

Piper Arrow - PA28R-201

200 HP Lyc IO-360 C1C 190FT

Preflight

- Operating Handbook - IN PLANE
- Weight & Balance - CHECKED
- Parking Break - SET
- Control Wheel Lock - REMOVE
- Ignition Switch - OFF
- Avionics Power Switch(es) - OFF
- Flaps - UP
- Master Switch - ON
- Fuel Quantity Indicators - CHECK
 - Must be visually verified
- Low-Vacuum Warn Light - CHECK
- Avionics Power Switch(es) - ON
- Avionics Fan - CHECK AUDIBLY
- Avionics Power Switch(es) - OFF
- Master Switch - OFF
- Fuel Selector - CHOOSE TANK
- Baggage Door - CLOSE / LATCH

Empennage

- Rudder Gust Lock - REMOVE
- Tail Tie Down - DISCONNECT
- Control Surfaces - MOVEMENT
- Undercarriage/Antennas - CHECK
- Tail Light / Wicks - CHECK

Wings

- Aileron - MOVEMENT / SECURE
- Wing Tie-Down - DISCONNECT
- Main Tires => 30 PSI - 2.5"
- Fuel-line Sump Drain - CHECK
- Fuel Qty - CHECK VISUALLY
- Fuel Filler Cap - SECURE
- Left Wing - PITOT / VENT

Nose

- Engine Oil -> 5QT / 7 for X-Cowling - Secure
- Prop & Spinner - NICKS/SECURE
- Engine/Oil Inlets - UNRESTRICTED
- Carb/Air Filter - UNRESTRICTED
- Nose Wheel/Strut - => 27 PSI 2.75"
- Static Source Opening - CLEAR
- Nose Sump - CHECK

Engine Pre-Start

- Seats/Belts/Harness - SECURE
- Gear Handle - DOWN
- Gear Override Lever - NEUTRAL
- Flaps - UP
- Brakes - TEST/SET
- Avionics Pwr Switch(es) - OFF
- Panel Lights - OFF DAYTIME
- Circuit Breakers - CHECK IN
- Electric Equip / A/P - OFF
- Radios - OFF
- Fuel Selector - FULLEST / NOTE
- Battery/Alternator Switches-ON
- Gear Down Lights - 3 GREEN
- Fuel - CHECK QUANTITY
- Beacon - ON
- Nav Lights - AS NEC

Engine Start (COLD)

- Mixture - FULL RICH
- Prop - FULL FORWARD (hi rpm)
- Throttle - PUSH OPEN 1 INCH
- Elect Fuel Pump - ON (until FLOW PEAKS, then OFF)
- Throttle - OPEN 1/2 INCH
- Mixture - IDLE CUTOFF
- Prop Area - CALL CLEAR
- Ignition Switch - START
- As Engine Starts- MIXTURE FULL
- Throttle - ADJUST 1000 RPM
- Oil Pressure - CHECK
- Voltmeter - VERIFY > 13.5
- Starter - CHECK DISENGAGED
- Avionics Pwr Switch(es) - ON
- JPI FuelFlw - AUTO/full or STEP
- ATIS - TUNE
- Nav Lts - ON as needed
- Flaps - UP

Engine Start (HOT)

- NO FUEL PUMP
- Mixture - IDLE / CUTOFF
- Throttle - FULL OPEN
- Starter - ENGAGE
- As Engine Starts- MIXTURE FULL
- Throttle - ADJUST 1000 RPM
- Oil Pressure - CHECK
- Voltmeter - VERIFY > 13.5

Pre-Takeoff

- Parking Break - SET
- Passenger Seats - UPRIGHT
- Seats/Belts/Harness - SECURE
- Cabin Doors - CLOSE/LATCH
- Flight Cntrls - FREE/CORRECT
- Flight Inst - CHECK / SET
- Radios/Xpdr/Avionics - SET
- Flight Plan - PROGRAMMED
- Fuel Qty - CHECK
- Mixture - RICH (< 3K)
- Fuel Selector - RECHECK FULL
- Elect Fuel Pump - ON
- Elevator/Rudder Trim - SET
- Throttle - 2000 RPM
- Magnetos-R/L < 175 & 50 diff
- 1600 RPM... Exercise Prop x2 300 rpm drop
- Suction Gauge - 4.8 - 5.1
- Engine Inst/Ammeter -CHECK
- Throttle - 1000
- Throttle Friction Lock - ADJUST
- Strobe Lights - AS NEEDED
- Radio Lights/Dimmer - SET
- Annunciator Panel - TEST
- Autopilot - OFF
- Air Conditioner - OFF
- Flaps - SET FOR TAKEOFF
- Window - CLOSED
- Door - RECHECK CLOSED
- Parking Brake - RELEASE

Normal Takeoff

- On Runway Checklist
- Time - NOTE
- Transponder - ON
- Fuel Pump - ON
- Landing Light - ON
- Directional Gyro - CHECK
- Flaps - 0 DEGREES
- Carb Heat - COLD
- Throttle - FULL OPEN 2700
- Rotate - 65 - 75 KTS
- Landing Gear - TAP/RETRACT
- Climb Speed - Vy - 90 KTS
- Elect Fuel Pump - OFF AT ALT
- Landing Light - OFF

Short Field Takeoff

- Flaps - 25 DEGREES (2nd notch)
- Carb Heat - COLD
- Brakes - APPLY
- Mixture - FULL RICH < 3000
- Throttle - FULL OPEN
- Brakes - RELEASE
- Elevator - TAIL LOW
- Accelerate - 50 - 60 KTS
- Elevator - BACK PRESSURE
- Rotate - CLIMB ATTITUDE
- Accelerate - 55 - 65 KTS
- Accelerate - Vx 78 KTS
- Obstacles - CLEARED
- Flaps - RETRACT SLOWLY
- Accelerate - Vy 90 KTS

Normal Landing

- Seatbelts, Etc. - SECURE
- Landing light - ON
- Mixture - FULL RICH
- Fuel: Pump - ON / FULLEST TANK
- Gear - DOWN < 129 KTS
- Airspeed - (flaps up) 82 - 90 KTS
- Flaps - AS DESIRED < 103 KTS
- Airspeed - (flaps dn) 66 KTS
- Prop - SET - (forward when short)
- Airspeed - 75 KTS

Short Field Landing

- Same as Normal, thence...
- Lowest Safe Airspeed (69 KTS)
- Braking - APPLY HEAVILY

Post Landing

- EXIT RUNWAY FIRST
- Flaps - UP
- Landing Light - OFF
- Transponder - OFF
- Mags Grounded - CHECK
- Mixture - LEAN FOR TAXI
- Contact Ground Control

Caution: Keep engine < 1200 RPM until temp >75 F (in green)

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ENGINE FAILURE TAKEOFF

- Throttle - IDLE
- Brakes - APPLY
- Flaps - RETRACT
- Mixture - IDLE / CUTOFF
- Ignition Switch - OFF
- Avionics Switch(es) - OFF
- Master Switch - OFF
- Fuel Selector - OFF

ENGINE FAIL ON CLIMB

- Airspeed - 66 KTS
- Mixture - IDLE / CUTOFF
- Fuel Shutoff Valve - OFF
- Ignition Switch - OFF
- Flaps - AS REQUIRED
- Master Switch - OFF
- Land - LOWEST SAFE SPEED

ENGINE RESTART

- Airspeed - BEST GLIDE 76 KTS
- Fuel Shutoff Valve - FULLEST
- Electric Fuel Pump - ON
- Mixture - FULL RICH
- Ignition Switch - START
- Try Switch Tanks / Primer

FORCED LANDING - NO ENG

- Belts, Etc. - SECURE
- Airspeed - 65 KTS (if flaps up)
- Airspeed - 60 KTS (if flaps dn)
- Mixture - IDLE / CUTOFF
- Fuel Selector Valve - OFF
- Ignition Switch - OFF
- Flaps - AS REQUIRED
- Master Switch - OFF
- Doors - UNLATCH
- Touchdown - SLIGHTLY TAIL LOW
- Brakes - APPLY HEAVILY

ENGINE FIRE

- Mixture - IDLE / CUTOFF
- Fuel Selector Valve - OFF
- Master Switch - OFF
- Cabin Heat/Air - OFF
- Airspeed - 85 KTS - INCREASE AS NECESSARY TO EXTINGUISH
- Forced Landing - EXECUTE

SPIN RECOVERY

- AILERONS - NEUTRAL
- THROTTLE CLOSED
- OPPOSITE RUDDER
- STICK FORWARD-BREAK STALL
- RUDDER NEUTRAL
- RECOVER FROM DIVE

GEAR TROUBLESHOOTING

- Verify Gear Handle - DOWN
- Check Circuit Breaker - IN
- Swap "down" lamp Assemblies

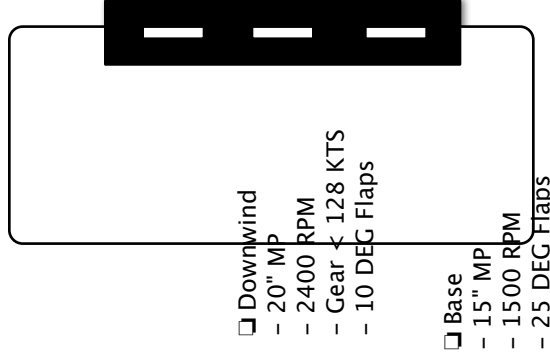
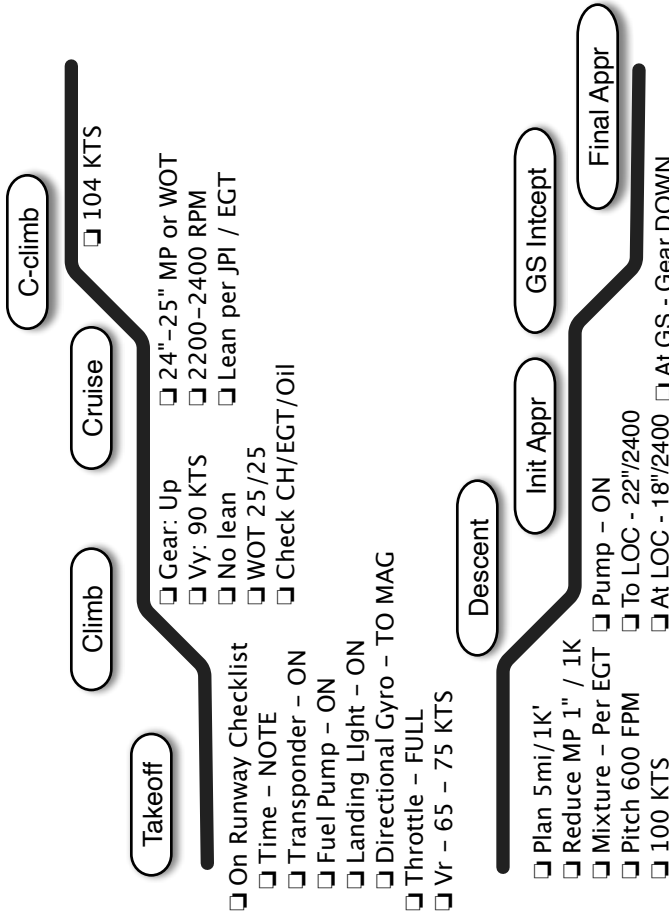
EMERG GEAR EXTEND

- Verify Gear Handle - DOWN
- Override pin - CONFIRM NOT IN
- Gear Override Lever - HOLD DN
- Fishtail maneuvers and positive G maneuvers to free gear.
- Confirm - GEAR DOWN (with lights, tower, etc.)
- Lever - Leave Down 'till repaired

Fuel: 77 gal / 72 Usable
Filler Neck is at 25gal
Max Xwind - 17 KTS

JPI Flow - Cruise: ≈ 9.2-10gph

Best Glide Max Dist 1.6mi/1000'



Speed	Kts	MPH
Vr	65 - 75	n/a
Vy	90	
Vx	78	
Va	96-118	
Vno	146	
Vne	183	
Appr	75	
Vle	129	
Vfe	103	
Vs	60	
Vso	55	
C-climb	104	
E Desc	129	
Glide	79	
E Appr	70	