

Piper Cherokee PA-28-180 [N55044] – Yale Aviation - IFR

PREFLIGHT

Inside Check:

- * **Paperwork** (Hobbs, AROW, VOR, W&B)
- * **Panel:** Avionics...OFF → Master....ON
- CHECK ...no flag: T&B, AI; malfunction lgt: gyro
- Fuel pump....ON, check gauges, OFF
- Nav, beacon, landing, stall lights.....CHECK
- CHT/circuit breakers.....CHECK
- Master OFF → Flaps.....DOWN

* **Controls** free & clear

Fuel: Check tanks + sumps + vents

Outside check:

- Control surfaces → untie + tires + brakes → Oil + cowling → Prop + air Intake + Belt → untie + tires + brakes + Pitot Tube + Static → Contrl surfaces + stabilator + untie + antennae (6) + baggage

START

Secure:

- iPad ZERO TIME; Connected; clock.....SET
- Passengers briefed on door & belts
- Door & Belts & Brakes.....SECURE/ON
- Avionics Master.....OFF
- Carb heat.....OFF
- Fuel.....ON LOWEST TANK

Engine Start: Key in ignition

- Master → Fuel pump + Beacon.....ON
- Mixture.....RICH
- Throttle.....1/4" open
- Prime.....AS NECESSARY
- CLEAR PROP → START

Throttle.....1000 RPM

4 Pressures (oil, alternator, fuel w/ pump off, vacuum).....CHECK

Avionics MasterON

GPS Database & Self-test.....VERIFIED

**** SWITCH TANKS ****

ATIS.....SET Altimeter, CK VOR's

Call Grnd → **IFR Clearance, brief route**

Brief runway & taxi route, secure belts

Hot Start

Throttle.....1/2" open
Mixture....IDLE, then RICH after start
NO PRIME

Flooded Start

Throttle.....FULL OPEN
Fuel pump...OFF / Mix...IDLE-CUTOFF
Starter.....ENGAGE → Mix RICH
→RETARD throttle

TAXI CHECKS

- Mixture.....LEANED FOR TAXI
- Strobes & Nav Lgts ON; Test Brakes
- **INSTRUMENT CHECK** during taxi:
Mag + DG → T&B → AS, AI, Alt → VSI

RUN-UP

Hand Brake.....SET; Oil Temp....CK
Mixture....RICH; Throttle.....2000 RPM
Mags.....CK <175 max drop; 50 btwn
Carb Heat.....Check & CLOSE
Vacuum Gauge.....CK [5" ±0.1"]
Oil temp; Oil press.....GREEN
Alternator / **alternate air**CHECK
Low Vacuum light.....CHECK OFF
Throttle...IDLE → **standby vac check**

BEFORE TAKE-OFF

Flight Instrs, HI & AI, breakers...CHECK
Radios & Nav.....SET
Transponder.....ALT & ADS-B ID
Flight Controls.....FREE & CORRECT
Trim & Flaps (10, 25, 40) SET & CORRECT
Mixture.....RICH
SWITCHES: fuel pump ON; electric trim OFF

Briefing: rnmwy bugged, lgth, t/o pt →
emergencies + abort point (50/70 rule) + PIC
Door & Windows & Belts: FASTENED

CLEARANCE → Lights, Camera, TIMER

Windsock & Traffic.....CHECK

REACT on roll: RPM, Engine gauges,
AS, Centerline, Take-off

CRUISE

Fuel pump.....OFF (ck pressure)
Power.....SET per table
Mixture.....LEAN (when under 75%)

FLOWCHECK

Compass → DG; Oil pressure → oil temp
→ alternator → EGT → circuits
→ vacuum → RPM → fuel tank

BEFORE LANDING – 20 NM out

ARG: ATIS; Radios set; GUMPSS
[Gas FULLEST TANK; Undercarriage BOLTED ↓;
Mix RICH; Pump ON; Switches & Seatbelts SET]
* **BRIEF APPROACH: How long? How low? Which way?**

Radio call → bug runway
Landing Light & Flaps.....AS NEEDED
Approach.....85 IAS
GUMPSS.....on short final

AFTER LANDING

Flaps.....UP
Fuel Pump.....OFF
Landing light.....OFF
Strobes.....AS REQUIRED
Mixture.....LEAN FOR TAXI

SHUTDOWN & SECURE

Brakes ON, Throttle.....IDLE
• **Avionics OFF** → → Hot Mag Check
• Throttle to 1200 rpm → 10 seconds
• Mix, Mags, Master....OFF / **KEYS OUT**
• BeaconOFF
BrakesAS NEEDED
Control Wheel.....SECURED
Wheel Chocks.....SET

CLOSE FLIGHTPLAN!!!

V SPEEDS (max gross weight, mph)

Vr: 60 (short/soft=55, 25° flaps)
Vx: 74 **Vy:** 85 **Cruise climb:** 100
Vso: 61 **Vs:** 68 **Vg:** 80
Vfe: 115 **App:** 85//76 short/soft field
Va: 127 max/ 120 med/ 110 lgt

-EMERGENCY-

ENGINE FAILURE

Airspeed.....best glide 80 IAS
Best field.....pick site into wind
CK: Gas(tank, pump)/Air(carb heat)/Spark(mags)
Declare.....emergency, 7700
Exit..... Fuel, Mags, Mix, Master OFF;
door wedged open

FIRE

Engine Fire on Starting

Continue cranking!
Start → Shut down and inspect
No Start → Mix....IDLE/CUTOFF
FuelOFF
Throttle.....FULL OPEN

Engine Fire in Flight

Fuel.....OFF
Throttle.....CLOSED
Mix & Mag.....OFF
Cabin heat & Air.....OFF
Increase airspeed to extinguish

Electrical Fire

All electrical & Master.....OFF
Vents.....OPEN
Cabin heat & Air.....OFF
If fire is out: turn on Master, one essential equipment at a time; reset breakers if critical

Loadmeter

Excessive: Alternator OFF → LAND
Low voltage: Avionics OFF → reset master & breakers
LAND if still problem

75% HP

Alt	OAT	RPM	TAS
SL	60°F	2400	123
2K	51°F	2460	127
4K	45°F	2530	131
6K	40°F	2580	135
8K	30°F	2650	139

