Piper Aircraft Corporation

1983

Specifications/Performance

Standard Equipment

Saratoga/Turbo Saratoga

PA 32-301/301T

Piper Aircraft Corporation

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Specifications

	Saratoga	Turbo Saratoga
ENGINE		
Manufacturer	Lycoming	Lycoming
Model	IO-540-K1G5	TIO-540-S1AD
Rating (hp @ rpm) (Take-Off)	300 @ 2700	300 @ 2700
Rating (hp @ rpm) Continuous - 2 - Blade Prop	294 @ 2600	294 @ 2575
Rating (hp @ rpm) Continuous - 3 - Blade Prop	300 @ 2700	300 @ 2700
Number of Cylinders	6	6
Recommended TBO (hrs.)	2000	1800
PROPELLER		
Manufacturer	Hartzell	Hartzell
Number of Blades	2	2
Type	Constant Speed	Constant Speed
Diameter (in./cm.)	80/203	80/203
WEIGHTS		
Ramp Weight (lbs./kg)	3615/1639	3617/1640
Gross Weight (lbs./kg)	3600/1633	3600/1633
Standard Empty Weight (lbs./kg)	1935/878	1998/906
(Includes unusable fuel, full oil and full operating fluids) (lbs./kg)		
Standard Useful Load (lbs./kg)	1680/762	1619/734
Zero Fuel Weight (lbs./kg)	3600/1633	3600/1633
WING AREA AND LOADINGS		
Wing Area ($ft.^2/m^2$)	178.3/16.6	178.3/16.6
Wing Loading ($lbs./ft.^2$)/(kg/m^2)	20.2/98.7	20.2/98.7
Power Loading (lbs./hp)/(kg/hp)	12.0/5.5	12.0/5.5
DIMENSIONS		
Wing Span (ft./m)	36.2/11.0	36.2/11.0
Length (ft./m)	27.7/8.4	28.2/8.6
Height (ft./m)	8.2/2.5	8.2/2.5
Cabin Length (Instrument panel to rear bulkhead) (in./cm.)	124.25/315.6	124.25/315.6
Cabin Width (in./cm)	49/124.5	49/124.5
Cabin Height (in./cm)	42/106.7	42/106.7
Headroom (Seat to Ceiling)		
Front Seats (in./cm.)	38/96.5	38/96.5
Middle Seats (in./cm)	35.75/90.8	35.75/90.8
Rear Seats (in./cm)	34.5/87.6	34.5/87.6
Forward Baggage Door Size (in./cm)	16/40.6 x 22/55.9	16/40.6 x 22/55.9
Aft Baggage/Utility Door Size (in./cm)	20.5/52.1 x 26/66.0	20.5/52.1 x 26/66.0
Forward Cabin Door Size (in./cm)	35/88.9 x 36/91.4	35/88.9 x 36/91.4
Aft Cabin Door Size (in./cm)	28.5/72.4 x 28/71.1	28.5/72.4 x 28/71.1
Wheel Base (ft./m)	7.75/2.4	7.75/2.4
Wheel Tread (ft./m)	10.6/3.2	10.6/3.2
FUEL CAPACITY		
Total Capacity (gal./L)	107/405	107/405
Usable Fuel (gal./L)	102/386	102/386
OIL CAPACITY (qts./L)	12/11.35	12/11.35
BAGGAGE		
Volume ($ft.^3/m^3$)		
Forward Compartment	8/.23	8/.23
Aft Compartment	17.3/.49	17.3/.49
Capacity (lbs./kg)		
Forward Compartment	100/45.4	100/45.4
Aft Compartment	100/45.4	100/45.4

Performance

	Saratoga		Turbo Saratoga	
MAXIMUM SPEED (kts./kmh) (TAS at Gross Weight)		152/282		178/329 (1) 182/336 (2)
CRUISING SPEEDS (TAS at Gross Weight) Optimum Altitude	**Best Power**	**Best Economy**	**Best Power**	**Best Economy**
75% power (kts./kmh)	150/278	148/274	165/306	160/296
65% power (kts./kmh)	146/270	144/266	154/285	148/274
55% power (kts./kmh)	136/252	133/246	139/258	132/245

CRUISE RANGE
(Cruising range includes 45 minute fuel reserve at maximum range power plus allowance for fuel used during taxi, take-off, climb at MCP, cruise at optimum altitude and stated mixture plus descent)

	Best Power	**Best Economy**	**Best Power**	**Best Economy**
75% power (nm/km)	745/1380	823/1524	684/1267	780/1445
65% power (nm/km)	805/1491	911/1687	730/1353	845/1566
55% power (nm/km)	849/1572	960/1778	772/1431	860/1594
FUEL CONSUMPTION	**Best Power**	**Best Economy**	**Best Power**	**Best Economy**
75% power (gph/Lph)	18.0/68	16.0/61	19.9/75.2	16.5/62.5
65% power (gph/Lph)	16.0/61	13.8/52	17.2/65.2	14.0/52.9
55% power (gph/Lph)	14.0/53	11.9/45	14.6/55.3	12.3/46.6
RATE OF CLIMB (At Sea Level and Gross Wt.) Full Throttle (fpm/mpm)		990/302		1075/328
STALL SPEED	**IAS**	**CAS**	**IAS**	**CAS**
Flaps Down Full 40° (kts./kmh)	58/107	60/111	58/107	60/111
Flaps Up (kts./kmh)	62/114	66/122	62/115	67/124
SERVICE CEILING (100 fpm) (ft./m)		16,000/4877		*20,000+/6096+
TAKE-OFF DISTANCE (Sea Level, zero wind, standard temperature)	**2-Blade**	**3-Blade**	**2-Blade**	**3-Blade**
Ground Run (ft./m)	1183/361	1013/309	1110/338	960/293
Total over 50 ft. Obstacle (ft./m)	1759/536	1573/479	1590/485	1420/433
LANDING DISTANCE (Sea Level, zero wind, standard temperature)	**Std. Brakes**	**H.D. Brakes**	**Std. Brakes**	**H.D. Brakes**
Ground Roll (ft./m)	732/223	650/198	732/223	650/198
Total over 50 ft. Obstacle (ft./m)	1612/491	1530/466	1725/526	1640/500

*20,000 feet is maximum approved altitude for Turbo Saratoga

(1) 2-Blade Prop.
(2) 3-Blade Prop.

Standard Equipment

POWER PLANT AND PROPELLER
Engine — Lycoming 300 hp at 2700 rpm, direct drive, six cylinders, fuel injection, dual ignition with shielding (1)
Lycoming 300 hp at 2700 rpm, turbocharged, fuel injection, six cylinders, direct drive, dual ignition with shielding (2)
Engine Mounts — Dynafocal with internal dampers
Propeller — Hartzell, 2 blade, constant speed
Propeller Spinner
Geared Starter, 12 volt
Air Filter, dry type
Oil Filter, full flow
Oil Cooler with thermostatic control — two (1), one (2)
Engine machined for vacuum pump (no drive installed)
Muffler and Exhaust System
Alternate Air with manual control
Oil Quick Drain

FLIGHT INSTRUMENTS AND INDICATORS
Piper Airspeed Indicator
Magnetic Compass
Sensitive Altimeter (in. and mb.)
Ammeter
Annunciator Panel with push to test
Alternator inoperative
Oil pressure low
Gyro vacuum low (with pump installed)
Overboost (2)
Tachometer, recording
Fuel Quantity Gauges, two
Fuel Pressure Gauge (1)
Manifold/Fuel Flow Gauge
Oil Temperature Gauge
Oil Pressure Gauge
Cylinder Head Temperature Gauge (2)
Exhaust Gas Temperature Gauges (EGT) (2)
Stabilator Trim Position Indicator
Rudder Trim Position Indicator

Standard Equipment Continued

COCKPIT, FLIGHT AND GROUND CONTROLS
Flight Primary — dual with rams horn type wheels
Provisions for elevator trim and mike button
Flight Trim — lower floor
Rudder
Stabilator
Engine Controls — pedestal
Throttle
Propeller
Mixture, with lock
Alternate air
Engine Controls Friction Lock
Dual Flight Controls
Stall Warning Horn
Cabin Heater and Defroster Controls
Steerable Nosewheel
Brakes
Pilot's toe brakes
Copilot's toe brakes
Parking brake
Landing Gear, fixed
Landing Gear Strut Fairings
Wing Flaps, four positions (0°, 10°, 25° and 40°)
Wing Flap Control, manual
Fuel Control Selectors with OFF/LEFT/RIGHT
Cabin Fresh Air Vent Controls, six — individually controlled, overhead

ELECTRICAL PROVISIONS
14 volt, Alternator — 60 amp
12 volt, 25 amp Hour Battery
Master Switch Relay
Voltage Regulator
Overvoltage Relay
Resettable-type Circuit Breakers
Basic Wiring
Rocker Switches, conveniently grouped on pilot's 'waterfall' panel
Ammeter, shunted type
Provision for External Power Supply Receptacle
Circuit Breaker Panel

AVIONICS PROVISIONS
Circuit Breaker Panel
Provisions for Automatic Locator Beacon
Wide selection of Optional Avionics available

FUEL SYSTEM
Four Fuel Tanks with 107 gallons total capacity, 102 gallons usable, mechanically interconnected per side
Engine Driven Fuel Pump
Electric Auxiliary Fuel Pump
Fuel Quantity Sight Gauge, inboard tanks — two
Fuel Tank Quick Drains, four
Fuel System Central Drain
Fuel Sampling Bottle

LIGHTING PROVISIONS
Large selection of optional internal and external lighting has been made available

CABIN COMFORT SYSTEM
Heater Muff provides heat to cabin area regulated by control on copilot instrument panel with six floor heat outlets
Heat Regulating Levers — located at each passenger seat
Windshield Defrosters
Cabin Air Exhaust Vents, two
Cabin Fresh Air Vents, six — individually controlled, overhead and four — individually controlled, floor mounted

EXTERNAL FEATURES
Three Tone Exterior Paint Design, in a wide choice of color combinations
12" registration number
Cabin Doors, two — right forward and left rear
Main Wheels, 6.00 x 6 with 6.00 x 6 tires with tubes, 8 ply rating
Nose Wheel, 5.00 x 5 with 5.00 x 5 tire with tube, 6 ply rating
Aircraft Brakes
Stowable Towbar
Tie Down Rings, three
Jack Pads
Meets FAR Part 36 noise requirements
Cabin and Rear Cabin Door Locks with keys
Nose Baggage Door with flush lock with key
Utility Door, rear baggage access and cargo loading

COCKPIT AND CABIN APPOINTMENTS AND PROVISIONS
Choice of five interior colors, which includes: fabric and vinyl seats, vinyl side panels, wall to wall carpeting and headliner
Upholstery — all seats of Scotchguarded, nylon fabrics with side paneling of 'soft hand' vinyls
Pilot/Copilot Seats — fabric and vinyl with magazine storage pockets on back of each seat — seats adjust fore and aft and reclining, with inertia reel shoulder and safety belts
Armrests — crew area, two
Ash Trays — crew area, two
Map Pockets, two
Storm Window, pilot
Glove Compartment with rollaway door
Scuff Pads, pilot and copilot
Two Piece Windshield
Sun Visors, two
Door Closing Straps, two (fore and aft cabin doors)
Four Rear Passenger Seats — fabric and vinyl with reclining feature, seat belts, side panel ash trays — incorporates quick release feature for easy removal
Provisions for Vertically Adjustable Pilot and Copilot Seats
Soundproofing
Ignition Lock with key
Locks with keys, fore and aft cabin and nose baggage
Luggage Compartments with security straps
Rear cabin and hat shelf area, 17.3 cu. ft. — 100 lbs.
Fuselage nose, 8.0 cu. ft. — 100 lbs.
Power Setting Table on Sun Visor
Compass Card
Compass Card Holder
Weight and Balance Plotter
Takeoff/Landing Check Lists on Sun Visor
Pilot's Operating Handbook
Aircraft Log Book
Engine Log Book
Certificate of Airworthiness

PRODUCT SUPPORT
Piper Warranty Form
Piper Service Center Directory
Inspection Forms

(1) SARATOGA
(2) TURBO SARATOGA

The performance information is based on an airplane flown at gross weight under standard sea level atmospheric conditions except as noted and based on the latest data available at the time of publication approval. Take-off and landing performance is optimum. Actual performance depends on pilot techniques, operating surfaces and other factors. It is the responsibility of the pilot to determine that all operations are conducted within approved limits of design gross weight, center of gravity, and in accordance with the FAA-approved Airplane Flight Manual which is the only official source of operating parameters and performance information.

In accordance with GAMA format, range provides for taxi, take-off, climb at MCP, cruise at stated mixture and descent with 45-minute reserve at maximum range power. Empty weight includes unusable fuel, full operating fluids and full oil.

Piper Aircraft Corporation reserves the right to make changes in specifications, materials, equipment or prices at any time without prior notice or to discontinue models as required.

Your Piper Dealer has listings of a wide variety of optional equipment and avionics. Items most frequently chosen by owners are packaged for factory installation at substantial price savings.

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