

# Piper Twin Comanche

*For X-Plane 9.70*

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Data for this project has mostly come from PA-30 Manual with Counter-Rotating Propellers, FAA Approval Dec 15, 1993

This aircraft is a full object model created using Blender 2.65 and 2.49. <http://www.blender.org>  
Blender to X-Plane scripts are available at:

- <http://marginal.org.uk/x-planescenery/tools.html> - Blender 2.49
- <https://github.com/der-On/XPlane2Blender/wiki> - Blender 2.65

## ***Special Thanks goes to:***

Danklaue - <http://forums.x-plane.org/index.php?showuser=3424> for his awesome video tutorials: [http://wiki.x-plane.com/Plane\\_Maker\\_Video\\_Tutorials](http://wiki.x-plane.com/Plane_Maker_Video_Tutorials)

Jonathan Harris and "der-On" for their work developing the Blender export scripts.

Modifications including paint designs are welcome however a courtesy email or PM (X-Plane.org) would be welcomed with appropriate credits.

## ***Installation:***

Copy the entire aircraft folder into the aircraft folder in your X-Plane

## ***What's New?***

19/8/13: Animated front window sun visors



## The Panel Switches

Flood Light	(Cabin light)	Wing Flaps	L Alt Air	R Cowl Flap	L Alt Air	L Cowl Flap	Throttle	Quadrant	Pitot Heat	Landing	Landing	Instruments	Strobes	Nav	Beacon	R Eng	L Eng	Fuel Pump	Right Engine	Left Engine	Starter	R Mag	L Mag	Right Engine	R Mag	L Mag	Left Engine	Battery
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**Trim and Doors**

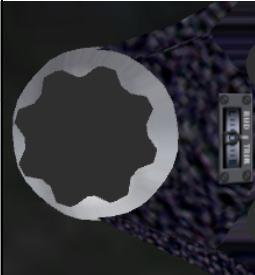
The elevator trim is located in the ceiling between the two front seats. Click on either sides of the centerline to wind the trim up or down.



Storm window slider is on the tab for the window. Slide down to open and click on the slider to close.



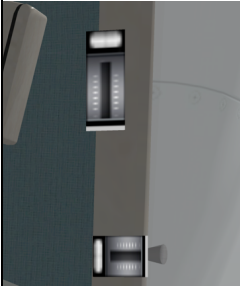
Rudder trim (in the unlikely event of an engine failure) is located below the cowl flaps/alt air toggles. Click either to the left of right.



Passenger Seat slider is located on the left hand side of the passenger seat. When the passenger seat is forward, the slider remains in its original position and is just behind the seat position.



Cabin and luggage compartment door sliders can be seen here (otherwise they are invisible). The horizontal slider is aligned to the armrest when the door is in the open position.



**Aircraft Specs:**

Engines: Lycoming IO-320-B - Right hand Counter rotating  
Rating (bhp@rpm): 160/2700  
TBO: 2000hr

**Propellers:** Hartzell HC-E2YL-2

Number of Blades: 2  
Type: Constant Speed/Hydraulically Actuated/Full Feathering  
Diameter: 72in  
Pitch (30 in station) 12.0 to 78.0 degrees

**Airframe:** Semi-Monocoque

Length: 25.2ft  
Height: 8.2ft  
Wing Span: 36.0ft  
Wheel Base: 7.3ft  
Wheel Tread: 9.8ft

**Weights**

Max Takeoff Weight: 3600lbs  
Max Landing Weight: 3600lbs  
Standard Empty Weight: 2207lb  
Max Useful Load: 1393lb  
Max Useful Load - with tip tanks reserve fuel (30 US Gal): 798lbs

**Capacity**

Seats: 4  
Baggage Capacity: 200lbs  
Basic Fuel Capacity: 60 US Gal (54 US Gal usable)  
Internal Fuel Capacity (Aux tanks): 30 US Gal  
Tip Tanks: 30 US Gal

**Performance****Important**

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**Maximum Speed**

Cruise @ 75% Power @ 8,000ft: 187kts  
Cruise @ 65% Power @ 12,000ft: 169kts  
Cruise @ 55% Power @ 16,000ft: 162kts  
Cruise @ 45% Power @ 16,000ft: 130kts

**Service Ceiling**

Multi-Engine at 3,600lbs GW: 18,600ft  
Multi-Engine at 2,800lbs GW: 20,600ft  
Single-Engine at 3,600lbs GW: 5,800ft

**Operating and Limiting Airspeeds-IAS**

Vapp - Final Approach to landing: 83kt  
Vapp - Final Approach (zero flap): 87kt  
Vapp - Final Approach (IFR Approach/Clean): 104kt  
Vc - Design Cruising Speed: 159kt  
Vd - Demonstrated Diving Speed: 222kt  
Vfe - Flap Extension Speed: 108kt  
Vfe - Flap Extension Recommended: 87kt  
Vle - Landing Gear Extended: 130kt  
Vlo - Landing Gear Operation: 130kt  
Vlo - Recommended: 108kt  
Vmca - Single Engine Minimum Control Speed: 78kt  
Vne - Never Exceed Speed: 200kt  
Vno - Normal Operating Speed: 169kt  
Vr - Rotation Speed (zero flap): 78kt  
Vso - Stall Speed (Full flap and gear extended): 60kt  
Vs1 - Stall Speed (clean): 66kt  
Vx - Best Angle-of-Climb Speed: (At sea level) 78kt  
Vxse - Best Single Engine Angle-of-Climb Speed: 82kt  
Vy - Best Rate-of-Climb Speed (At sea level): 97kt  
Vyse - Best Single Engine Rate-of-Climb Speed: 91kt

Best engine-out glide speed (Optimum): 96kt

Best engine-out glide speed (Endurance): 78kt