

Piper Saratoga Turbo SP (PA-32R-301T) N771LM

BEFORE ENGINE START

- Preflight inspection COMPLETE
- Seats/Belts/Shoulder Harness ADJUST/LOCK
- All Lighting Switches OFF
- Pitot HEAT Switch OFF
- Master Switch OFF
- Parking Brake SET
- Fuel Indicator FULLEST TANK
- Avionics/Radios OFF
- Propeller FULL INCREASE
- Landing Gear Switch CHECK DOWN

STARTING ENGINE (Cold)

- Ignition Key IN
- Throttle 1/2" OPEN
- Battery Switch Only ON
- Electric Pump ON
- Mixture PRIME 3sec THEN IDLE CUTOFF
- Start Engine MIXTURE 1/3 RICH AFTER FIRING
- Throttle ADJUST 1,000 RPM
- Oil Pressure CHECK
- Avionics ON
- Alternator Switch ON

- If engine is hot: Do not PRIME before start
- If engine is flooded: Throttle FULL OPEN; do not PRIME

BEFORE TAKEOFF/RUNUP

- Brakes SET
- Cabin Doors/Windows CLOSED / LOCKED
- Flight Controls FREE and CORRECT
- Elevator and Rudder Trim TAKEOFF
- Flight Instruments SET (check heading indicator)
- Throttle 2,000 RPM
 - Mixture LEAN
 - Magnetos CHECK (175 MAX; 50 diff)
 - Propeller CYCLE (3x); then FULL IN
 - Alternate Air OPEN; CHECK RPM; CLOSE
 - Fuel Pump OFF, CHECK, ON
 - Engine and Ammeter CHECK
 - Oil Pres/Temp GREEN
- Radios SET
- Autopilot CHECK/PRESET
- NAV lights, and/or Strobe lights ON as required
- Fuel Tank Selector SWITCH TO FULLEST TANK
(Use Fuel Pump)
- Review WINDS and ENGINE LOSS PROCEDURES

TAKEOFF - NORMAL

- Fuel Pump ON
- Mixture FULL RICH
- Wing Flaps 10° (1 notch)
- Throttle 2600 RPM; MP 30-34" HG (36 MAX)
- Elevator Control ROTATE at 70-75 KIAS
- Initial Climb Speed 92 KIAS (Vy)

TAKEOFF CLIMB

- Wing Flaps RETRACT slowly
- Landing Gear UP BEYOND USEABLE RWY
- Propeller 2,500 RPM
- Throttle MP 30"
- Mixture LEAN TO 24-26GPH (EGT < 1,500°F)
- Fuel Pump OFF @ SAFE ALTITUDE

TAKEOFF - OBSTACLE - Same as above except:

- Wing Flaps 25° (2 notches)
- Elevator Control ROTATE at 62 KIAS
- Short Field Climb Speed 70 KIAS (Vx) until
over obstacle
- Climb Speed 90 KIAS (Vy) . . . 100 KIAS
- Wing Flaps RETRACT slowly
- Landing Gear UP BEYOND USEABLE RWY
- Min. Runway Req. 3,500 feet (to clear
50ft obs.)

ENROUTE CLIMB

- Airspeed 105-115 KIAS
- Power 33-35" and 2500 RPM
- Mixture LEAN for 24-26GPH
(EGT < 1,500°F)
- Landing Light OFF
- Fuel Pump ON ABOVE 14,000
- Monitor Max Temps 1,600°F EGT; 400°F CHT

CRUISE

- Fuel Pump OFF
- Power SET
- Mixture LEAN
. ~18GPH 65%; ~19.5GPH 75%)
- Fuel Tanks Alternate every 30min
(USE FUEL PUMP)
- Engine Temps CHT < 380°F, EGT < 1,550°F, Oil < 220°F
- Pitot Heat ON BELOW 32°F OAT

EXAMPLE CRUISE SETTINGS

Alt.	MP	RPM	% Pwr	Speed	Fuel Rate
12,000	24.0	2,400	65%	155 kts	18.0
14,000	23.9	2,400	65%	158 kts	18.0
16,000	23.8	2,400	65%	162 kts	18.0

DESCENT

- Mixture ABOVE 1,350°F EGT
- Throttle ABOVE 15" MP
- Propeller CRUISE SETTING
- Cooling Rate < 50°F per min;
control with throttle

BEFORE LANDING (5-10nm From Airport)

- Seats, Belts ADJUST and LOCK
- Fuel Pump ON
- Fuel Selector Valve FULLEST TANK
- Mixture FULL RICH
- Propeller FULL FORWARD
- Landing Light ON
- Landing Gear DOWN BELOW 132 KIAS;
..... VERIFY GREEN
- GUMPS Check "Gas, Undercarriage, Mixture,
Prop, Seatbelts"

Suggested Min. Runway Length 3,500 feet

Stall Speed 62 KIAS (flaps UP)
..... 58 KIAS (flaps FULL)

LANDING - NORMAL

- Fuel Pump ON
- Landing Gear VERIFY DOWN
- Airspeed (Downwind) 100 KIAS (flaps UP)
- Wing Flaps EXTEND below 110 KIAS
- Airspeed (Base/Approach) 90 KIAS (flaps DOWN)
- Trim ADJUST
- GUMPS CHECK
- Airspeed (Final/Threshold) 80 KIAS

BALKED LANDING - TOUCH-AND-GO/GO-AROUND

- Power 2600 RPM; 33-36" MP MAX
- Wing Flaps RETRACT to 25° (2nd notch)
- Climb Speed 95 KIAS
- Landing Gear UP
- Wing Flaps RETRACT slowly

AFTER LANDING

- Wing Flaps UP
- Fuel Pump OFF
- Strobe Light OFF (after exiting runway)
- Landing Light OFF (after exiting runway)

SHUTDOWN

- Mixture ENRICH TO BRING EGT BELOW 1,200°F
- Avionics OFF
- Alternator Switch Only OFF
- Mixture CUTOFF

EMERGENCY PROCEDURES

- Glide speed 80 KIAS
..... 1.3mi per 1,000ft
- Maneuvering speed (V_A) 134 KIAS (3,600lb)
..... 105 KIAS (2,230lb)
- Guard Frequency 121.50 MHz
- Lost COMMS squawk 7600
- Emergency squawk 7700

ENGINE FAILURE IN FLIGHT

- Airspeed 80 KIAS (flaps UP)
- Fuel Pump ON
- Fuel Selector Valve FULLEST TANK
- Mixture FULL RICH
- Alternate Air OPEN
- Ignition Switch BOTH (or START)

EMERGENCY LANDING GEAR EXTENSION

- Master Switch CHECK ON
- Circuit Breakers CHECK ALL IN
- Airspeed BELOW 92 KIAS
- Landing Gear Lever DOWN
- Landing Gear Pump Circuit PULL OUT
- Emergency Extend Knob PULL
- Maneuver FISH TAIL AIRPLANE
- Continue Fish Tail 10 sec

LIMITATIONS (3-BLADE PROP)

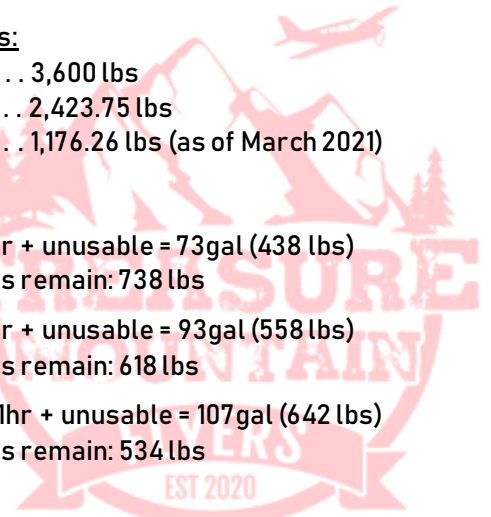
- RPM Max 2,700
- Manifold Pressure Max 36.0"
- Oil Quantity 6-12 quarts
- Oil Temperature Max 245°F
- Oil Pressure Max 100 PSI
- Fuel Flow Max 41 gal/hr
- EGT Max 1,650°F
- CHT Max 500°F
- Extend Flaps Max Speed 110 KIAS
- Extend Gear Max Speed 132 KIAS
- Retract Gear Max Speed 110 KIAS

Quick Weights:

- MTO 3,600 lbs
- Empty 2,423.75 lbs
- Useful 1,176.26 lbs (as of March 2021)

Estimates:

- 2hr flight + 1hr + unusable = 73gal (438 lbs)
- Pax/Bags remain: 738 lbs
- 3hr flight + 1hr + unusable = 93gal (558 lbs)
- Pax/Bags remain: 618 lbs
- 3.6hr flight + 1hr + unusable = 107gal (642 lbs)
- Pax/Bags remain: 534 lbs



Pre-Flight Checklist

COCKPIT

Control Locks RELEASE RESTRAINTS
 Parking Brake SET
 All Switches OFF
 Avionics OFF
 Mixture IDLE CUTOFF
 Master ON
 Fuel Gauges CHECK QUANTITY
 Annunciator panel PRESSTO TEST
 Gear Switch Down 3 GREEN
 Circuit Breakers IN
 Interior/Exterior Lights ON AND CHECK
 Master Switch OFF
 Primary Flight Controls PROPER OPERATION
 Flaps PROPER OPERATION
 Trim NEUTRAL
 Tachometer/Hobbs Meter RECORD
 Required Documents ON BOARD
 Flashlight/Headset Batteries ON BOARD
 Fuel Strainer DRAIN 5 SECONDS EACH TANK
 Fuel Selector FULLEST TANK

RIGHT WING

Surface Condition CLEAR OF ICE, FROST, SNOW
 Flap and Hinges CHECK
 Aileron and Hinges CHECK
 Wing Tip and Lights (Green) CHECK
 Fuel Tank CHECK/SECURE CAP
 Fuel Tank Sump DRAIN, CHECK
 Fuel Quantity Gauge CHECK
 Tie Down and Chock REMOVE
 Main Gear Strut 4.5" INFLATION
 Main Tire Pressure 38 PSI
 Brake Block and Disc CHECK
 Fresh Air Inlet CLEAR

NOSE SECTION

General Condition CHECK
 Cowling SECURE
 Windshield CLEAN
 Propeller and Spinner CHECK
 Air Inlets CLEAR
 Chock REMOVE
 Nose Gear Strut 3.25" INFLATION
 Nose Wheel Tire CHECK
 Engine Baffle Seals CHECK
 Oil CHECK (~8-9QTS)
 Dipstick PROPERLY SEATED
 Oil Filler Cap SECURE
 Nose Baggage Door CLOSED & SECURED
 Landing Light CHECK

LEFT WING

Surface Condition CLEAR OF ICE, FROST, SNOW
 Fresh Air Inlet CLEAR
 Brake Block and Disc CHECK
 Main Tire Pressure 38 PSI
 Main Gear Strut 4.5" INFLATION
 Tie Down and Chock REMOVE
 Fuel Quantity Gauge CHECK
 Fuel Tank Sump DRAIN, CHECK
 Fuel Tank CHECK/SECURE CAP
 Wing Tip and Lights (Red) CHECK
 Aileron and Hinges CHECK
 Flap and Hinges CHECK

EMPENNAGE/TAIL

Antennas CHECK
 General Condition CHECK
 Baggage and Rear Door CHECK & SECURE
 Tail Lights CHECK
 Elevator CHECK
 Rudder CHECK
 Tie Down REMOVE

