

## PIPER APACHE N1231P NORMAL CHECKLIST

### BEFORE START CHECK

PRE-FLIGHT ----- COMPLETE  
WEIGHT & BALANCE ----- COMPLETE  
CABIN DOORS ----- CLOSED & LATCHED  
PASSENGER BRIEF ----- COMPLETE  
TAKEOFF/DEPARTURE BRIEF ----- COMPLETE  
SEATBELTS/HARNESSES ----- ADJUSTED/LOCKED  
CIRCUIT BREAKERS ----- CHECKED  
FUEL SELECTORS ----- MAIN  
CROSS FEED ----- OFF  
LANDING GEAR HANDLE ----- CENTERED  
ELECTRICAL EQUIPMENT ----- OFF  
MASTER SWITCH ----- ON  
FUEL GAUGES ----- CHECKED  
BEACON ----- ON  
LANDING GEAR POSITION LIGHTS ----- 3 GREEN

### ENGINE START CHECK

GENERATORS ----- ON  
MIXTURE CONTROLS ----- FULL RICH  
PROPELLERS ----- FULL FORWARD  
THROTTLES ----- OPEN 1/4 INCH  
FUEL PUMP ----- BOTH ON (TILL FUEL **PRESS** THEN) OFF  
BRAKES ----- SET & HOLD  
→ PROP AREA ----- CLEAR  
PRIME ----- AS REQUIRED  
MAGNETO SWITCHES ----- ON  
STARTER ----- ENGAGE, 3S MAX  
OIL PRESSURE ----- CHECK INCREASING/GREEN 30s  
MIXTURE ----- GROUND LEAN  
AMMETER ----- CHARGING

REPEAT 2<sup>nd</sup> ENGINE

### PRE-TAXI CHECK

FLAPS ----- UP  
AVIONICS MASTER/AVIONICS ----- ON/SET  
BRAKES ----- CHECK AFTER ROLLING

### ENGINE RUN UP

BRAKES ----- SET & HOLD  
FLIGHT CONTROLS ----- FREE & CORRECT  
TRIM ----- TAKEOFF  
FLIGHT INSTRUMENTS ----- SET  
MIXTURE CONTROL ----- LEANED FOR MAX POWER  
PROPELLERS ----- FULL FORWARD  
→ THROTTLE (1 AT A TIME) ----- 2000RPM  
PROPELLER CYCLE X3 ----- CHECK  
OIL PRESSURE / TEMP / CHT ----- CHECK  
SUCTION ----- CHECK GREEN (RIGHT ENGINE ONLY)  
CARB HEAT ----- CHECK  
MAGNETOS ----- 125 MAX, 50 DIFFERENCE  
AMMETER ----- CHARGING  
THROTTLE ----- ~1000 RPM

REPEAT 2<sup>nd</sup> ENGINE

CABIN HEATER ----- OFF

## PIPER APACHE N1231P NORMAL CHECKLIST

### BEFORE TAKEOFF CHECK

PARKING BRAKE ----- OFF  
FLAPS ----- UP  
FUEL PUMPS ----- ON  
MIXTURES ----- FULL RICH  
PROPELLERS ----- FULL FORWARD  
LANDING LIGHT ----- ON  
TRANSPONDER ----- ALT

### TAKEOFF

PROPELLERS ----- FULL FORWARD  
THROTTLES ----- FULL POWER  
ROTATE ----- 85  
LANDING GEAR ----- (Positive ROC/No Runway Remain) GEAR UP

### CLIMB CHECK (1000FT AGL)

THROTTLES ----- 24"  
PROPELLERS ----- 2400RPM  
MIXTURES ----- LEAN ABOVE 3,000 FT  
ENGINE GAUGES ----- CHECK GREEN  
FUEL PUMPS ----- OFF  
LANDING LIGHT ----- OFF

### CRUISE CHECK

THROTTLES ----- 18"-24"  
PROPELLERS ----- 2400RPM  
MIXTURES ----- LEAN ABOVE 3,000 FT  
FUEL PUMPS ----- OFF

### DESCENT CHECK

WEATHER / ALTIMETER ----- CHECKED / SET  
MIXTURES ----- ENRICH  
CARB HEAT / POWER ----- AS NEEDED

### BEFORE LANDING CHECK

SEATS / BELTS / HARNESSES ----- SET  
CABIN HEATER ----- OFF  
FUEL SELECTORS ----- MAIN  
FUEL PUMPS ----- ON  
LANDING GEAR ----- DOWN (BELOW 125)  
MIXTURES ----- FULL RICH  
PROPELLERS ----- FULL FORWARD  
FLAPS ----- SET  
LANDING LIGHT ----- ON

### AFTER LANDING CHECK

LANDING LIGHT ----- OFF  
FLAPS ----- UP  
FUEL PUMPS ----- OFF  
TRIM ----- TAKEOFF  
MIXTURE ----- GROUND LEAN

### SHUTDOWN CHECK

AVIONIC MASTERS ----- OFF  
ELECTRICAL EQUIPMENT ----- OFF  
THROTTLES ----- ~1000 RPM  
MIXTURES ----- IDLE CUTOFF  
MAGNETOS ----- OFF  
MASTER SWITCH ----- OFF

## PIPER APACHE N1231P EMERGENCY CHECKLIST

### ENGINE FIRE (GROUND)

MIXTURE CONTROLS ----- IDLE CUTOFF  
**CONTINUE CRANKING AFFECTED ENGINE**  
 FUEL SELECTORS----- OFF  
 MASTER SWITCH ----- OFF

### ENGINE FAILURE DURING GROUND ROLL

THROTTLES----- IDLE  
 BRAKES----- MAXIMUM  
 MIXTURES----- IDLE CUTOFF

### ENGINE FAILURE DURING T/O BELOW 1000FT

MIXTURES / PROPS / THROTTLES ----- FULL FORWARD  
 CLEAN-UP ----- FLAPS/GEAR UP, FUEL PUMPS ON  
 IDENTIFY----- DEAD FOOT, DEAD ENGINE  
 VERIFY----- THROTTLE OF AFFECTED ENGINE  
 PROPELLER DEAD ENGINE ----- FEATHER

**IN TRAINING, SET SIM FEATHER (11"-12")  
 DECLARE EMERGENCY, LAND LONG RUNWAY**

### ENGINE FAILURE DURING FLIGHT

MIX / PROPS / THROTTLES ----- FULL FORWARD  
 CLEAN-UP ----- FLAPS/GEAR UP, FUEL PUMPS ON  
 IDENTIFY----- DEAD FOOT, DEAD ENGINE  
 VERIFY----- WITH THROTTLE  
 FUEL SELECTORS----- FULLEST TANK  
 CROSSFEED ----- ON  
 PRIMERS----- OFF  
 CARB HEAT----- AS NEEDED  
 MAGNETOS----- ON  
 RESTART ----- ATTEMPT

**IF RESTART FAILS, THEN SECURE(FEATHER)**

### ENGINE SECURE (FEATHER)

IDENTIFY----- DEAD FOOT, DEAD ENGINE  
 VERIFY----- WITH THROTTLE  
 PROPELLER (**AFFECTED** ENGINE) ----- FEATHER  
 MIXTURE (**AFFECTED** ENGINE) ----- CUTOFF  
 FUEL PUMP (**AFFECTED** ENGINE)----- OFF  
 MAGNETOS (**AFFECTED** ENGINE)----- OFF(1 BY 1)  
 FUEL SELECTOR (**AFFECTED** ENGINE)----- OFF  
 CROSSFEED ----- OFF

## PIPER APACHE N1231P EMERGENCY CHECKLIST

### ENGINE UNFEATHERING /

#### RESTART

MAGNETOS -----ON  
 FUEL SELECTORS----- FULLEST TANK  
 CROSSFEED----- OFF  
 MIXTURE----- FULL RICH  
 PROPELLER ----- FULL FORWARD  
 THROTTLE ----- 3 PUMPS/PRIME, IDLE  
 AIRSPEED(WHILE PRIMING)----- **>120**  
 STARTER (AFFECTED ENGINE) -----ENGAGE  
 POWER-----11" UNTIL CHT ABOVE 200

### ENGINE FIRE INFLIGHT / PRECAUTIONARY SHUTDOWN

FUEL SELECTOR (AFFECTED ENGINE) ----- OFF  
 MIXTURE (AFFECTED ENGINE) ----- OFF  
 PROPELLER (AFFECTED ENGINE)----- FEATHER  
 FUEL PUMP (AFFECTED ENGINE) ----- OFF  
 MAGNETOS (AFFECTED ENGINE)-----OFF(1 BY 1)

### MANUAL GEAR EXTENSION

GEAR HANDLE ----- DOWN  
 HAND PUMP ----- PULL OUT & PUMP  
**(40-50 PUMPS FOR GEAR OPERATION)**  
**(15-20 PUMPS FOR FLAP OPERATION)**

GEAR HANDLE ----- DOWN  
 CO<sub>2</sub> GEAR EXTENSION RING----- PULL  
**\*\*WARNING DO NOT TRY TO RETRACT THE GEAR AFTER  
 CO<sub>2</sub> EMERGENCY EXTENSION IS USED\*\***

### AIRSPEEDS FOR SAFE OPERATION (MPH)

V <sub>SO</sub> ----- 56	V <sub>FE</sub> ----- 100
V <sub>S1</sub> ----- 62	V <sub>LE</sub> ----- 125
V <sub>R</sub> ----- 85	V <sub>A</sub> ----- 130
V <sub>MC</sub> ----- <b>85</b>	V <sub>NO</sub> ----- 190
<b>V<sub>YSE</sub>----- 102</b>	V <sub>NE</sub> ----- <b>217</b>
APPROACH --85-90	ENRTE CLIMB-- 120

## PIPER APACHE N1231P MANEUVERS

### STEEP TURNS

CLEARING TURNS----- EXECUTE  
THROTTLE----- 18" MP  
PROPS-----2400 RPM  
AIRSPEED----- 120 MPH

### CLEAN STALL, POWER OFF, >4,000 AGL

CLEARING TURNS----- EXECUTE  
THROTTLE----- 13" MP  
MIXTURES, PROPS----- FULL FORWARD  
**FUEL PUMPS** ----- **ON**  
AIRSPEED, THROTTLE----~90 MPH, MAINTAIN ALTITUDE  
BEGIN DESCENT----- 85-90 MPH  
THROTTLE----- IDLE  
PITCH TO STALL

**RECOVERY** ----- **REDUCE AOA**  
THROTTLE----- FULL POWER  
PITCH----- CLIMB(MIN DESCENT)  
POSITIVE RATE OF CLIMB ----- **CRUISE CONFIG**

### CONFIGURED STALL, POWER OFF, >4,000 AGL

CLEARING TURNS----- EXECUTE  
THROTTLE----- 13" MP  
MIXTURES, PROPS----- FULL FORWARD  
**FUEL PUMPS** ----- **ON**  
AIRSPEED----- <125 MPH  
GEAR ----- DOWN  
AIRSPEED----- <100 MPH  
FLAPS----- HALF  
THROTTLE----- AS NECESSARY, MAINTAIN ALTITUDE  
FLAPS----- FULL  
BEGIN DESCENT----- 85-90 MPH  
THROTTLE----- IDLE  
PITCH TO STALL

**RECOVERY** ----- **REDUCE AOA**  
THROTTLE----- FULL POWER  
PITCH----- CLIMB(MIN DESCENT)  
FLAPS TO 1/2, POSITIVE ROC, FLAPS TO ZERO, GEAR UP  
**CRUISE CONFIG**

### CLEAN STALL, POWER ON, >4,000 AGL

CLEARING TURNS----- EXECUTE  
THROTTLE----- 13" MP  
MIXTURES, PROPS----- FULL FORWARD  
**FUEL PUMPS** ----- **ON**  
AIRSPEED----- 85 MPH  
THROTTLE----- 18" MP (SIMULATE FULL POWER)  
PITCH TO STALL

**RECOVERY** ----- **REDUCE AOA**  
THROTTLE----- NO CHANGE (ALREADY SIM FULL)  
PITCH----- CLIMB(MIN DESCENT)  
POSITIVE RATE OF CLIMB ----- **CRUISE CONFIG**

## PIPER APACHE N1231P MANEUVERS

### VMC DEMO, >4,000 AGL

CLEARING TURNS----- EXECUTE  
FLAPS, GEAR ----- UP  
MIXTURES, PROPS----- FULL FORWARD

**FUEL PUMPS**-----**ON**  
RIGHT THROTTLE ----- 18" MP  
LEFT THROTTLE----- SLOWLY CLOSE  
ALTITUDE, **HEADING**----- MAINTAIN  
AIRSPEED ----- **V<sub>YSE</sub>**  
RIGHT THROTTLE ----- INCREASE TO FULL POWER  
AIRSPEED ----- DECREASE AT 1MPH/SECOND  
RECOVER AT FIRST SIGN OF----LOSS OF DIREC CONTROL  
----- STALL INDICATION (WARNING OR BUFFET)

**RECOVERY - SIMULTANEOUS** ----- **REDUCE AOA**  
----- **REDUCE POWER**  
RECOVERY----- FULL POWER RIGHT ENGINE  
PITCH/AIRSPEED ----- **V<sub>YSE</sub>**  
THROTTLES----- BOTH 18" MP

### CRUISE CHECKLIST/CONFIG

### DRAG DEMO, SIM FEATHER, >4,000 AGL

CLEARING TURNS----- EXECUTE  
MIXTURES, PROPS----- FULL FORWARD  
FUEL PUMPS----- ON  
LEFT THROTTLE----- IDLE  
AIRSPEED ----- **V<sub>YSE</sub>**  
VSI =----- A) \_\_\_\_\_  
EXTEND GEAR, **V<sub>YSE</sub>**. VSI = ----- B) \_\_\_\_\_  
EXTEND FLAPS, **V<sub>YSE</sub>**. VSI = ----- C) \_\_\_\_\_  
LEFT THROTTLE----- 12" MP(SIM FEATHER)  
VSI =----- D) \_\_\_\_\_  
FLAPS UP, **V<sub>YSE</sub>**. VSI = ----- E) \_\_\_\_\_  
GEAR UP, **V<sub>YSE</sub>**. VSI = ----- F) \_\_\_\_\_  
THROTTLES----- BOTH 18" MP

Windmill

Sim Feath

### CRUISE CHECKLIST/CONFIG

### DRAG DEMO, ENGINE FEATHERED, >4,000 AGL

CLEARING TURNS----- EXECUTE  
FUEL PUMPS----- ON  
LEFT MIXTURE----- CUTOFF  
POWER UP, CLEAN UP, ID, VERIFY  
AIRSPEED ----- **V<sub>YSE</sub>**  
VSI =----- U) \_\_\_\_\_  
EXTEND GEAR, **V<sub>YSE</sub>**. VSI = ----- V) \_\_\_\_\_  
EXTEND FLAPS, **V<sub>YSE</sub>**. VSI = ----- W) \_\_\_\_\_  
L. ENG, **FEATHER**, then **V<sub>YSE</sub>**. VSI = -X) \_\_\_\_\_  
FLAPS UP, **HAND PUMP**, **V<sub>YSE</sub>**. VSI = Y) \_\_\_\_\_  
GEAR UP, **HAND PUMP**, **V<sub>YSE</sub>**. VSI = Z) \_\_\_\_\_  
LEFT ENGINE ----- RESTART PROCEDURE

Windmill  
Feathered

### CRUISE CHECKLIST/CONFIG

## PREFLIGHT

### Cabin

W&B (Dispatch book) ----- Calculate/Check  
AROW/AVIATE ----- Checked  
Master Switch ----- On  
Fuel Quantity ----- Check  
Light switches ----- On  
Pitot Heat ----- On  
Lights (outside) ----- Verify  
Pitot Tube ----- Check for Warmth  
Switches ----- Off  
Flaps ----- Deploy

### Cross Feed Fuel System (place bucket under drain)

Cross Feed **Valve** ----- On  
Cross Feed **Drain** ----- Open  
Right Elec FP ----- On (3s)  
Cross Feed **Valve** ----- Off  
Right Elec FP ----- Off  
----- Right side of Cross Feed is now purged  
Cross Feed **Drain** ----- Confirm still Open  
Left Elec FP ----- On (3s), then off  
Cross Feed **Drain** ----- Off  
Cross Feed Drain and Valve ----- Confirm both Off  
Master ----- Off

### Fuel

Tip Tanks ----- Check if needed (level, drain)  
Aux Tanks ----- Check level (wet)  
Main Tanks ----- Check  
----- Right Main Needs 20+ Gallons (for SE work)  
Sump (under wing, inside engine) ----- Drain  
----- **\*\*18-20s drain required if switching Main/Aux\*\***

### Oil

Engine Oil Level (check both engines) ----- 6-8 qts

### Right Wing

Flap ----- Check  
Aileron ----- Check  
Wing Surface and Leading Edge ----- Check  
Wingtip ----- Check  
Engine/Cowling ----- Check  
Filter ----- Check  
Landing Gear ----- Check  
Landing Gear switch ----- Check

### Nose

Baggage Compartment ----- Check screws  
Battery Compartment ----- Check screws  
Surface ----- Check

### Left Wing

Flap ----- Check  
Aileron ----- Check  
Wing Surface and Leading Edge ----- Check  
Wingtip ----- Check  
Engine/Cowling ----- Check  
Filter ----- Check  
Landing Gear ----- Check  
Landing Gear switch ----- Check

### Empennage

HS, VS Surfaces ----- Check  
Rudder ----- Check  
Rudder Attach bolts ----- Check  
Elevator ----- Check  
Elevator Attach Bolts ----- Check

### Fuselage

Antennae ----- Check  
Baggage Door ----- Check

### **\*\*Optional(Aux Tank Drain)\*\***

Assuming Fuel Selector is on Main:

Fuel Selector ----- Aux  
Sump (under wing, inside engine) ----- Drain 18s or more  
Fuel Selector ----- Main  
----- All Takeoff, Approach, Landing on Mains

### Briefing Example

**Takeoff:** This will be a short-field takeoff. We will use all available runway. We are departing runway 20, it is 2400 feet long. Taxi out, line up with the centerline, apply brakes and 2,000 RPM. Listen for abnormalities, check engine pressures and temperatures. If everything is acceptable, we will release the brakes, stay on centerline, and apply full power. Rotation speed is 85MPH.

If we have any abnormalities prior to 85MPH, we will chop the throttles and apply brakes. If we have reached 85MPH we will rotate and climb out.

Any abnormalities after rotation, we will Fly The Plane (Ball/Bank, Rud/Ail/Pitch), pitch for **V<sub>YSE</sub>**, Power Up, Clean Up, Identify, Verify and if below 1,000 AGL, feather the bad engine if producing no thrust. We will then declare an emergency and land on a long runway. Above 1,000 we may attempt a restart/secure then declare/land.

V<sub>R</sub> is 85

V<sub>MC</sub> is 85

V<sub>YSE</sub> is 102

V<sub>EnrouteClimb</sub> is 120

# PIPER APACHE N1231P TRAFFIC PATTERN

## CROSSWIND/45Entry

SPEED ----- ~120MPH  
 THROTTLE ----- 17-18" MP  
 PROPS ----- 2400  
 MIXTURE ----- RICH  
**C.HEAT ----- As Needed**  
**GEAR ----- DOWN(125)**  
**GUMPS ----- CHECK**  
 FLAPS ----- UP  
**FUEL PUMPS ----- ON**

## DOWNWIND

SPEED ----- ~120MPH  
 THROTTLE ----- 17-18" MP  
 PROPS ----- 2400  
 MIXTURE ----- RICH  
 C.HEAT ----- As Needed  
 GEAR ----- DOWN  
 GUMPS ----- CHECK  
 FLAPS ----- UP



## ABEAM

**SPEED ----- ~110MPH**  
**THROTTLE ----- 13" MP**  
**PROPS ----- FWD**  
 MIXTURE ----- RICH  
 C.HEAT ----- As Needed  
 GEAR ----- DOWN  
**GUMPS ----- CHECK**  
**FLAPS ----- 1/2\*\*(100)**

CHOP  
 THROTTLES

## AFTER LANDING

LIGHTS ----- OFF  
 FLAPS ----- UP  
 F. PUMPS ----- OFF  
 TRIM ----- SET  
 MIXTURE ----- LEAN

## FINAL

**SPEED (NUMBERS) 80MPH**  
**-----90(HALF), 102(OEI)**  
 THROTTLE ----- 13" MP  
 PROPS ----- FWD  
 MIXTURE ----- RICH  
 C.HEAT ----- As Needed  
 GEAR ----- DOWN  
**GUMPS ----- CHECK**  
**FLAPS ----- FULL\*\***

## 45°

**SPEED ----- ~95MPH**  
 THROTTLE ----- 13" MP  
 PROPS ----- FWD  
 MIXTURE ----- RICH  
 C.HEAT ----- As Needed  
 GEAR ----- DOWN  
**GUMPS ----- CHECK**  
 FLAPS ----- 1/2\*\*

## \*\*FLAPS

SHORT FIELD ----- FULL  
 NORMAL ----- HALF  
 SINGLE ENGINE -- NONE