The Cost of Flying RC
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Anyone who flies RC airplanes will agree that the cost of starting in the hobby can be intimidating to the average beginner because of cost. A beginner, starting with nothing but enthusiasm needs to purchase an airframe, engine, radio, and all the tools, supplies and support equipment needed for the hobby. And let's not forget those AMA and club dues. Put them all together and a beginner has to come up with about $600 to get his first plane in the air with no guarantee of success.

Those of us who aren't beginners and who have been in the hobby awhile have accumulated a number of planes, engines, radios, and countless tools and have forgotten how intimidating it is to start out. We know how expensive it is for beginners, but how do we evaluate the real cost of flying for these large numbers of experienced people in the hobby?

The answer lies in calculating the cost per flight for those "paid off" planes, engines, radios, etc. Provided below is a detailed analysis of the total cost per flight for a typical .60 sized glow powered airplane. The assumptions used in the analysis are based on hundreds of flights of many different kinds of airplanes and the experience that comes with many years in the hobby. Costs are presented in a way that can be applied to different sized planes and experiences. But the conclusion will be the same: it is expensive to fly RC.

Costs to be Considered:

Pro-rated Airframe Costs:
As good as RTF planes are and as conscientious as flyers are to maintain their planes, airframes wear out, get old, or crash in their own time. As a general rule, if you get 200 flights out of an airframe you're doing well, especially considering the average flyer doesn't have the building skills

or desire to make extensive repairs. The cost per flight should include the original purchase price depreciated over the useful life of the plane.

Pro-rated Engine Costs:
Most new glow engines will fly well out of the box for about 125 to 150 flights. After that, varnish buildup, ring wear, bearing wear, etc will result in degraded performance. Lacking rebuilding skills and knowledge of engines, most flyers will opt for a new engine rather than do the reconditioning required to regain engine performance. The cost per flight should therefore include the original purchase price of the engine depreciated over the useful life of the engine.

Fuel Costs:
Glow fuel can cost as much as $20 to $28 per gallon depending on nitro content. Assuming a .60 size engine uses 8 to 10 ounces of fuel per flight, this comes out to about 13 to 16 flights per gallon. This cost adds significantly to the cost per flight.

AMA and Club Dues:
AMA dues are currently $58 per year. Jetero dues are $150 per year. Considering the fact that flying 200 to 300 flights per year is a lot of flying, the cost per flight from dues payment is considerable and should be included in the cost per flight analysis.

Travel Costs to and from the Field:
If you think about it, the cost of travel could be considerable if you live some distance from the field. Most flyers have large cars or trucks to haul their planes to the field. Some have trailers. Considering round trips of 40 miles or more, gas at $2.50 per gallon and mileage of 20 MPG or less, the cost of travel to the field can be significant and should be included in the cost per flight analysis. Of course it is highly

dependent on how many flights you have during your trip to the field.

Costs Not to be Considered:

Radio Related Maintenance:
The radio gear used in RC flying is the most reliable stuff in the RC arsenal. Most equipment will last for years and can be used in many airplanes without incurring failure. Except for an occasional battery or servo failure (relatively low cost replacement), maintenance costs are very infrequent and when they occur, they are too small to consider in the cost per flight analysis.

Routine Engine Maintenance:
Routine engine maintenance (broken props, damaged spinners, fuel line/fuel tank stopper replacement, "O" ring replacement, glow plug replacement, etc) are too small to consider on a cost per flight basis, especially when compared to other costs.

Routine Airframe Maintenance:
Routine maintenance on airframes includes patching holes, repairing oil-soaked wood, clevis replacement, landing gear replacement, etc. These costs are too small to be considered when compared to other costs.

Support Equipment Maintenance:
This category of costs includes replacement of 12 volt batteries, repair/replacement of starters, fuel lines, fuel pumps, control panels, etc. These costs are infrequent and too small to be considered when compared to other costs.

At long last, let's take a look at some real cost per flight numbers.

Pro-rated Airframe Costs:
A good .60 size ARF will cost between $200 and $300. The cost per flight is calculated as follows:

Cost of ARF/Total Expected Number of Lifetime Flights

Assuming a $200 ARF and a max life of 200 flights, the cost per flight is $1.00. The same plane with a lifetime of 300 or 100 flights is $.67 and $2.00 respectively

Pro-rated Engine Costs:
The cost per flight is calculated as follows:

Cost of Engine/Total Expected Number of Lifetime Flights

A good .60 size glow engine will cost about $150. Assuming for the average flyer that the max life of an engine is 150 flights, the cost per flight is $1.00. If you clean and repair your own engines rather than buy new ones, this number will be significantly less.

Fuel Costs:
Fuel cost per flight is calculated as follows:

Cost of Fuel per Gallon x Ounces per Flight/128

Assuming you buy 10% nitro fuel for $20 a gallon and use about 8 ounces of fuel a flight, the fuel cost per flight is $1.67.

AMA and Club Dues:
The cost per flight for this category of costs is calculated as follows:

Total Dues per Year/Total Flights per Year

AMA dues are $58 per year. Jetero dues are $150 per year; there may be a $50 one-time fee for new members. If you

fly a lot, the number of flights per year is probably 200 to 300. Assuming a total dues cost of $208 and 200 total flights per year, the cost per flight is $1.04. For 100 flights per year, the cost per flight is $2.08.

Travel Costs to and From Field:
Travel cost per flight is calculated as follows:

(Cost of Gas)(Distance to Field x 2)/(Vehicle Mileage)(Flights per Visit)

If you buy gas at $2.50 per gallon, live 20 miles from the field and you fly 3 times per visit to the field, the cost per flight is $1.67. The more you fly per visit, the smaller this cost is.

Summary of All Costs Per Flight:

Airframe Cost:	$1.00
Engine Cost:	$1.00
Fuel Cost:	$1.67
Dues Cost:	$1.04
Travel Cost:	$1,67
Total Cost Per Flight:	$6.27

Two things should be evident with this final cost:

1. It's probably higher than expected
2. The next time someone wants to fly your plane you can charge him $6.27 for the privilege.

In closing, let's take a look at the cost of soloing for an average beginner from a cost-per-flight prospective. The analysis that follows uses the following assumptions:

1. It takes about 3 months of instruction for a beginner to solo and to feel comfortable flying without

instructor assistance. Some may take less time; others much longer. Based on experience, 3 months is reasonable.
2. The average student flies on weekends, a total of 6 flights per weekend.
3. Using the above, a beginner solo's in 72 flights.

Assuming an average cost per flight of $6.27 (more if you assume a $50 club initiation fee, less if the trainer he's flying is a .46 sized plane and not a .60), the cost for soloing comes out to about $450. Note that this cost is a lot more if the plane and engine don't survive the training to complete their expected maximum number of flights! Remember this number when someone comes out to the field asking for help. Willingly donate your time, effort, expertise, and even parts and equipment if needed to make their start in the hobby less stressful financially and more enjoyable.

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