressure Check **Green within 30 sec**
Mixture to Cutoff if oil pressure doesn't go Green
 Throttle 1000 RPM
If engine stops Mixture Cutoff (pull)

BEFORE TAXI

Flaps Retract
 Primer Check In and Locked
 Landing Gear Selector Center "Off" Position
 Landing Gear Indicator light Check **Green**
 Avionics Master (Or Radios) On
 Transponder Set 1200 - Standby
 Artificial horizon Set
 Rate-of-Climb Indicator Check Zero
 Altimeter Field Height
 Pitot Heat On, Check Ammeter Discharge, Off
 Parking brake Free

TAXI

Note: Allow the engine to warm between 800-1200 RPM for 2—4 minutes before runup

Brakes CHECK
 Steering CHECK

RUN UP

Parking brake Set
 Controls Free and Correct
 Mixture Full Rich
 Prop Full Forward
 Oil temp & Pressure Check **Green**
 Throttle 2000 RPM
Caution: Do not exceed 2200 rpm in routine static test.
 Mag Check @ 15 in Hg
 - Max Speed drop M1 & M2 175 RPM
 - Max Difference between M1 & M2 50 RPM
 Carburetor Heat CHECK
Caution: Avoid prolonged ground ops with Carb Heat on as the air is unfiltered
 Vacuum 5.0 in Hg +.1 or -.2 in
 Ammeter Check Charging
 Prop Cycle as needed to Circ. Oil and Governor (3X)
 Normal Drop 300—400 rpm
 Reduce to 1500 RPM make sure it holds steady
Caution: Do not exceed 500 rpm drop for > few seconds
 Throttle to Idle CHECK
 Throttle 1000 RPM

BEFORE TAKE OFF

Door Closed & Locked
 Seat belts Locked and Tight
 Fuel Selector Leave on Previously Selected Tank
 Fuel pump On
 Flaps As Desired
 Rudder and Elevator trim Set
 Engine Gauges Normal
 Strobe Lights On
Note: Engine is warm enough for takeoff when throttle can be opened without engine faltering

TAKE OFF

Compass & Flight Instruments CHECK runway heading
 Transponder ALT & 1200 (or ATC)
 Pitot tube heater On (if required)
 Mixture Rich (or as appropriate >4000 ft)
 Throttle Smoothly Fully Forward
 Accelerate to V_R Approx. **85 MPH** (74 kt)
 Take off (**Normal**) Pull back lightly on Yoke
 (**Short Takeoff**) Approx. **65-75 MPH** (56-65 kt)
 Brakes Tap after wheels leave ground
 Landing Gear Retract
 Landing Gear Indicator **Amber**
 Flaps Retract (>84 mph & >200 ft)

AFTER TAKE OFF

Climb
 Best Angle-of-Climb Speed (V_X) 84 MPH
 Best Rate-of-Climb Speed (V_Y) 105 MPH
 Best En-Route Rate-of-Climb Speed 120 MPH
 Cylinder Head Temperature Maintain in Green
 Prop 2400 rpm above 1000 ft AGL
 Power As required above 1000 ft AGL
 Fuel pump Off - Check Pressure Gauge is **Green**
 Landing Gear Selector Center "Off" Position
 Rudder Trim Neutral
 Elevator Trim Set

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Enroute

Power..... Set Per Power Table in Section 5 (Performance)
 Normal Max Cruise Power..... 75%
 MixtureLean appropriately above 3000 ft
 Fuel Tank Switch every 30 min
 - Fuel Pump On
 - Fuel Tank Selector..... Switch to opposite Tank
 - Fuel Pump Off
 - Fuel Pressure Gauge Check for Pressure

Descent

Propeller Cruise RPM
 Manifold Pressure15 to 17 in Hg
 Airspeed..... Maintain Cylinder Head Temp in **Green**
Clear the engine approx. every 30 sec by opening the throttle slowly to prevent fouling. Avoid cylinder head temperature drops below 100 °C

Landing

Pattern Entry

- Seat Belts Check & Secure
 - Fuel Fulllest Tank
 - Mixture Full Rich (As Required >4000 ft)
 - Prop Full Forward
 - Carb Heat On as appropriate
 - Airspeed **120 MPH**

Downwind

- **Landing Gear.....Down (max. 148 mph / 129 kt) and Green**
 - Brakes..... Check
 - Fuel Pump On
 - Landing Lights..... On
 - Flaps Rest 1 passing threshold at < 125 mph

Base

- Airspeed **95 MPH**
 - Flaps Rest 2

Final Approach

- Airspeed **90 MPH**
 - Flaps As Required

Note: Approach with engine power; Avoid "floating in" at idle
Short Runway Landings - Final Approach

- Airspeed **84 MPH**

Go Around

Prop Check Full Forward (Full Fine Pitch)
 Throttle **(Slowly)** Full Forward
 Landing Gear..... **Retract** when positive rate of climb established
 Flaps..... Retract **Gradually** w/Inc. Altitude

After Landing

Fuel Pump Off
 Flaps Retract
 Strobes (**NOT** Rotating Beacon) Off
 Mixture Lean as required

Engine Shut Down

Parking Brake..... Set
 Transponder and Radios..... Off
 Throttle 1800 RPM for 15 - 20 Seconds.
 Throttle 1200 RPM for 10 - 20 Seconds
 Mixture Pull Out / Idle Cutoff
 Magnetos Off
 Ignition Key..... Remove
 All Electrical Switches Off, starting from R/H Side

Before Leaving Aircraft

Fuel Tank Off
 Flight Controls **Lock**
 Cabin Fresh Air Inlets Close
 Operating Hours..... Note
 Pitot Cover Install
Tie-Downs Secure

Speeds (IAS)

V _{glide} 105 MPH	V _R 85 MPH
V _{LE} 148 MPH	V _Y 105 MPH
V _{LO} 148 MPH	V _X 84 MPH
V _{LO} - Recommended 125 MPH	V _{FE} 125 MPH
V _{NO} 181 MPH	V _{FE} - Recommended 100 MPH
V _{NE} (3000 lbf) 203 MPH	V _{APPRCH} -Full Flaps & LG 90 MPH
V _{SO} (3000 lbf) 64 MPH	V _{APPRCH} -No Flaps or LG 95 MPH
V _{S1} (3000 lbf) 71 MPH	V _A (3000 lbf) 144 MPH
MGW _{Cruise} 3000 lbf	V _A (1900 lbf) 120 MPH
Empty Wt 1741 lbf	Max Demonstrd X-Wind..... 17 KTS
Useful Load _{Cruise} 1259 lbf	<i>MGW assumes full tip tanks, else 2800 lb</i>

** Emergency Checklists **

Engine Fire When Starting

Mixture Pull **Out**
 Throttle Pull **Out**
 Battery..... Off
 Plane Leave

Engine Failure In Flight

Best Glide Speed 105 MPH

Restart

Fuel Pump On
 Fuel Selector Switch to Fulllest Tank
 Carb Heat On (Pull)
 Mixture Full Rich (Push)
 Magnetos Check M1+M2

If Prop is not turning

Prop Full Forward
 Throttle 1/10 (first click)
 Primer 3-5 Times
 Starter Push
 Fuel Pump Stays On
 Land Nearest Airfield

Engine Fire In Flight

Mixture Pull **Out**
 Heating / Ventilation Off

Landing Without Motor

Seat Belt Pull Tight
 Landing Field..... Search
 Radio (121.5 if Center is unknown) Explain Emergency
Best Glide Speed 105 MPH

**Note: Extend Landing Gear only when landing on
 Firm ground is ENSURED**

Mixture Off (Pull out)
 Magnetos..... Off
 Fuel Selector Off
 All Electrical Switches Off
 Doors Unlock