Airscrew

Facts, opinions, pictures and fun

The back in the air issue

June 2020

https://northreppsmfc.com/

To contact me, or to join the newsletter mailing list, send an email to peter@northreppsmfc.com

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Models of the month

First is Mark Jordan's beautiful, scratch-built Spitfire. The finishing and distressing is superb. He says it was a handful to fly at first but he has now mastered it.

And Brian's Classic Ugly Stick. It looked striking in the air and flew with grace and stability.

Bob's Tales: Fuel and grass in the wheel

One time I got out to Kitson Field to find that they'd run out of fuel so I hadn't got enough fuel to get back to Port Hedland. There was a track that came in from the north, rather than from the way I'd come, from the west. This came down from the north on the old Canning stock route and there was supposed to be a truck on it`s way with 44 gallon drums of fuel – aviation avgas. I had a job to do the next day so I really needed to get back. So what I did was fly up the track until I could see the red dust plume from it and landed on the track which was about the width of a single track road in Norfolk but of course it was scrub either side so the wings were above anything on either side. I just sat there until the truck arrived. As he came round the corner suddenly there was an aircraft sat in the road. I got him to pull off the road and get alongside the wing so that we could hand pump fuel into the wing tanks. Then got him off the road and took off and flew back to Port Hedland.

Bear in mind that we were a thousand miles north of Perth so the Department of Civil Aviation (DCA) had very little contact with us and they knew that as bush pilots in order to operate we'd have to bend the rules occasionally so I just kept that to myself. In my flying around the bush I met another pilot, Jan de Beers, a Dutchman, an ex-crop sprayer from Holland who was flying for a company called Bell Brothers that was a construction company. A couple of things that he did, for example was to carry the blade from the front of a grader in a similar aircraft to mine. In order to do this he had taken the doors off and flown across the desert with this blade passed through the aircraft from one side to the other with rather a large chunk of it sticking out of either side of the aircraft and had flown that out to one of the construction sites in the desert where they needed this blade. Everything had stopped till he got it to them. So that was the sort of thing that went on.

Another thing that he did was blow a main wheel tyre landing on a bush strip way out in the outback He had no way of fixing it out there. However they were split wheels You could take the wheel off and split the wheel. So Jan, being a typical bush pilot, took the wheel off and stuffed the tyre case with spinifex grass which was a scrubby very coarse grass that grew in the desert in clumps. They just kept stuffing this tyre with the spinifex grass and put the wheel back together so it was hard enough to just take off and land back at base where he fixed it properly.

A tip he gave me, which I actually used on one occasion, was how to jury rig a collapsed nose wheel strut. The strut was hydraulic and a space of about four fingers width should be showing between the bottom of the strut and the bottom of the hydraulic part of the strut. Now if over a period of time you got leaks it could collapse down to maybe only an inch, which put the tip of your prop very close to the gravel bare desert strips we were operating off. His tip was to carry a six inch length of [rubber] gas piping which was quite a large diameter, about two inches and a couple of jubilee clips. What you would do is get everybody (and I did this once at one airstrip) get some people to sit on the tail to extend the nose strut and while it was extended the rubber piping which was split, was put over the extended part of the strut, clamped on with the two jubilee clips and then as the weight of the aeroplane comes back onto it the rubber absorbs part of the distance and keeps the prop clear of the ground. Something else the DCA used to turn a blind eye to if they ever knew about it.

Covid news

Well we all have to stay alert. Does anyone know what that means? All is well though. If we are daft enough to break the rules we can try the ‘Cummings Ploy’ - “Who cares?” If like me you love the book ‘Diary of a Nobody’ you will remember that in it Cummings was always Gowing (pronounced ‘going’).

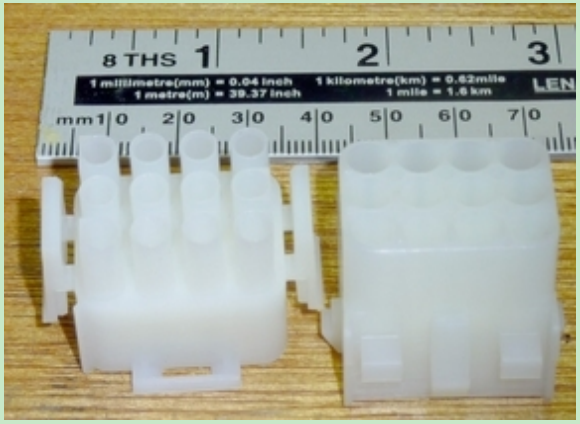
Gate guardian

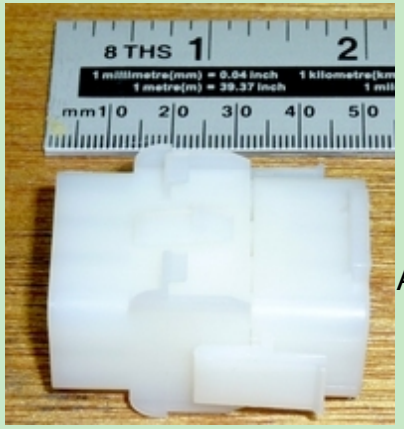
In the best airfield tradition we now have a gate guardian looking over the entrance. It is a flexwing and a superb piece of work by Mark Wrighton, but you won’t find the number in the registration system. Mark says he is going to make it swivel. Give the pilot a nod when you next drive up the lane.

Genius number ten: Multiway connectors

Wherever you put your receiver there are connections to be made as you assemble the model. If it’s in the fuselage you must connect leads to flaps, ailerons and retracts. If you have a single piece

wing, as I have with the Mustang, you might put it on the wing but then you have to connect rudder, elevator, throttle and receiver battery. Either way it's lots. I came across these multiway connectors on eBay. You can get lots of types up to 15 way. I opted for the 12 way. They are crimp connnectors but I will dab solder to make certain of the joints. You can then make up a harness which will neaten the installation. They are quite big but quite light at about 24g including crimp connectors.





Assembled

https://www.ebay.co.uk/itm/Genuine-TE-Tyco-1-to-15-Way-MATE-N-LOK-Electrical-Wiring-Multi-Connectors/142033050277?ssPageName=STRK%3AMEBIDX%3AIT&var=441135702665&_trksid=p2057872.m2749.l2649

Joke of the month

When NASA first started sending up astronauts, they quickly discovered that ballpoint pens would not work in zero gravity. To combat the problem, NASA scientists spent a decade and $12 billion to develop a pen that writes in zero gravity, upside down and at temperatures ranging from below freezing to 300ºC.

The Russians used a pencil.

[This is believed to be true. Still funny though. Ed]

Pillock of the month: me again

No doubt about that this time. Me. After adding the pictures of the aircraft that Bob had flown I included the story attached to them that was a repeat of the one in the April newsletter. Oh well, it was worth reading again wasn't it?

Top tip: Charging lipos safely

We are always advised not to go away from lipos when charging or to use a fire-resistant bag. I recently found out the wisdom of that.

I was testing out the motor of a new electric glider using a nearly new graphene lipo. The voltage on the telemetry was fine, but dropped rapidly under high throttle. The ESC shut down, which

should have made me suspicious. I just assumed the battery needed charging.

I started charging it and put it in a fireproof bag. As I was working nearby I heard a loud hiss coming from the bag. I unplugged the lipo and chucked it out of the window. It didn't catch fire but swelled up and it might have gone up if I hadn't disconnected it.

What lessons did I learn? If a lipo behaves strangely check its cell voltages and internal resistances. If in doubt discharge it and chuck it. Cheaper than redecorating.

Manoeuvre of the month: the Humptybump

From RCSD June 1998

Airspeed and energy management are the key to this maneuver [for a glider pilot]. If you come into it with plenty of airspeed and your glider is heavier rather than lighter, you should have enough inertia to carry you up into the Humptybump. You must quit while you are ahead, and before you run out of steam you must give down elevator so that the glider rotates downward. Once the nose is pointed down, you're home free The illustration should give you a very good idea of what to do The glider flies level briefly, then pulls up 90 degrees into a vertical climb, holds that line briefly, then pushes down into a (180 degree) half loop and briefly noses straight down, then pulls up 90 degrees into level flight.

There are a few variations on the humptybump theme which might be useful for you to know if you have a very acrobatic sailplane. You can do a half roll either going up or coming back down. These are called, as you might expect. "Humptybump with a half roll", or "Humptybump with options". What's interesting about this? Humptybump now becomes a turnaround maneuver.

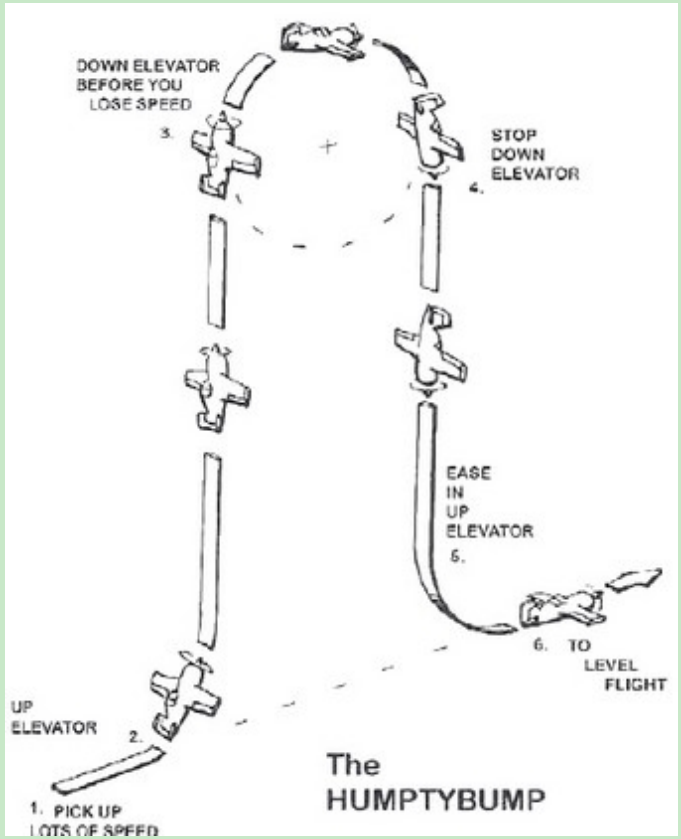
As I have said before, many maneuvers are simply rolls and loops (or parts there of) added together. As you can see the Humptybump with options is no exception.

Here Is another quite interesting turnaround variation you go up, then you go down, and instead of pulling up elevator at the end to level flight as illustrated, you push in down elevator and exit inverted to level, going in the opposite direction. That would certainly be a novel and spectacular turnaround!

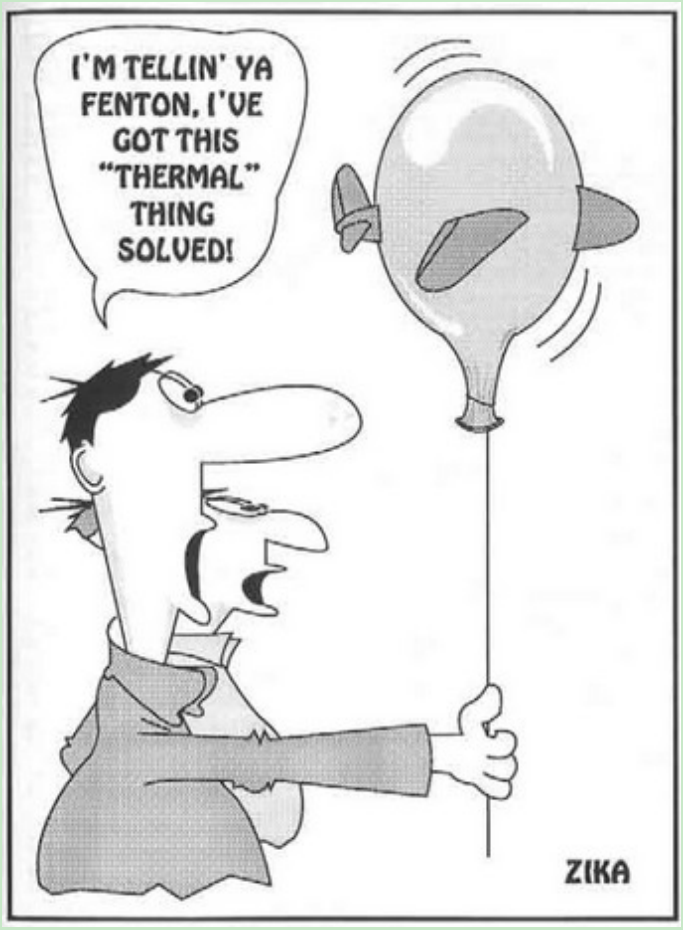
Remember, practice makes perfect. The Humptybump might at first seem difficult because of its vertical component, but with practice you will find that your sailplane can climb to vertical for a time. Remember also that you don't have to do the whole maneuver the first time you try it. You can try the first part, then the middle and then the end - all separately to become familiar with what you want to do. Then you can start adding the parts together until you are comfortable flying the whole maneuver.

If you approach your whole acrobatic learning and practice sessions by mastering each part and then adding them together, you will be surprised at how easy some of Ihese are.

It should also be said that some gliders will be more at home with some maneuvers than others. The bottom line is go out and see what you can do. You might be quite surprised at what you can accomplish with just a little practice in a short time.



Cartoon



From RCSD with thanks

NASA/FAA lowdown with the accent on low

I recently loaded the NASA app into my phone. I happened across an article about its ideas about unmanned aircraft, which of course includes us. This is for US airspace but probably the power-hungry CAA will follow suit.

Making Skies Safe for Unmanned Aircraft

NASA May 8, 2020

NASA and its partners are taking flying unmanned aircraft systems (UAS) closer to operating in harmony with other aircraft in the National Airspace System (NAS).

A new video from NASA Aeronautics provides a behind-the-scenes look into the technology and testing used during a nearly decade-long effort by its UAS Integration in the NAS project, along with the Federal Aviation Administration (FAA), in creating rules that certify unmanned aircraft to safely coexist with other air traffic.
The goal is to enable more routine access of UAS to the airspace for a growing number of new commercial and public service opportunities, such as real-time fire surveillance, infrastructure and pipeline inspections and medical transportation.

“The work that we are doing will contribute data required for those who come after us to know how to safely integrate this type of airplane into the national airspace,” said UAS NAS project manager Mauricio Rivas. “It has taken a lot of work to integrate manned airplanes into different parts of the airspace, and it will take the same level of effort, or perhaps more, to integrate unmanned airplanes.”

NASA began its UAS Integration in the NAS project in 2011. Work since then has included multiple simulation efforts and six flight test series that focused on validating these simulations, and on supporting the development of minimum operational performance standards (MOPS) for Detect and Avoid (DAA) systems.

Teresa Whiting
NASA Armstrong Flight Research Center

Last Updated: May 8, 2020
Editor: Monroe Conner

https://www.nasa.gov/centers/armstrong/features/making-skies-safe-for-unmanned-aircraft.html

Also watch the video (if you can stand it):
https://youtu.be/gK2jDwPrDTA

Charging batteries at the field

Message from Dave

With the increase in use of electric powered models and the increase in size of the motors and therefore the battery requirements we have decided to make a change to our system. With immediate effect the Solar System can be used for up to 4s batteries. Anything over this size will require you to use the generator. I have checked the generator over and have had it running over consecutive days with no problem. It is a knack to start so please do have a read of the manual in the members area. Now to use the Generator you cannot use the 12V part of it. It seems that this has a built in charging circuit in its own right and it is specified that it is only for charging car type lead batteries. To use your own charger you will need to have one with a mains plug and use the invertor socket. (The 240V three pin one on the front). I have also checked this out with my charger and it works fine. So all that remains is to say remember to take some petrol with you. For info the generator is four stroke so no oil mix please. :)

Peter: My solution was to buy a leisure battery and bring it to the field fully charged. My latest is a Yuasa 115 Ah one. It is very heavy of course so I bought a carrier box to put it in. This has a car 12 V cigarette lighter socket, two USB charging points, a charge level indicator and a handle on top which makes it easier to carry. A strap goes right around the box in the groove. You have to get the battery first and measure it as the boxes differ in size. I added a couple of 4 mm banana sockets in the recesses next to the terminals so I could plug in my charger leads. They were heavy-duty loudspeaker sockets.

The battery was about £100 and the box about £70 on eBay. It is worth paying the extra for a good branded battery. One charge lasts two flying sessions with many batteries being charged.

3D printers

A few years ago I needed a box to hold stepper motors and their controllers. The shape was a simple one, made of a series of rectangular box shapes merged into one with some holes in for screws and motor shafts. It looked to me like a good candidate for 3D printing and anyway the printers were being talked about and I wanted a new toy to play with. Wisely for once, I suspected that the design software might be the problem. And so it was. I downloaded several free design packages and they were useless. I managed to get the basic shape set up on one, but placing holes and specifying wall thickness proved impossible. I did not want to fork out thousands for professional software only to find it was just as bad for 3D, so at that point I gave up and made the box out of aluminium. The 3D hardware looked useable but seems mostly seems to be used for printing ready made designs from files or

shapes with complicated internal structures that could not be made any other way.

Looking through RCSD back numbers I came across Brian's article. It is thorough and explains what he went through, as well as possible applications. Although a little old I don't things have advanced much, if at all. It is edited for length and relevance.

Adventures in 3D Printing

by Brian Ford, bananaman@bigpond.com

From RCSD March 2013 with grateful thanks to Bill and Bunny (bsquared) (Edited for length only)

Why is this article in a magazine about R/C soaring? What relevance do consumer 3D printers have to the reader? However, I couldn't justify the time to learn and cost for a result I couldn't really define, and wondered if it was just a fad gadget.

I decided to learn the new skills needed and brush up on my amateur CAD abilities. Research took a few weeks and my home office was converted into a small work area before I went in for [orthopaedic] surgery. It would become my recovery area.

My first printer was a relatively cheap unit that luckily served me well initially, but ended up extensively modified and it has now been replaced by two larger and more precise machines. So… the first tip is to do very good research before you buy anything. This article should help you make a better decision by listing some questions to consider.

What are they?

Basically FFF (Fused Filament Fabrication - the open source terminology) or FDM (Fused Deposition Modelling – trademarked) extrude hot plastic.

There are variations that do ceramics, even sugar paste. The technology was invented in the late 80s in the US with Stratasys taking the commercial path. The many variations of consumer printers have their roots beginning with the RepRap project in the UK in 2005. Simply, it's a machine that lays down lines of a heated material to build an object representing a 3D drawing.

What are you going to do with it?

Really, what do you need it for? The hype? Keeping up with your buddies? The medium used to manufacture is plastic. It is far from the best structural material for a high performance sailplane wing, but it is very good for making accessories like cockpit detail in scale models and some servo mounts for example.

Used the right way it can make you a nice flying model, but existing construction methods are better options for larger models at this time.

Do you like to tinker?

If you can't say yes to that last one then wait a few more years for the technology to evolve. What do I mean by tinker? You can go two paths for the machine itself. Buy one ready-made or build a kit. Both will still need some hands-on time to get nice consistent prints. However, expect the kit machine to take a bit longer to produce a good result. In all cases it is vital the machine is true, square, has slop minimised and is rigid enough to give good precise prints. Printing small test pieces might lull you into thinking all is good but as you print larger objects, poor rigidity and untrue, inaccurate frames will affect the print quality.

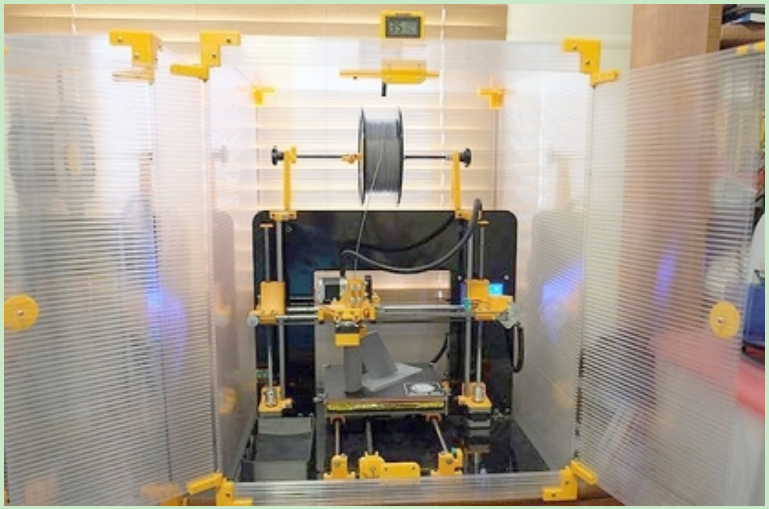
What materials can you use?

The filaments are in 1.75mm or 3mm diameter. 1.75mm is taking over as the more popular filament size. Filament mostly comes in 500g or 1kg spools. The common ones (in order of difficulty to use) are:

• **PLA (Polylactic Acid):** somewhat biodegradable and smells like burnt waffles when printing. Easy to use, warp resistant, strong but brittle and will go soft at 60degC. Many colours.

• **ABS (Acrylonitrile butadiene styrene)**: strong pungent smell when printing, so need to ventilate. Tough, fairly easy to use, but will warp when printing larger pieces. Doesn't soften until 110degC. Needs special care in humid environments. Needs a heated build bed. Many colours.

• **Nylon:** almost no smell, flexible, harder to print as layer bonding can be a problem. I have successfully used F3B winch line to print small items. However, it was a smaller diameter than normal - 1.35 instead of 1.75 - and luckily my machine's extruder could handle it. There are some other materials, but PLA and ABS are the usual ones to start with.



Mendel90
Dibond

Tau flying wing

EasyMax001

What skills do I need?

The learning curve can be steep. To be proficient and to justify getting one to support your workshop, you need to be able to drive a computer well and learn a few related programs. Being able to draw with CAD is desired and in reality you won't get the most value out of the printer unless you can use a CAD program. You

must be happy to tinker. There are some basic processes that need to become second nature so you can print consistently well. You will need to be patient.

What software is required?

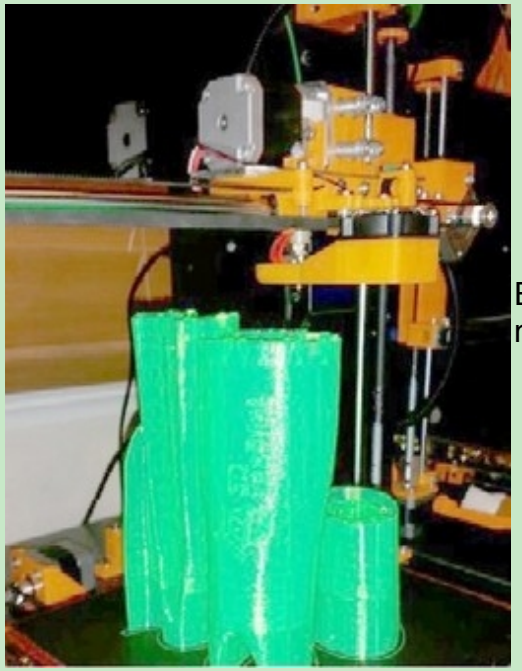
You should get a CAD program. While many are available, Fusion and Sketchup are free, aren't too difficult to learn, work well and have various add-ons to help you to generate the .stl files needed. You'll need a "slicer" program and perhaps a printer controller. A "slicer" like Slic3r or Cura cut the drawn object into horizontal layers and apply the build and support processes you define into the g-code the [printing] machine can use. A controller is the interface between the computer and the machine and lets you manually control the printer. Some printers run off USB, some can quite easily run as standalone units using a SD card. In some cases these are combined into one, like Simplify3D (paid) and Repetier (free). There are others out there – look around and ask questions to get software that suits your needs and pocket.

Can I get ready made files?

Yes you can. You can also purchase .stl files or go online to Thingiverse or Yeggi where they have large free libraries of files. There are conditions to use. You could spend a year making egg cups alone. Luckily some modellers publish their work for all of us.

Important point! 3D object files may look OK from the outside and be fine for other CNC work where material is taken away to get to the final product. HOWEVER, 3D printing is additive so the CAD model must be good BOTH inside and out and be "manifold." That basically means it would be waterproof, so no holes between the inside and outside of the "shell." Some free files may not be "manifold" and cause problems. There are some programs that can fix these to make them printable if the issues aren't too great.

There are large online communities out there that are very helpful for almost every flavour of software. These communities are a valuable resource.



Electric sailplane fuselage nested print

P-47N structure

Fuselage structure detail

P-47N nose

What type of printers are there?

The printers we are discussing lay down molten plastic from an extruder. There are also resin printers and laser sintering printers too. These last two types are more commercial and are expensive. Of the filament style printers there are “open source” and proprietary designs, either as kits or prebuilt. To complicate things more, there are sub groups of Delta printers (fastest, have swinging arms) and Cartesian (open frame and box style are more common) printers. Each has pros and cons, research this well so you don’t end up with an expensive paper weight on the desk.

What bed size do you need?

A common size now is around 200x200x200mm. To go much smaller than this limits you to smaller pieces. Around this size is a good place to start. There are larger ones out there, but larger objects take longer to print and aren’t really needed unless you want to print dishes, vases and sculptures. It is certainly possible to join sections together and to nest them on the bed during the build. This gets around the smallish build volume limitation to an extent and is used very effectively to build larger items.

Some machines have heated beds, why?

If you are only going to print with PLA and print small items you can do without a heated bed. However, it is advisable to get one for other filaments, particularly ABS. The heated bed significantly reduces warping and corners lifting due to shrinkage as the layers cool.

How long does it take?

A fairly standard layer height is 0.2mm, so five passes per mm. Nozzles are mostly around 0.3 to 0.5mm wide. If you need a thicker wall and lots of infill it adds to the build time. A hi-resolution print at 0.1mm layer height will take twice as long. A small object like a chess piece might take less than an hour, a large one like a vase, 12 or more. It’s slow! The P-47N model in the picture took 12 sessions over 5 days.

What are the limitations?

Patience, skill level and imagination come to mind! An item like a scale glider joystick printed vertically will be difficult to print and be easily broken. A flat instrument panel would be easy. A set of wheel pants for a tug will need support material printed as well. This can affect the finish, so some rework may be required. The strength of a part is also dependant on how well it prints. If you haven’t got

good layer bonding the item may look fine but be too fragile for use. While there are multi color printers, they often have a smaller build volume and require a lot of tweaking to get a satisfactory result. So one color is the most common.

What would it cost to set up?

A reasonably sized kit printer could be had for less than USD300.00 and using free software you would pay only for filament. A prebuilt printer could be from $500.00 to $3000.00. If you buy a CAD program it could be hundreds of dollars. Other software can be in the hundreds. As mentioned before, there are a lot of good free ones to try first.

Ongoing costs?

Good filament costs around $20.00 to $35.00, but can be up to $90.00 per kilogram depending on the type and brand. It is worth shopping around. Just be aware that cheap filament is cheap for a reason. For reliability and decreased frustration you need consistent diameter, no inclusions or voids, no oily residues from manufacture, and the filament should come vacuum packed with desiccant. Spares may be needed as 3D printers are machines that move a lot, so belts and bearings can wear and nozzles can clog. Components do fail. Mostly they are readily available, can be changed by the user and aren't too expensive. Any printed parts can be reprinted. The wattage depends on the printer, but 20W to 50W per unit is common so this is a cost if used often.

How safe are these things?

The heated beds commonly run up to 110°C, the extruder nozzles up to 250°C. Some house fires have been proven to have been caused by a 3D printer. To counter the risk, firmware developers have made some changes like thermal runaway of the extruder and shut down power. However, be safe, don't leave them unattended. Have an extinguisher handy. Avoid printing overnight while sleeping. Keep the machine clean and clear of flammable material. Keep the room it is in well ventilated. I have had some minor finger burns while removing crud from my extruder nozzle. Plus I have cut myself getting stuck objects off the build bed.

The future?

Truly reliable single action printers are not quite there yet. Multi-color print heads are in development. New materials for filament are being tested. Higher print speeds will be possible soon enough. Given time they will be very handy and reliable tools with a massive library of files to print - whatever someone's imagination has come up with. For an interesting read search for the history of consumer 3D printing.

So how can I use one for RC modelling? Can I print a sailplane?

Yes you can. 3DLabprint offers files for various models including a basic 1.5m sailplane. I have printed them all and they aren't too heavy, look good and fly fine if printed correctly. If you bingle it you can just print another part.

I have printed a monitor mount for my Jeti radio that is small and strong. You can print servo trays for F3X models, camera and servo mounts for tow planes, hatches and covers.

Has it been worthwhile, these six intensive months of 3D printing?

Yes, I've made a lot of mistakes and learnt a lot. I can now produce objects I can use. I must be hooked because I now have three active printers making everything from RC airplanes, trinkets for family, to products for full size aviation research.

Caption competition

From RCSD with thanks

My first attempt: ‘Might as well stay up here for the next landing.’

You can do better. Entries please.

Flying for dummies: from Bob May

'What is the similarity between air traffic controllers and pilots? If a pilot screws up, the pilot dies;
If ATC screws up,.... The pilot dies.'

'Never trade luck for skill.'

The three most common expressions (or famous last words), in aviation are:
'Why is it doing that?'
'Where are we?'
And ...
'Oh S...!’

'Airspeed, altitude and brains. Two are always needed to successfully complete the flight.'

'Mankind has a perfect record in aviation; we have never left one up there!'

'Flying the airplane is more important than radioing your plight to a person on the ground incapable of understanding or doing anything about it.'

'The Piper Cub is the safest airplane in the world; it can just barely kill you.'
Attributed to Max Stanley (Northrop test pilot).

'There is no reason to fly through a thunderstorm in peacetime.’

Sign over the Squadron Ops. Desk at Davis-Monthan AFB, AZ, 1970
’If something hasn't broken on your helicopter, it's about to.'

As the test pilot climbs out of the experimental aircraft, having tom off the wings and tail in the crash landing, the crash truck arrives; the rescuer sees a bloodied pilot and asks, 'What happened?' The pilot's reply: 'I don't know, I just got here myself!'
- Attributed to Ray Crandell (Lockheed test pilot)

More from Bob next month

Book of the month

Wings On MySleeve by Eric ‘Winkle’ Brown

Weidenfeld and Nicolson 10-0-297-84565-9

Brown was one of the most, probably the most, remarkable pilot in his field. He was a Royal Navy pilot and officer and flew a greater number of aircraft than anyone else. He totalled 487 basic types, both fixed wing and rotary, and even more if all variants of each type are included. His tally included machines from the German, Italian, Russian and Japanese air forces. He was a test pilot with the Royal Aircraft Establishment at Farnborough and flew aircraft that others had failed with, such as the DH108, often deliberately reproducing the flying that caused others to crash. He was instrumental in working out how to do deck landings of aircraft of all types and did 2407 himself, many of them firsts.

He ran many of the establishments that he worked in, but always made sure he kept up his flying. I got the strong impression that he was the sort of boss you would want to work for. He was supportive and demanding, with high standards, but as a flyer himself very aware of the need for careful and thorough training and knowledge of his people. He found friends and colleagues everywhere including in Germany immediately after the war. The bond between pilots, engineers and technicians proved stronger than their enforced enmity. In his modest way he describes his steady promotion which declined as the then Labour government cancelled many of the projects he was working on.

He put his survival down to his small size and his ability to withstand stresses, but as you read this book you learn how his logical or instinctive reactions allowed him to escape from situations that would have killed many pilots. The very last one in the book was typical. Whilst Commanding Officer at Lossiemouth he flew a naval Whirlwind helicopter, fitted with an arrester hook, out over the hills around Banff with two passengers to check if any farms were in trouble due to the heavy snow. His single engine blew up but he was able to autorotate like an autogyro. The snow was so deep that he could not see the ground to find a flat area. Because of his skill at deck landings he decided to find a wire fence and then caught it with his tail hook to stop his forward movement. No-one was hurt.

This is not an autobiography as he does not describe any of his private life. This is not a book for someone who feels uncomfortable about weapons and their use. I have always had this dilemma. I accept that while there are malign governments and leaders in the world such things are unavoidable for our safety, and I find exciting the performance of the pilots and the wonderful flying machines that result. However I can’t help but think of the human bodies that are torn apart by the things sticking out of the front. I ended the book awed by the coolness, skill, energy and humility of this remarkable man. The BBC broadcast a programme about him a little while ago. If I see it again I’ll make a recording of it and put it on a disk. He died in 2016 aged ninety-seven.

Peter

Sources

Hobby King no longer sells Vallejo acrylic paints. This is a pity as they sold the 60ml bottles at about a fiver. I have now found a UK source of the full range of these paints but in smaller pots and so higher prices. https://www.scalemodelshop.co.uk/

On a rather more serious note it looks as though we probably need to wear masks at least some of the time. I have found that two of my model aircraft sources stock the simple three layer ones at very good prices. AliExpress has them at about $25 per 100 or less. Banggood is $25 per 50. I believe in hedging bets so ordered from both. These are not the sort used by NHS staff so we are not robbing them. And it's a small price to pay for safety if it comes to that. I noticed that Sarik, amongst others, is selling similar masks at about a pound each, according to an email it sent me!

Sod's Law: I bought some spares from Banggood in March. They had not arrived by Wednesday this last week. I contacted BG using the Live Chat option on the contact page. As always they were helpful and immediately refunded my money. Guess what? The goods arrived the next day. I tried to explain Sod's Law to the Chinese company but I don't think I succeeded. Anyway today I paid all over again so all is well.

Sales

I also have a 'Chilli Breeze' which was plan built. I was going to kit her out but plans change and with a little one on the way I need to clear the workshop for now. First to give me £30 can have this.
Contact: James Leeks on 07961 719578

A Raptor 50 3D Helicopter. I flew it once and damaged the tail so need that repairing and new blades. Otherwise it looks as new. Open to offers to clear it. Has a brand new IC engine and all heavy duty Futaba servos fitted. Will throw in some other small Heli's as well.
Contact: John Smith on 01263 833080

Don't forget to check the General Sales page on the website as there are other items there. Please contact the owners direct. This is only for information.

Another book

Dave had an email from Stefano Nicelli, an Italian journalist and life long RC flyer. He has had his well received book, "Let me fly. *Emotions, joys and fears of aeromodelling collected and told by a pilot-journalist*" (144 pages, £10.72), translated into English and it is on sale at: https://www.amazon.co.uk/Let-fly-aeromodelling-collected-pilot-journalist/dp/B088XXL1ZH/ref=sr_1_1?dchild=1&keywords=let+me+fly+nicelli&qid=1590837720&sr=8-1

I haven't read it, and we didn't get a review copy, but I thought it was worth a mention, especially as he asked so pleasantly.

Letters to the editor

There aren't any. However it would be interesting to get some comments, ideas and suggestions. Let's see if anyone is interested. Perhaps some of the non-member readership would like to get in touch?

Stop press

Not strictly flying but I had to share these with you from the road.cc cyclist's forum.

The latest eye test

Tandem for social distancing