How to Buy a

Piston Single-Engine Airplane

From Aeronca Champ to Cirrus SR22

$	■	✔	
Purchase Price	**Operating Costs**	**Insurance**	**Pilot Qualifications**

AGENDA

WHY OWN AN AIRPLANE?

ADVANTAGES	CONSIDERATIONS
• Fly on YOUR schedule — no rental availability issues	• High fixed costs regardless of how much you fly
• Aircraft maintained to YOUR standard	• Maintenance responsibility falls entirely on you
• Build total time efficiently for career or proficiency	• Insurance requires ongoing currency and qualifications
• Access airports too small for commercial service	• Hangar or tiedown availability varies by location
• Business travel flexibility and potential tax deductions	• Depreciation risk on older aircraft
• Personal satisfaction and pride of ownership	• Clubs/rentals may be cheaper under 100 hrs/year

Rule of Thumb: If you fly more than 150 hours/year, ownership almost always beats renting.

THE PISTON SINGLE MARKET

Over 160,000 piston singles registered in the US

CLASSIC / VINTAGE	ENTRY GA	MID-RANGE COMPLEX	HIGH PERFORMANCE
$10K – $60K	**$30K – $120K**	**$80K – $250K**	**$250K – $1M+**
Aeronca Champ, Piper Cub, Cessna 140, Luscombe	Cessna 150/172, Piper Cherokee, Grumman AA-5	Cessna 182, Piper Arrow, Beechcraft Bonanza A36	Cirrus SR22, Mooney M20V, Piper Malibu

CASE STUDY: AERONCA CHAMP 7EC

The Affordable Classic — Entry-Level Ownership

AIRCRAFT SPECS	
Engine	65–85 HP Continental or Lycoming
Cruise Speed	75–85 KTAS
Fuel Burn	4–5 GPH
Seats	2 tandem
Avionics	Basic VFR steam gauges
Year Built	1945–1951 (vintage)

TYPICAL COSTS	
Purchase Price	$15,000 – $45,000
Annual Inspection	$500 – $1,200
Engine Reserve	$5–8/hr
Fuel (100LL)	~$35–40/hr
Hangar/Tiedown	$100–400/mo
Insurance	$600–1,200/yr
Est. Total/Year	~$5,000 – $10,000

BUYER WATCH-OUTS
• Fabric condition — reskin costs $8K–$15K
• Gear leg cracks — inspect carefully
• Engine compression and TBO remaining
• Logbook gaps are red flags
• Tailwheel endorsement required by insurer

Tailwheel endorsement required by insurer — adds ~$300–$500 for 10 hrs dual if not already held.

CASE STUDY: CIRRUS SR22

The Modern High-Performance Personal Airplane

AIRCRAFT SPECS	
Engine	310 HP Continental IO-550-N
Cruise Speed	185 KTAS
Range	800–1,000 nm
Fuel Burn	14–17 GPH
Useful Load	~1,100 lbs
Safety	CAPS Airframe Parachute

TYPICAL COSTS	
Purchase (New 2024)	$800K – $1M+
Purchase (Used 2015)	$350K – $550K
Purchase (Used 2005)	$180K – $280K
Annual Inspection	$2,000 – $5,000+
Engine Reserve	$35–50/hr
Fuel (100LL)	~$105/hr
Insurance	$6,000 – $15,000/yr
Est. Total/Year	~$35,000 – $70,000

BUYER WATCH-OUTS

- CAPS repack due ($8K–$20K if overdue)
- G1000 software upgrades are costly
- Engine hours vs. TBO and calendar limits
- Airframe hail or damage history
- Cirrus CSIP transition training required (~$5K)

The SR22 is the world's best-selling piston aircraft. CAPS parachute has saved over 100 lives.

BUYING PROCESS — STEP BY STEP

1 Define Your Mission
IFR or VFR? Range? Passengers? Hours/year?

2 Set Your Budget
Purchase + 10% immediate repairs + 1 yr operating costs. Don't buy to the limit.

3 Research the Aircraft
Type club forums, AOPA owner surveys, A&P; mechanics who specialize in that type.

4 Find Candidates
Controller.com, Trade-A-Plane, Barnstormers. Nationwide search recommended.

5 Get Insurance Quote First
Call 3 insurers BEFORE you commit. Qualifications drive premiums significantly.

6 Review All Logbooks
Aircraft, engine, and prop logs. Verify AD compliance, 337s, and continuity.

7 Pre-Purchase Inspection
Independent A&P; — NOT the seller's mechanic. Budget $500–$2,500. Never skip.

8 Negotiate and Close
Expect 5–15% price reduction after findings. Use escrow for large purchases.

PRE-PURCHASE INSPECTION — WHAT THE MECHANIC CHECKS

WHAT THE MECHANIC CHECKS
• Airframe — corrosion, cracks, major repairs
• Engine — compression test, oil analysis, cylinders
• Propeller — nicks, gouges, track check
• Fabric/skin — paint bubbling indicates corrosion
• AD Compliance — all Airworthiness Directives
• Avionics — all systems operable and certified
• Fuel tanks — seals, bladders, caps, vents
• Landing gear — struts, tires, brakes, shimmy
• Control surfaces — cable tension, play-free
• Logbook review — 337s, STCs, repair history

NEVER waive a pre-purchase inspection. Buyers who skip this routinely discover $5,000–$50,000 in hidden issues post-purchase.

PRE-PURCHASE INSPECTION — COST & TIPS

ITEM	COST / DETAIL	NOTES
Simple Aircraft	**$400 – $900**	Champ, Cessna 172 — straightforward inspection
Complex Aircraft	**$1,200 – $2,500**	SR22, Bonanza — more systems, more time
Ferry Flight	**$200 – $600**	If aircraft must travel to your mechanic
Who to Hire	**Independent A&P;/IA**	Never use the seller's own mechanic
Oil Analysis	**$40 spectrographic**	Request oil sample before purchase commit
Trial Flight	**Fly it first**	Always fly the aircraft before the inspection
Negotiation Power	**Every squawk = chip**	Use findings to negotiate price reduction

Use every finding from the inspection as a negotiating chip — price typically drops 5–15% after a thorough inspection report.

FIXED & VARIABLE COSTS AT A GLANCE

Fixed Annual Costs

Cost Category	Aeronca Champ	Cessna 172	Cessna 182	Cirrus SR22
Hangar / Tiedown	$100–400/mo	$200–600/mo	$300–700/mo	$600–1,800/mo
Annual Inspection	$500–1,200	$800–1,800	$1,500–3,000	$2,000–5,000+
Insurance	$600–1,200/yr	$1,200–2,500/yr	$2,000–3,500/yr	$6,000–15,000/yr
Transponder Check	$75–150/2yrs	$75–150/2yrs	$75–150/2yrs	$150–350/2yrs
ELT Battery	$60–120/2yrs	$60–120/2yrs	$60–120/2yrs	$60–120/2yrs
Est. Fixed/Year	~$3,500–6,500	~$6,000–10,000	~$10,000–15,000	~$18,000–28,000

Variable Costs Per Hour Flown

	Aeronca Champ	Cessna 172	Cessna 182	Cirrus SR22
Fuel	~$38/hr	~$55/hr	~$85/hr	~$112/hr
Oil	~$4/hr	~$4/hr	~$5/hr	~$8/hr
Engine Reserve	~$7/hr	~$8/hr	~$12/hr	~$45/hr
Misc Maint.	~$5/hr	~$8/hr	~$18/hr	~$15/hr
TOTAL/HR	~$55/hr	~$75/hr	~$120/hr	~$185/hr

At 100 hrs/yr total cost: Champ ~$105–155/hr | 172 ~$170/hr | 182 ~$260/hr | SR22 ~$405/hr

AVIATION INSURANCE — COVERAGE TYPES

Hull (Physical Damage)

Covers repair or replacement of YOUR aircraft. Agreed value recommended. In-motion and not-in-motion coverage.

Liability (Bodily Injury)

Pays for injuries you cause to others. Minimum $1M smooth (single limit) recommended.

Passenger Liability

Covers injury to passengers. Sometimes combined with BI. Review sub-limits carefully.

Medical Payments

Covers medical costs regardless of fault. ~$10K–$50K per person. Low-cost add-on worth having.

AVIATION INSURANCE — TYPICAL ANNUAL PREMIUM RANGES

Aircraft	Hull Value	Annual Premium	Liability	Notes
Aeronca Champ	$25,000	$600–1,200	$1M smooth	Tailwheel endorsement may add cost
Cessna 172	$80,000	$1,200–2,500	$1M smooth	Best insurance risk category
Cessna 182	$150,000	$2,000–3,500	$1M smooth	Complex aircraft surcharge begins
Cirrus SR22 (2005)	$220,000	$6,000–10,000	$1M smooth	Higher performance = higher premium
Cirrus SR22 (New)	$850,000	$12,000–18,000	$1M smooth	Transition training required

Always work with an aviation insurance specialist — AOPA Insurance, Global Aerospace, Avemco, USAIG.

PILOT QUALIFICATIONS & INSURER REQUIREMENTS

Sport Pilot	Private Pilot	Instrument Rating	High Perf / Complex
Min: 20 hrs total	*Min: 40 hrs (FAR 61) / 35 hrs (Part 141)*	*Min: +50 hrs XC PIC, 40 hrs instrument*	*Min: Ground + flight endorsement (one-time)*
• Light Sport Aircraft only (≤59 KCAS)	• Single-engine land (ASEL)	• Fly in IMC — IFR plans and procedures	• >200 HP = High Performance endorsement
• Day VFR — no IFR	• Carry passengers — night flying	• Required for SR22 insurance	• Retractable + flaps + prop = Complex
• Max 1 passenger	• Class B/C/D airports	• Currency: 6 approaches / 6 months	• No recurring requirement after endorsement
• Driver's license in lieu of medical	• FAA 3rd Class Medical required	• Greatly expands mission flexibility	• Some insurers require 10 hrs in type with IP

UNDERWRITER MINIMUMS BY AIRCRAFT

Aircraft	Certificate	Tailwheel	Total Hours	IFR	Special Req.
Aeronca Champ	Private or Sport	Required	200+ total, 25+ in type	Not Required	3 T/O & Ldg last 90 days
Cessna 172	Private (min)	N/A	150+ total, 10+ in type	Not req. for VFR	Best insurance risk category
Cessna 182 RG	Private	N/A	250+ total, 25+ in type	Preferred	Complex endorsement required
Cirrus SR22	Private + IR	N/A	500+ total, 50–100+ in type	REQUIRED	CSIP Transition Training req.

Named Insured: Insurance covers ONLY pilots listed on the policy. Currency clauses require 3 T/O & landings within 90 days.

MAKING YOUR DECISION — OWNERSHIP MATRIX

1 How many hours/year will you fly?

< 50 hrs	Consider flying club or rental — ownership likely not cost-effective
50–150 hrs	Entry-level ownership begins to make financial sense
150+ hrs	Ownership almost certainly beats renting on a per-hour basis

2 What is your real mission?

VFR local/weekend	Champ, Cub, Cessna 150 or 172 — simple and affordable
VFR XC with family	Cessna 172 or 182, Piper Cherokee — comfort and range
IFR business travel	Cessna 182, Bonanza, or SR22 — weather capability needed

3 What are your current qualifications?

Student / Sport	Start with Champ, 150, or 172 — build ratings from there
Private VFR	Add complex/HP endorsements to expand aircraft options
Instrument Rated	Full range of piston singles available to you

4 What can you truly afford?

Budget check	Purchase price + 2 years of ownership costs in savings
Financing caution	Never finance more than you can absorb if grounded for maintenance
Key insight	Fixed costs matter most — variable costs follow how much you fly

Remember: The best airplane is the one you actually FLY. Don't over-buy and then park it due to operating costs.

KEY TAKEAWAYS

1	Define your mission first — it determines aircraft choice, budget, and required qualifications.
2	Fixed costs are unavoidable — hangar, insurance, and annual inspection run $5K–$30K/year before you fly once.
3	The Aeronca Champ offers low-cost VFR entry ownership at ~$10K/year total — simplicity and joy.
4	The Cirrus SR22 delivers unmatched IFR capability at ~$40K+/year with a life-saving parachute system.
5	NEVER skip the pre-purchase inspection — buyers who do routinely discover $5K–$50K in hidden defects.
6	Get insurance quotes BEFORE making an offer — pilot qualifications drive premiums as much as hull value.