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# TWIN CESSNA

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TOWE TWIN CESSNA FLEET  
WHAT DOES IT COST TO OWN A 340?  
INTERIOR RENOVATIONS - PART FOUR  
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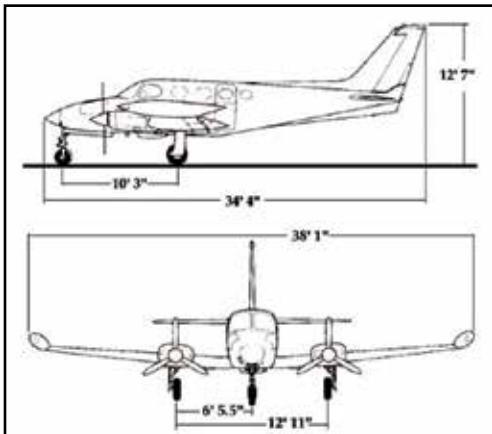
# WHAT DOES IT COST TO OWN A 340?

by Bob Thomason, TTCF Editor

For many pilots, the Cessna 340 is their entry into the world of pressurized flight in the flight levels. They are typically moving up from a high performance single or unpressurized light twin. It's a big jump, and they are naturally interested in the impact it will have on their pocketbook.

This is the second article based on the most recent survey of our membership about ownership costs. For those who missed the explanations in the last magazine, we recently conducted an ownership cost survey among our members. We had an excellent response of well over 250 members who answered the following questions:

1. What year and model Twin Cessna do you own or operate?
2. How many years have you owned your Twin Cessna?
3. How many hours per year do you typically fly your Twin Cessna? (Not including flight time for other airplanes.)
4. Do you typically run your engines lean-of-peak (LOP) or rich-of-peak (ROP) in cruise flight?
5. What is the typical fuel burn of your Twin Cessna in GPH during cruise flight?
6. Do you perform any of your own maintenance? If yes, what percentage?
7. What is the cost of an Annual Inspection on your airplane in an average year? (Not including upgrades.)
8. Not counting the Annual Inspection or upgrades, how much do you spend on additional maintenance



in a typical year (engine, airframe, and avionics)?

9. How much is your annual insurance premium?
10. How much is your monthly hangar rent or tie-down fee?
11. Did you spend a significant amount on aircraft upgrades in the past year?
12. Is there anything else you want to tell us about the ownership costs of your Twin Cessna?

In this survey, we looked at two main variables that impact operating costs: 1) How owners operate their airplane and 2) How they maintain it. Running lean-of-peak (LOP) vs. rich-of-peak (ROP) can lower fuel burn per hour by as much as 20 percent. Additionally, most of our survey respondents perform at least some of their own maintenance.

Although we note in the chart on page 14 what percentage of respondents run LOP and what percent do some of their own maintenance, the fuel burns and maintenance costs reported are an average of all respondents. Of course fuel costs will be less for those who run LOP, and maintenance costs will be less for those who do some of their own maintenance. Keep this in mind as you apply the results to your own situation. Here are the key findings that you can apply to the average numbers in the summary table:

## Notes on Fuel Burn

- 19% of 340 owners report running their engines LOP - up from 15% in 2015. The rest run ROP.
- As a result, average cruise fuel burn dropped from 36.3 GPH in 2015 to 35.4 GPH this year.
- Those running ROP often cited engine operation instructions provide by RAM as the reason.



A 340 can introduce a pilot to a whole new world of pressurized flight in the flight levels. More powerful engines and complex systems add to the cost.

## Notes on Maintenance

Forty-four percent of respondents report doing at least some of their own maintenance. The average amount of maintenance performed was 31%. These numbers are up from 31% and 28% respectively in 2015. Keep in mind this group includes owners who are A&Ps and do almost all of their maintenance, as well as owners who only do occasional oil changes.

Since the maintenance costs in the Summary Table are an average of these two groups, the costs for those owners who don't do any of their own maintenance are likely to be higher than shown, and vice versa for those who do a lot of their own maintenance.

And remember, even if you do all your own maintenance you should take your airplane to a Twin Cessna specialist periodically. This is especially true of an airplane as complex as a 340. Finally, there are significant operating costs we chose not to include in the survey. Among them are taxes, training, and financing costs. Taxes vary considerably according to location, and the other costs are easily obtainable with a little research.

We do provide our own estimates of prop and overhaul reserves in the accompanying chart. They are based on actual quotes, including removal and installation, from a respected specialty engine overhauler.

(continued on page 14)

Cessna 340 Operating Costs				
<b>Survey Data:</b>		<b>Cost to Fly 100 Hrs per Year</b>	Not including taxes, training, or financing costs	<b>Total Cost per Hour w/o OH Reserves</b>
				<b>\$538</b>
		<b>Variable Costs:</b>		<b>Typical Engine &amp; Prop OH Cost</b>
Hrs/Year	107	Fuel:	\$17,417	\$60,306
Fuel Burn (GPH) **	35.4	Non-Annual Maintenance	\$9,213	TBO 1600
Percent Who Run LOP	19%	<b>Total Variable Costs:</b>	\$26,630	<b>OH Cost Per Hour for both Engines</b>
Annual Inspection Cost	\$14,330	<b>Fixed Costs:</b>		<b>Total Cost to Fly 100 Hrs/Yr Including Overhaul Reserves</b>
% Who Do Own Maintenance	44%	Annual Inspection	\$14,330	\$61,296
Percent of Maintenance Performed	31%	Insurance	\$6,366	<b>Total Cost per Hour including OH Reserves</b>
Maintenance Cost Other than Annual	\$9,213	Hanger/Tie Down	\$6,432	<b>\$613</b>
Annual Insurance Premium	\$6,366	<b>Total Fixed Costs</b>	\$27,128	
Monthly Hanger or Tiedown Fee	\$536	<b>Total Cost to Fly 100 Hrs. w/o OH Reserves</b>	\$53,758	
** Includes both LOP and ROP operations				

## Survey Results

We had a good response from 340 owners. Most were 340A owners but because so many 340s have had engine upgrades and mods, we have included them all together in the survey.

### Notes:

In the “Cost to Fly 100 Hours per Year” section:

- An average cost per gallon of 100LL of \$4.92 is used vs. \$5.12 a gallon in 2015.
- An average monthly cost for hangar/tiedown of \$536 is used – up from \$477 in 2015.
- Engine and prop overhaul costs based on actual 2015 quotes for a pair of TSIO-520-NBs. They include removal and installation cost, and typical compliance cost for AD 2000-01-16 (exhaust).
- Costs omitted include: taxes, training, financing costs, and extraordinary maintenance events.

Cutting to the chase, a 340 will cost you about \$538/hour without reserves,

and \$613/hour with overhaul reserves, according to our survey. These numbers are up from the 2015 data of \$482/hour and \$550/hour respectively. Also, comparing the 2020 340 operating costs to our turbo 310 results, this means stepping up to the flight levels in a pressurized Twin Cessna will run almost \$175 per hour more. (This number may be a little overstated since many more 310 owners – about 67% – lower their operating costs by performing some of their own maintenance.)

Here are a few other observations about our 340 results:

- 340 owners fly about 107 hours per year – down from 122 hours in 2015. This compares to about 85 hours for the average 310 owner in 2020.
- Fuel burn is about 36.4 GPH, on average.
- 340 owners report spending \$23,543 each year on maintenance (both Annual Inspection and non-Annual related maintenance). This is up from \$19,317 in 2015, and it’s about \$10,000 more per year than our turbo 310 owners spend. Again, the higher percentage of 310 owners

performing their own maintenance may affect this comparison.

- The average insurance premium of \$6,366 is up about 37% from the \$4,618 figure reported in 2015.

The numbers presented in this survey summary are averages. As all longtime aircraft owners know, from a financial standpoint there are good years, bad years, and sometimes, very bad years. The first few years of aircraft ownership are often “catch-up” maintenance years and costs are likely to be much higher than our survey numbers. Prepare to pay considerably more.

Additionally, the survey results do not reflect upgrades. In order to preserve the value of your aircraft, every so often it has to have paint and interior work. Also, these days it’s getting difficult to sell an airplane without at least some glass in the panel. And avionics are advancing at such a rapid rate that panel upgrades are required with more and more frequency.

And don’t forget about inflation. Engine overhaul prices are rising faster than the general rate of inflation. Your overhaul may cost you 20 to 25% more in ten years. If you are accumulating funds in an overhaul account as many owners do, you’ll need to factor this into account.

*“...the survey results do not reflect upgrades. In order to preserve the value of your aircraft...upgrades are required...”*

With these caveats, our survey data should be useful to anyone who wants to know the long-term cost of owning a 340.



***If you use these numbers for cost estimates and do not plan to perform any of your own maintenance, adjust them upward accordingly.***