

SAMPLE CHECKLISTS

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Mock Checkrides

Avionics Proficiency

Home Simulator Setup



1981 Piper Saratoga PA-32-301 PREFLIGHT INSPECTION

► OUTSIDE

1. Fuel Collection Receptacle PLACE UNDER FUEL STRAINER DRAIN
2. Tie-downs and chocks (x3) REMOVE ALL

► COCKPIT

3. Documents ON BOARD - ARROW
4. Maintenance Records **NO OPEN SQUAWKS**, LOGS updated
5. Windows CLEAN
6. Seat belts TEST inertial reels, FASTEN on empty seats
7. Parking Brake SET
8. Flight Controls Full Travel CHECK stickiness, unusual noises
9. Trim NEUTRAL
10. Pitot System DRAIN
11. All Switches, Avionics OFF
12. Mixture IDLE CUT-OFF
13. Magneto Switch OFF, KEY REMOVED
14. Master Switch ON
15. Fuel Gauges CHECK QUANTITIES
16. Annunciator Panel TEST
17. Turn Coordinator Gyro CHECK AUDIBLE SPIN UP
18. Pitot Heat Switch ON
19. Interior lighting ON, CHECK
20. Exterior lighting switches ON, CHECK
21. Electrical Fuel Pump TEST
22. Fuel Strainer Drain DRAIN "OFF", "LEFT", "RIGHT", 6 seconds each
23. Pitot CHECK WARM
24. Stall Warning Horns (x2) FLAPS UP, TEST inboard; 25°, TEST outboard
25. Landing and Nav Lights CHECK
26. All Lighting Switches OFF
27. Pitot heat switch OFF
28. Master switch OFF
29. Flaps CHECK, EXTEND FULLY
30. Fire Extinguisher CHECK GREEN ARC
31. Fuel Collection Receptacle CHECK water, sediment, fuel type; STOW

► RIGHT WING

32. Surface CLEAR of ice, frost and snow
33. Flap and flap Hinges CHECK
34. Aileron and Hinges and Rods CHECK
35. Wing tip, Lights, Static Wicks CHECK NO DAMAGE
36. Fuel Tank and External Gauge INSPECT, CHECK QUANTITY, SECURE CAP
37. Fuel Tank Vent CHECK CLEAR of obstructions
38. Fuel Tank Sump DRAIN, CHECK water, sediment, fuel type
39. Main Gear Strut CHECK inflation (4.5 ± 0.5 in.)
40. Tire CHECK cuts, wear, inflation 50 PSI
41. Brake block and disc CHECK
42. Fresh air inlet CHECK CLEAR

► NOSE

43. General condition CHECK; CHECK NO LEAKS
44. Cowling CHECK SECURE
45. Windshield CLEAN
46. Propeller and Spinner CHECK no nicks, cracks, defects, NO TWIST
47. Air intake CHECK CLEAR
48. Nose Gear Strut CHECK inflation 3.25 ± .25 in.
49. Nose Wheel Tire CHECK cuts, wear, inflation 42 PSI
50. Alternator Belt CHECK
51. Engine Oil CHECK quantity 9 QUARTS
52. Dipstick, Oil filler cap CHECK properly seated, CHECK SECURE
53. Forward baggage door CLOSE and SECURE
54. Landing light CHECK

► LEFT WING

55. Surface CLEAR of ice, frost and snow
56. Fresh air inlet CHECK CLEAR
57. Main gear strut CHECK inflation 4.5 ± 0.5 in.
58. Tire CHECK cuts, wear, inflation 50 PSI
59. Brake block and disc CHECK
60. Fuel tank and External Gauge INSPECT, CHECK QUANTITY, SECURE CAP
61. Fuel tank vent CHECK CLEAR
62. Fuel tank sump DRAIN, CHECK water, sediment, fuel type
63. Tie-downs and chocks REMOVE
64. Pitot / static head REMOVE cover, CHECK holes clear
65. Wing tip and lights CHECK
66. Aileron, Hinges, Rods CHECK
67. Flap, Hinges CHECK
68. Passenger Door **UNLOCK KEY**

► EMPENNAGE

69. Antennas CHECK FIRM
70. General condition CHECK
71. Aft Baggage CHECK baggage secured, LOCKED
72. Tail light(s) CHECK CLEAN, no damage
73. Elevator, Rudder INSPECT including tabs, hinges, rods, **welding**
74. Nose Baggage Compartment CHECK baggage, LOCK
- 75.

1981 Piper Saratoga PA-32-301 NORMAL PROCEDURES

► ENGINE START

1. **Tow bar** **STOWED and SECURE**
2. Parking Brakes SET
3. Seats, Belts, Harnesses LOCKED UP, SECURE, FASTENED
4. Circuit Breakers ALL IN
5. Avionics and Radio ALL OFF
6. Autopilot OFF
7. Alternate Static Source OFF
8. Fuel Selector Valve CHECK operation; MORE FULL TANK
9. Elevator Trim NEUTRAL
10. Rudder Trim NEUTRAL
11. Flaps UP
12. Altimeter FIELD ELEVATION or ATC
13. Master Switch ON
14. Anti-Collision Lights ON
15. Lights AS REQUIRED
16. Throttle FULL FORWARD
17. Propeller HIGH RPM (PUSH ALL FWD)
18. Mixture FULL RICH
19. Electric Fuel Pump ON, WAIT positive fuel flow, OFF
20. Mixture IDLE CUT-OFF
21. Throttle OPEN ¼ inch
22. Prop Area CLEAR
23. **Mags & Mixture** **START while slowly ADVANCING to FULL RICH**
24. Throttle 1,000 RPMs
25. Oil Pressure CHECK RISING, then GREEN in 30 sec
26. Engine-on Time NOTE
27. Annunciator Panel PRESS TO TEST
28. Warm up Power 1000 ... 1,200 RPM
29. Avionics POWER ON
30. Graphic Engine Monitor CHECK all cylinders firing, no large temp diff
31. Ammeter CHECK
32. Heat, Vents, Defrost AS REQUIRED
33. Avionics & Radios ON, BOOTSTRAP, SET
34. Tank Timer SET ACTIVE, 30 minute
35. Directional Gyro SET to COMPASS
36. Transponder VFR; AUTO
37. Parking Brakes RELEASE
38. Brakes and Steering TEST
39. Wind direction IDENTIFIED
40. Checklist completed **ANNOUNCE**

ENGINE START WHEN HOT ENGINE START WHEN FLOODED

Do not prime. Enrich Mixture more slowly.
Full Throttle. Do not prime. Enrich mixture slowly.

► IFR INSTRUMENT CHECK

41. Airspeed Indicator ZERO
42. Attitude Indicator 0° PITCH, LESS THAN 5° BANK
43. Altimeter WITHIN 75'
44. Turn Coordinator BALL OUT, WING IN
45. Heading Indicator <5° PRECESSION / 15 MINUTES
46. VSI NOTE 0 FPM REFERENCE
47. Magnetic Compass SWING FREELY, HAS FLUID
48. Com 1/Com 2 OPERATIONAL
49. Clock OPERATIONAL
50. 30 day VOR check CURRENT
51. VOR CDI CHECK OBS
52. Marker Beacons TEST

► RUN-UP and TAKE-OFF

53. Parking Brakes SET
54. Fuel Selector Valve FULLEST TANK
55. Engine Instruments CHECK
56. Propeller control FULL INCREASE
57. Area behind prop blast CLEAR
58. Throttle 2,000 RPM
59. Magnetos DROP < 1750 RPM; DIFF < 50 RPM
60. Instrument Vacuum CHECK 4.8 ... 5.2 inHg
61. Oil Pressure, Temperature CHECK GREEN
62. Annunciator Panel PRESS TO TEST
63. Propeller Control EXERCISE x3+, then FULL INCREASE
64. Alternate Air CHECK, then CLOSE
65. Electric Fuel Pump OFF
66. Fuel Flow CHECK
67. Throttle at idle CHECK IDLE STABLE
68. Warm-up Throttle 1,000 ... 1,200 RPM
69. Circuit Breakers ALL IN
70. Trim Tab SET
71. Flaps CHECK OPERATION; SET
72. Controls CHECK DIRECTION, FREEDOM
73. Heading Indicator SET

1981 Piper Saratoga PA-32-301
NORMAL PROCEDURES

► BEFORE TAKE-OFF

1. Fuel Selector Valve

2. Electric Fuel Pump

3. Alternate Air

4. Flight Instruments

5. Avionics

6. Mixture

7. Propeller Control

8. Pitot Heat

9. Windows and Doors

10. Belts and Harnesses

11. Flaps
- FULLEST TANK

ON

CLOSE

CHECK

CHECK

FULL RICH or as required by elevation

HIGH RPM

AS REQUIRED

CLOSE, LATCH

FASTEN, ADJUST

SET

AT LL10: 15° when light, 25° when heavy

BRIEF — Separate checklist

BRIEF — Separate checklist/

CHECK

ANNOUNCE COMPLETED

RELEASE

Manifold press, fuel flow, RPMs

ROTATE AT 74 ... 80 KIAS depending on weight

► SHORT FIELD TAKE-OFF, OBSTACLE CLEARANCE

1. Flaps

2. Rotate Airspeed

3. At lift-off

4. After the obstacle

5. Flaps
- DOWN 25°

58 ... 66 KIAS depending on weight

61 ... 71 KIAS depending on weight

90 KIAS (best rate of climb speed)

RETRACT SLOWLY

► SHORT FIELD TAKE-OFF, NO OBSTACLE

1. Flaps

2. Rotate Airspeed

3. At lift-off

4. Flaps
- DOWN 25°

58 ... 66 KIAS depending on weight

90 KIAS (best rate of climb speed)

RETRACT SLOWLY

► SOFT FIELD TAKE-OFF, OBSTACLE CLEARANCE

1. Flaps

2. Nose-wheel

3. Lift-off

4. While in ground effect

5. After the obstacle

6. Flaps
- DOWN 25°

PULL UP AS SOON AS POSSIBLE

AT LOWEST POSSIBLE AIRSPEED

ACCELERATE 61 .. 71 KIAS

90 KIAS (best rate of climb speed)

RETRACT SLOWLY

► SOFT FIELD TAKE-OFF, NO OBSTACLE

1. Flaps

2. Nose-wheel

3. Lift-off

4. While in ground effect

5. Flaps
- DOWN 25°

PULL UP AS SOON AS POSSIBLE

AT LOWEST POSSIBLE AIRSPEED

90 KIAS (best rate of climb speed)

RETRACT SLOWLY

►SHORT TAKE-OFF AIRSPEEDS $V_R / V_x / V_y$ BEST GLIDE

58 / 61 / 90 light 80

66 / 71 / 90 heavy

► CLIMB - AFTER 5 MINUTES FULL POWER

25 Squared, 16 Gph, 100 kt

► DESCEND

21 in Hg NO-FLAP APPROACH: 95

► IAF

110 kt LANDING: HEELS ON THE FLOOR

► FAF

Flaps 10°, 90 kt, GUMPS

► PATTERN AIRSPEEDS

Downwind / Base / Final

100 / 90 / 80

1981 Piper Saratoga PA-32-301
NORMAL PROCEDURES

► CLIMB

1. Continuous full power

2. Electric Fuel Pump

3. Throttle and Prop Control

4. Mixture
- After 5 minutes, "25 SQUARED", 100 KIAS

MAINTAIN 5 MINUTES or till cruise altitude

ON

SET 2500 RPMs, 25 in Hg

ADJUST to 16.0 Gph fuel flow

► CRUISE

5. Electric Fuel Pump

6. Normal Max Power

7. Heading Indicator

8. Throttle, Prop, Mixture
- OFF

75%

SET TO COMPASS

ADJUST PER TABLES

SL	75%	25.7 inHg	2,500 RPM	134 KIAS	16.0 Gph
	65%	24.0	2,400	126	13.8
3,000 ft	75%	24.7	2,500 RPM	141 KIAS	16.0 Gph
	65%	23.0	2,400	131	13.8
6,000 ft	75%	23.9	2,500 RPM	145 KIAS	16.0 Gph
	65%	22.0	2,400	136	13.8
9,000 ft	65%	20.6	2,500 RPM		13.8 Gph
	55%	19.1	2,400		11.9

► INITIAL, MID APPROACH LEG

110 KIAS, 21 inHg

► AT FAF

FLAPS DOWN 10°, 90 KIAS

► BEFORE LANDING

1. Fuel selector

2. Seat backs, Belts, Harnesses

3. Electric fuel pump

4. Landing Light

5. Mixture

6. Propeller

7. Flaps

8. Airspeed
- SET PROPER TANK

ERECT and LOCKED, FASTENED, FASTENED

ON

ON

RICH

HIGH RPM

SET when airspeed in WHITE ARC

80 KIAS

► NORMAL LANDING

TRIM for 95 KIAS

► SHORT FIELD LANDING

FLAPS DOWN 40°

► GO AROUND

9. Propeller control

10. Throttle

11. Attitude

12. Flaps

13. Trim
- FULL INCREASE

FULL FORWARD

CLIMB at 80 KIAS

RETRACT SLOWLY

AS REQUIRED

► AFTER LANDING

1. Flaps

2. Electric Fuel Pump

3. Strobes, Landing light

4. Pitot Heat
- UP

OFF

OFF

OFF

► ENGINE SHUTDOWN

5. Parking Brake

6. Flaps

7. Electric Fuel Pump

8. Avionics, Radios, Electrical

9. Propeller Control

10. Throttle

11. Mixture

12. Magnetos

13. Master Switch
- SET

FULL UP

OFF

ALL OFF

FULL INCREASE

FULL AFT

IDLE CUT-OFF

OFF

OFF

► SECURING

1. Tach time

2. Refuel

3. Control wheel

4. Tie Downs / Chocks

5. Fuel Selector

6. Pitot Cover

7. Side air inlet Plug

8. Parking Brake

9. Baggage Door

10. Passenger Door

11. Windshield

12. Covers
- RECORD on LOG

35 GAL EACH TANK

SECURE with BELTS

SECURE

LEFT TANK

INSTALLED

INSTALLED

RELEASED

LOCKED

LOCKED

CLEAN

INSTALLED

1981 Piper Saratoga PA-32-301

EMERGENCY PROCEDURES

► POWER LOSS IMMEDIATELY AFTER TAKE-OFF

Maintain aircraft control	
Maintain Best Glide	80 kts
Fuel Selector	OFF
Mixture	IDLE CUTOFF
Flaps	DOWN
Master & mags	OFF

► POWER LOSS IN FLIGHT

Maintain Best Glide	80 kts
Note wind direction & velocity	
Pick landing site	
Mixture	RICH
Fuel Selector	CHECK / SWITCH
Aux fuel pump	ON
Alternate air	ON
Magnetos	CHECK
Master	ON

► IF NO RESTART - IF TIME PERMITS

Maintain Best Glide	80 kts
Prop	LOW RPM
Squawk	7700
Declare Emergency	TWR, APP, UNICOM, 121.5
Fuel Selector	OFF
Mixture	IDLE CUTOFF
Seatbelts	ON
Flaps	AS NEEDED
Master & mags	OFF
Doors	UNLATCH
Protect Body	

1981 Piper Saratoga PA-32-301

EMERGENCY PROCEDURES

► ELECTRICAL FIRE IN FLIGHT

All electrical devices	OFF
Master	OFF
Vents, cabin heat, air	CLOSED
If fire goes out	MASTER ON IF CRITICAL
Vents, cabin heat, air	OPEN TO AIR OUT CABIN
Circuit breakers	RESET ONLY IF CRITICAL
Land ASAP	

► ENGINE FIRE IN FLIGHT

Throttle	CLOSED
Mixture	IDLE CUTOFF
Fuel selector	OFF
Master	OFF
Cabin heat/vent (not overheads)	CLOSED
Airspeed	INCREASE TO EXTINGUISH
Emergency descent speed	VNO 154 or VNE 197 kts
Land ASAP	

► ENGINE FIRE DURING START

Starter	CONTINUE CRANKING
If engine starts	RUN 1 MIN, SHUTDOWN & INSPECT
If no start	MIXTURE IDLE CUT-OFF
Throttle	FULL OPEN
Starter	CONTINUE CRANKING 10 SEC
Master & mags	OFF
Evacuate with fire extinguisher	

► ICING

Pitot heat	ON
Cabin heat & defrost	MAXIMUM
Turn	CONSIDER 180° TURN
Altitude	ATTAIN HIGHER OR LOWER
Power	INCREASE RPM & MANIFOLD
Flaps	NOT RECOMMENDED TO LAND
Landing Airspeed	FASTER AS NEEDED

1981 Piper Saratoga PA-32-301

PERFORMANCE

PRESS. ALT. FEET	STD. ALT. TEMP. °C	55% POWER					65% POWER					75% POWER					
		RPM	2200	2300	2400	2500	2600	2200	2300	2400	2500	2600	2200	2300	2400	2500	2600
		MANIFOLD PRESSURE — INCHES MERCURY															
S.L.	15	22.9	22.1	21.6	21.1	20.7	25.8	24.8	24.0	23.5	23.1	28.2	27.1	26.4	25.7	25.1	
1000	13	22.5	21.8	21.3	20.7	20.4	25.3	24.4	23.7	23.1	22.7	27.6	20.6	25.9	25.3	24.8	
2000	11	22.1	21.4	21.0	20.5	20.1	24.8	24.0	23.3	22.8	22.4	27.0	26.2	25.5	25.0	24.5	
3000	9	21.8	21.1	20.7	20.2	19.8	24.3	23.6	23.0	22.4	22.1	26.5	25.8	25.2	24.7	24.2	
4000	7	21.5	20.8	20.4	20.0	19.5	23.8	23.3	22.6	22.1	21.8	—	25.5	24.8	24.4	24.0	
5000	5	21.2	20.5	20.1	19.7	19.3	23.4	22.9	22.3	21.8	21.5	—	—	24.6	24.1	23.7	
6000	3	20.8	20.3	19.9	19.4	19.0	23.0	22.5	22.0	21.5	21.2	—	—	—	23.9	23.5	
7000	1	20.5	20.0	19.6	19.1	18.8	22.6	22.2	21.7	21.2	20.9	—	—	—	—	23.3	
8000	-1	20.2	19.7	19.3	18.9	18.5	22.2	21.8	21.4	20.9	20.6						
9000	-3	19.9	19.5	19.1	18.6	18.3	—	—	21.1	20.6	20.3						
10000	-5	19.6	19.2	18.8	18.4	18.0	—	—	—	20.3	20.0						
11000	-7	19.3	19.0	18.6	18.2	17.8	—	—	—	—	19.7						
12000	-9	—	—	—	—	—											
13000	-11	—	—	—	—	—											
14000	-13	—	—	—	—	—											

Non-standard temperature corrections:

ADD 0.15 in Hg MP for each 5°C above ISA

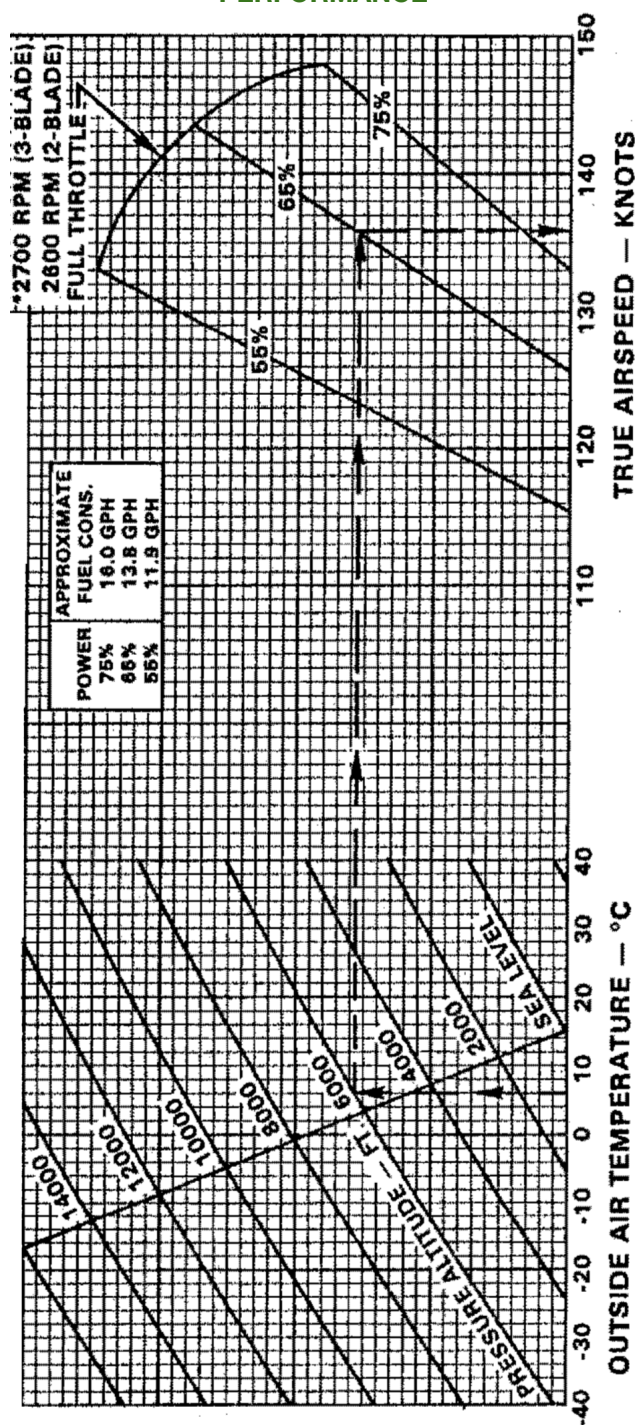
SUBTRACT 0.15 in Hg MP for each 5°C below ISA

SPECIFICATIONS

Engine	IO 540 K1G5, 300 HP (max), 294 HP (max cont.)
Fuel type	100LL (blue) or 100 (green)
Fuel capacity	107 Gal capacity, 102 Gal usable (51+51)
Oil capacity	12 Quarts, min 2.75
Max RPMs continuous	2,600
Weight	2,164 lbs empty 3,600 lbs MTOW Useful load 1,434 lbs
Tire Pressure	42 PSI Nose 50 PSI Main
Electrical	12-14V 60 A

1981 Piper Saratoga PA-32-301

PERFORMANCE



If wheel fairings not installed, subtract 8 kts.

When leaned 50F rich of peak EGT: cruise speed + 2 kts, fuel flow +16%.

V-SPEEDS (KIAS)

Final 79, Go around 80
V_R = 74...80, V_X = 76, V_Y = 90
 V_A = 134 (mgtow) ... **104**
Best glide: 80

V_{SO} = 58V_{SI} = 62V_{FE} = 112V_{NO} = 154V_{NE} = 197

Glide Ratio 9:1 = 1.48 NM / 1,000ft