Piper PA-46 Malibu / Mirage

Pre-inspection

- Documents - on board
- Walk around - complete
- Chocks and tie-downs - removed
- Pitot and static ports - clear
- Control surfaces and trim tabs - free movement
- Fuel quantity - verified, caps secure
- Fuel sumps and gascolator - drained
- Oil quantity - checked
- Cowl flaps - checked free
- Tires, brakes, gear legs - checked
- Spinner and prop - no damage or oil

Before engine start

- Seats and seat belts - fastened
- Fuel selector - fullest tank
- Mixture - rich (or per field elevation)
- Propeller - full forward / fine
- Throttle - cracked 1/4 inch
- Cowl flaps - open
- Brakes - hold
- Master switch - battery and alternator on
- Beacon - on
- Auxiliary fuel pump - prime as needed
- Area - clear, shout 'clear prop'

Engine start

- Magnetos - both / start
- Engine - start
- Oil pressure - rises within 30 seconds
- Throttle - 1000 RPM
- Alternator - check ammeter positive
- Auxiliary fuel pump - off, check engine driven pump

After engine start

- Avionics master - on
- PFD / MFD - boot and initialize
- Radios and audio panel - set
- ATIS / weather - obtain
- Altimeter - set to QNH
- Transponder code - set, mode standby
- Flight plan - load and activate
- Cabin heat / air - as desired

Before taxi

- Flaps - up
- Doors - closed and latched
- Flight controls - free and correct

- Brakes - check during taxi
- Cowl flaps - open for ground ops

Before takeoff

- Throttle - 1800 RPM for run-up
- Magnetos - check L and R, max 175 RPM drop
- Propeller - cycle to verify governor
- Engine instruments - all green
- Alternate air / induction - check (turbo aircraft)
- Throttle - idle
- Trim - takeoff position
- Flaps - takeoff position
- Auxiliary fuel pump - on for takeoff
- Landing, strobe, beacon - on
- Cowl flaps - open
- Transponder - ALT
- Departure briefing - complete

Takeoff

- Throttle - smoothly to full per POH manifold pressure
- RPM - verify maximum
- Engine instruments - green at full power
- Airspeed - alive
- Rotation - at Vr per POH
- Positive climb - established

Climb

- Power - climb power per POH
- Propeller - climb RPM
- Airspeed - Vy initial then cruise climb
- Flaps - up after positive climb
- Auxiliary fuel pump - off above 1000 ft AGL
- Mixture - lean for climb above 3000 ft DA
- Cowl flaps - manage CHT in target range
- Engine instruments - monitor

Cruise

- Power - cruise setting per POH
- Propeller - cruise RPM
- Mixture - leaned for cruise (LOP or ROP)
- Cowl flaps - closed / trail
- Engine instruments - monitor CHT and EGT
- Fuel management - switch tanks per schedule

Descent

- Power - reduced gradually for desired descent
- Mixture - enrich gradually
- Propeller - leave at cruise
- ATIS at destination - obtain
- Approach briefing - complete

- Cowl flaps - closed unless cooling needed

Before landing

- Fuel selector - fullest tank
- Mixture - rich
- Propeller - full forward / fine
- Auxiliary fuel pump - on
- Cowl flaps - as required
- Landing light - on
- Flaps - set per pattern phase
- Speeds - per POH

Landing

- Final approach - per POH
- Round out and flare - smooth
- Touchdown - main wheels first
- Throttle - idle after touchdown
- Braking - as needed

After landing

- Flaps - up
- Auxiliary fuel pump - off
- Cowl flaps - open
- Strobe - off
- Transponder - standby
- Taxi - to parking

Shutdown

- Parking brake - set
- Avionics master - off
- Propeller - full forward
- Throttle - idle
- Mixture - idle cutoff
- Magnetos - off after engine stops
- Master switch - off
- Beacon - off
- Cowl flaps - open for cooling