

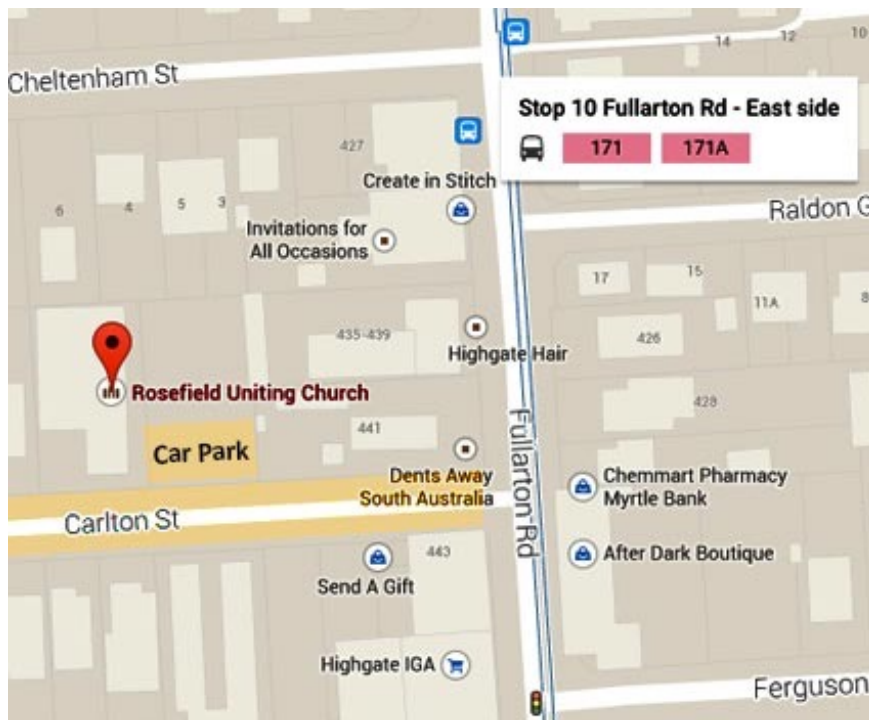


Meetings:

Friday 4th November @ 7:30pm

(doors open @ 7:00pm)

3D Printer Demo by John Bohmer



& Wednesday 9th November @ 2:00pm

Meetings at Rosefield UC 2 Carlton Street Highgate – off Fullarton Rd between Fisher Street & Cross Road

Street View <<https://www.google.com.au/maps/@-34.960106,138.624922,3a,90y,357.08h,90.59t/data=!3m4!1e1!3m2!1sbqkyXXNQ39xIB7LKVM0QyQ!2e0!6m1!1e1>>

Our last Wednesday Meeting

Reluctantly, the committee has decided to discontinue our Wednesday meetings as explained last month. At least one person is really disappointed about this as they can not attend on Friday nights. However, there has been very little feedback other than to express thanks to those who have made their time available to help members over the years.

To all who have supported the meeting and their fellow members, **THANK YOU.**

Alternatives?

While attempts over the years for SAAUC members to engage more socially have not been successful, perhaps those who will miss the Wednesday meetings could arrange with others to meet informally (in homes, at a Café or library etc.,) as an alternative.

The groups email forum is available for contacting others but the committee will not be able to arrange or organise such get-togethers.

Rob.

Looking ahead

Friday 2nd December – Breakup for 2016 (Last meeting for 2016)

Christmas Raffle

This year we will not hold our own raffle but encourage members to support the AUSOM Christmas Raffle. As their advertisement shows, they have greater prizes than we could offer.

At our December meeting we will have door prizes and there will be a draw for all members (attending or not) of 12 Months membership. More details next issue.

THE AUSOM
CHRISTMAS
2016
RAFFLE

FIRST PRIZE
APPLE
IPAD PRO

- Gold edition
- 12.9 inch
- 256 GB
- Wi-Fi
- Cellular
- Valued at \$1,949

SECOND PRIZE
APPLE
GIFT CARD

- Gold edition
- Valued at \$300

THIRD PRIZE
APPLE
TV

- 4th Generation
- 64 GB
- Includes HDMI cable
- Valued at \$378

FOURTH PRIZE
THAC
8-IN-1

- Plays 33/45/78 RPM records, CDs, AM/FM radio
- Plays and encodes MP3s from your iDevice
- Valued at \$199

TICKETS
\$5.00

on sale at all AUSOM Meetings from 3 September to 12 noon on 3 December, 2016.

Tickets may also be purchased online at:
www.ausom.net.au/raffle
or contact:
raffle@ausom.net.au

VCGR Permit No: 47862. 3000 tickets authorized. Prize draw at AUSOM Main meeting: 3 December, 2016 at 3 pm, New Hope Baptist Church, 3-7 Springfield Rd, Blackburn North 3130. Winners notified by phone or email on day of draw. Results published: www.ausom.net.au and AUSOM News Magazine.

Tickets available on-line; <<http://ausom.net.au/2016-christmas-raffle-ticket-order-form/>>

From our President

The WOW feature of the new MacBook Pro is the Touch Bar. A Retina Display strip replaces the row of Function keys on the keyboard giving touch control of the screen display. The control buttons can be dragged into, and out of, the Touch Bar from the main screen and the Touch Bar menu changes with each app that is opened. The new models are more powerful, smaller and lighter than before with Retina displays, larger trackpads, improved butterfly mechanism keyboards and 'touch id' in the power button.

If only our dollar was at par with the greenback! The entry level 13" MBP with Touch Bar is \$2,699.00 which is a barrier for me. In consolation, I am reminded of wise words of one of our guest presenters who always emphasises that our computers and devices are there for our use and enjoyment and if we are achieving what we want from them then we are happy.

Apple has a different role. They challenge the status quo, look to the future, what can be - think different. They are proud of their innovations - of Accessibility for disabled users, 8000apps now available through AppleTV 4th generation and a new app, 'TV', which they expect will change the way we watch tv.

We are privileged that we live in an age and place where we are overwhelmed with choice - our first world problem.

Spare a thought for the now millions of refugees around the world who have lost everything and have little hope of returning to a happy and comfortable life.

Regards

Marie

Apple Announcements

At their October Event, Apple showed off their new products and reviewed recent announcements.

You can watch the presentation via the Apple web site <<http://www.apple.com/au/>>

Accessibility

The first item shared was the increased focus on accessibility, that is, software that makes it easier for people with disabilities to have access to computing.

This software is built into macOS and iOS, now there are new web pages to explain how to make the most of accessibility features <<http://www.apple.com/accessibility/>>.

AppleTV

The new tvOS enables the AppleTV to be the one place for all your TV/Entertainment and integrates with iOS for viewing away from the TV.

Apple showed off a vast number of apps, over 8,000. Siri search for items on any App or network and more.

Most Apps are not available in Australia check out the local Apple site for details of what is.

iOS 10.1, iPhone 7, Apple Watch Series 2 & WatchOS3

An overview of market acceptance of iPhone 7 and the amazing camera on the 7+.

The Nike range of Apple Watch models was released for sale.

New MacBook Pros

Marie and Mike have commented about these and the new touch bar in this issue.

The improved keyboard and very large trackpad are features of all 3 models not to be overlooked, they promise to make using the new MBP's a pleasant experience.

All models feature slimmer, smaller and lighter bodies and only have USB-C ports for cable connectivity and charging. (Plus a traditional audio out jack.)

The Type-C ports are also Thunderbolt 3, unlike the MacBook which only supports USB 3.1 and earlier USB types. These are the first Mac's with Thunderbolt 3.

This makes the best two new MacBook Pros capable of driving two 5K monitors.

As with all change there are pros and cons, some critics think that Apple has dropped other ports like Ethernet, HDMI and USB 3 too early as there is a shortage of USB 3.1 and Thunderbolt 3 peripherals available and having to use adapters is not a tidy or inexpensive solution. And there is no Card Reader either.

Another compromise is that these machines have a maximum of 16GB RAM, apparently a limitation to preserve battery life and reduce heat.

It is clear though that Apple have produced an incredible, superior range of new MacBook Pros that lead the field in many ways.

One conclusion that can be drawn about Apple's port choices is that they are expecting wireless networking to replace cable connections for many purposes (Internet, printing, backup etc.) and this is the way the market is moving.

To clarify port capabilities: USB 3 = 5Gbps, USB 3.1 = 10Gbps, Thunderbolt 3 = 40Gbps
More about this at <<https://www.extremetech.com/extreme/207211-intels-thunderbolt-3-offers-usb-compatibility-at-full-thunderbolt-speed>>

New LG 5K Display

There was not much information about this monitor except to say that Apple had partnered with LG to produce it and that it can be used as a Hub.

Apple no longer make any stand alone displays, rumours of a new Apple Thunderbolt Display are unlikely to be true but one never knows.



Thunderbolt 3 / USB-C Hubs

To date, there are very few Thunderbolt 3 Hubs on the market. However, there are some Thunderbolt 2 Hubs that would do the same job of providing expanded connectivity.

One such device is the OWC Thunderbolt 2 Dock <<http://thewirecutter.com/reviews/best-thunderbolt-dock/>>.

This has previously been featured in SAAUCery so I will not repeat all the information here.

This and similar devices make for a tidy way to connect all your non USB-C devices, Ethernet, HDMI etc. when at a desktop.

While this does not include more USB-C/TB3 ports, it only needs one of the 4 on a new MBP so you still have 3 ports available for other uses.

Ideal for users who have legacy peripherals.



The main features are...

- 12 Ports of incredible connectivity
- Dual **Thunderbolt 2** ports for daisy-chain support
- Ultra-HD 4K and multiple display support
- 5 fully-powered USB 3.0 ports including two high-power ports
- FireWire 800 for connecting external storage and legacy devices

The only snag (apart from price) is that it will need a USB-C / Thunderbolt 3 to Thunderbolt 2 cable to connect it to a new MBP, no doubt a Thunderbolt 3 version will be available soon.



Mike's Musings

Mike says "I've got a new lawn on the chin, so felt a new piccy was in order ..."



MacBook Pros ("Late 2016")

In late October Apple introduced a significantly-revamped line of MacBook Pro models. They all feature more powerful processors and video, more detailed and colourful Retina screens—and all with the one kind of peripheral port(*), just like the MacBook. There are three models, two 13-inch and one 15-inch. One 13-inch model is “functionally” very similar to those just superseded. The other 13-inch and the 15-inch models have no function keys; instead, they have Apple’s *Touch Bar* on their keyboard.

This Touch Bar is a continuous, “soft” strip across the top of the keyboard. It allows app developers to program all sorts of functions and controls for an app into it. (It’s like having a set of programmable “soft keys” whose functions are “context sensitive”.) These controls can be “buttons” or “sliders”, for example, whose size is not fixed. At the right-hand end of the Touch Bar is a new integrated *Touch ID* sensor, which functions exactly like Touch ID

on iOS devices. This means that, once you have “registered” your “touch” on the machine, you can touch it to log into the machine. (It can also be set up to use Apple Pay!) To get a decent idea of how the Touch Bar will be used, it’s probably best to seek out the several websites showing its being used.

The Touch bar will be useful to some, and fascinating to many, but I think the more immediately significant change to these machines is the single kind of peripheral port they all have. Apple is carrying on what they started with the MacBook—namely, offering only *USB-C* style ports on these new machines. Note: “USB-C” designates the physical shape and style of the port.

One’s immediate reaction might well be: “Where the heck do I plug in my existing peripherals—printer/SD card/HDMI for my external monitor”? The answer, for now, is that you buy adapters! An obvious one might be one of Apple’s Multiport adapters, that have one USB port, another USB-C port and an HDMI or VGA port for an external monitor. (A local Apple dealer told me that every MacBook they sell goes out with one of these.)

Luckily, these new models have four (the Touch Bar models), or two (the non-TB model) of these USB-C ports. (Remember, too, each port is functionally identical, so you can connect the power plug to any one of them, including the USB-C port on an adapter.)

The “redeeming feature” of this type of port is that they carry many different protocols—Thunderbolt 3 (video and audio), Displayport 1.2 (video) and USB 3.1 (for many types of peripheral). Eventually, I guess we’ll see peripherals equipped with USB-C ports, so the aforementioned adapters won’t be so necessary.

Apple veterans may remember how Apple jerked us into the future once before—the first iMac had only USB ports for connecting any type of peripheral! (OK, they did have to add a SCSI port later, to ensure decent transfer speeds from external disc drives!)

Check out Apple’s online store <<http://www.apple.com/au/store>> for price and availability. It seems the non-Touch Bar model is available now, but Touch Bars are some weeks off.

There may be sticker shock, too:-); Apple has raised prices in several countries...

(*) Oh, they **did** keep the old-style headphone/mic jacks on these new machines!

Mike Millard.

Upon the Tenth Anniversary of the iPhone’s First Appearance

[After talking about iPhones with a friend the other day I remembered writing something when the iPhone first came out ten years ago this last June. The following appeared in the Club’s Google Groups upon the iPhone’s release— Mike.]

From up here in the Great White North - for those outside North America, that's "Canada!" —the hysteresia about the imminent Coming of the Messiah? Armageddon?—er, sorry, the iPhone's going on sale on June/29th at 18:00 in the U.S.—is almost deafening. I know it will be something wondrous—and lovely to have—but is the event deserving of quite the level of anticipation?

I mean, you can't make coffee with it. If you try to Text on it while you handle a Snickers bar on a hot, sticky day, you'll just end up with a garbled message and icky chocolate marks all over its shiny glassy face. Sure, if you do finally manage to dial, you'll still have at least one Chocenstein fingermark on the front, and your callee will find you unintelligible as you try to converse with your mouth full of Snickers bar.

*For us G.W.Nerners, I am offering the design for the **Oi!Phone**, absolutely free, under a General Public Licence. You can even construct it yourself! To make your Oi!Phone:*

1) Obtain the following:

- Two small tin cans, open at one end.*
- A length of string, up to twenty metres long.*

2) Using a nail or similar device, make a small hole in the centre of the bottom of each can.

- 3) Thread one end of the string from the outside through this hole to the inside of one can. Tie a knot in it so the string cannot come back out the hole.
- 4) Repeat 3) with the second can and the other end of the string..
- 5) Arrange the two cans where the users will be.

To use your Oi!Phone:

- 1) Pick up the can at your end. Stretch the string tight.
- 2) Yell "Oi!" (or "Oi, You!!", if urgent) very loudly.
- 3) When the Oi!ee yells "Oi!" back, begin conversing.
- 4) To end the conversation, just stop talking.

P.S. 2016 marks the fifteenth anniversary of the release of the first iPod.
Mike Millard.



PRINTERS



The Printer we buy for our home computer should be dictated by the usage we have for it, but most times we pick the one with all the bling, like the fax option, and, "it scans and copies and prints on CD's" You need to ask yourself how often you will actually use those extra features. Of the extra features the current "All In One Printers" have I find the scanning useful more than anything else apart from the obvious print function.

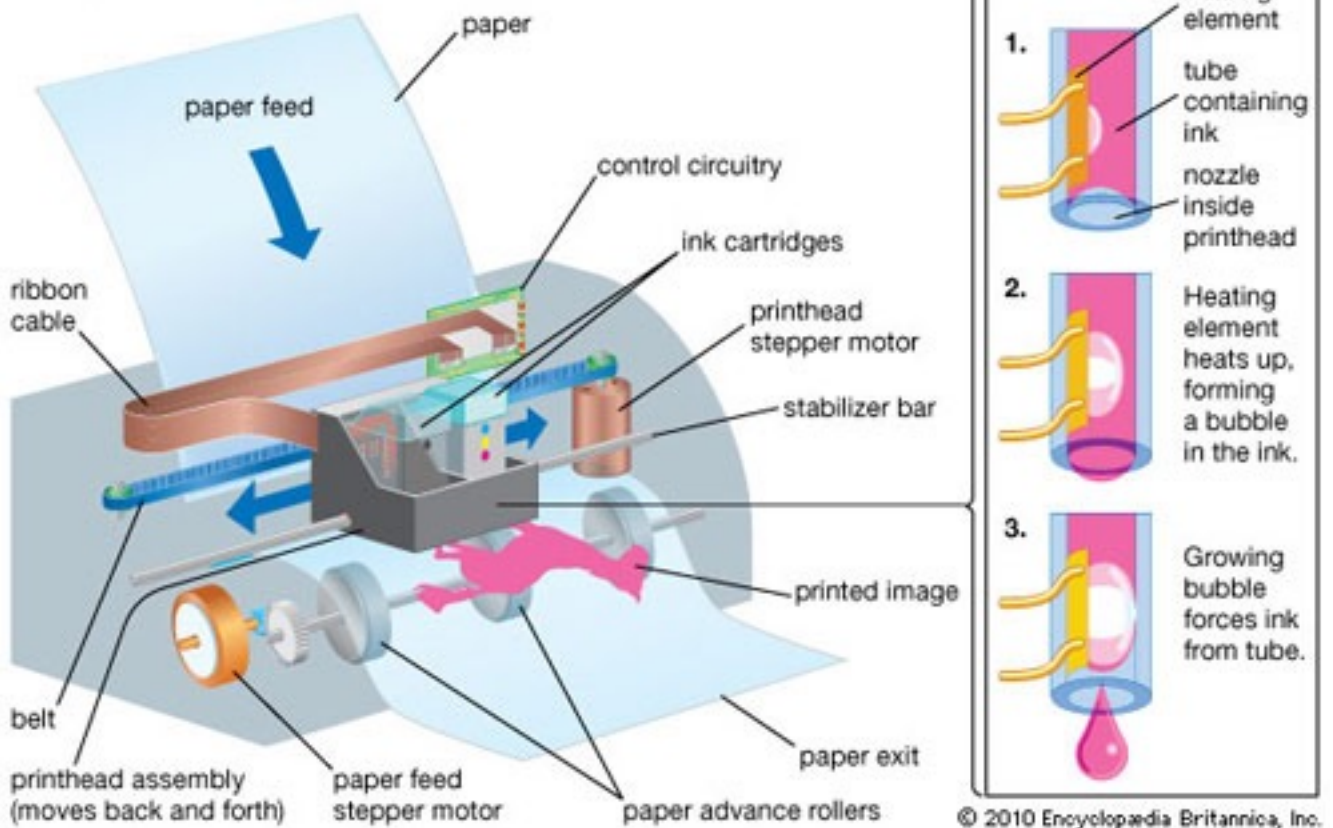
Inkjet Printers

The Inkjet is the modern day Dot Matrix Printer, with the ink dots being finer and spaced much closer together the combination gives you the of quality print you enjoy today. Inkjets work by spraying liquid ink onto the paper. The ink is heated causing it to expand so it bursts onto the paper and fills the pixels to make the visible image.

There are numerous models and brands of Inkjet Printers to choose from, including A3+ size machines.

Machines like Canon and HP have the print head built into the Ink cartridge, so every time you buy a new cartridge you're also buying a new print head. Epson place the print head in the machine so the ink cartridges are cheaper to buy.

Principle of the ink-jet printer



A recent release is the “Ecotank” range of Printers from Epson that feature bulk ink tanks built into the machine. They’re marketed as having 2 years supply of Ink out of the box, with a quoted yield of 11,000 prints for Black, and 8,500 prints for Colour. Replacement bottles of ink are currently around \$19.00 each and have a yield of 6,500 and 6,000 prints respectively. The two currently available models are priced around the \$450.00 - \$500.00 mark, so you would need to be making a lot of prints per week to justify the cost.

The upside to bulk ink is cheaper prints, by a big margin, but you can also save money in print costs using XL style (extra high capacity) cartridges that deliver more prints (for the money) than standard cartridges. A Standard Inkjet cartridge holds just 4 Millilitres of ink, XL cartridges have 15 Millilitres in them. Just as an aside, Inkjet ink is one of the most expensive liquids in the world, it is in excess of \$5000.00 per Litre!! No that's not a misprint!

Regular use is required to keep print heads clean, and generally they are not that economical with their use of ink. inkjets will dry out if not used, and will then use up ink to clear the print heads.

Depending on usage an Inkjet spends time (and ink) cleaning the print heads which reduces the yield from cartridges. From my experience aftermarket cartridges are cheaper but the inks used give a reduced quality of print and most times do not last as long as OEM cartridges. You get what you pay for!

Laser Printers

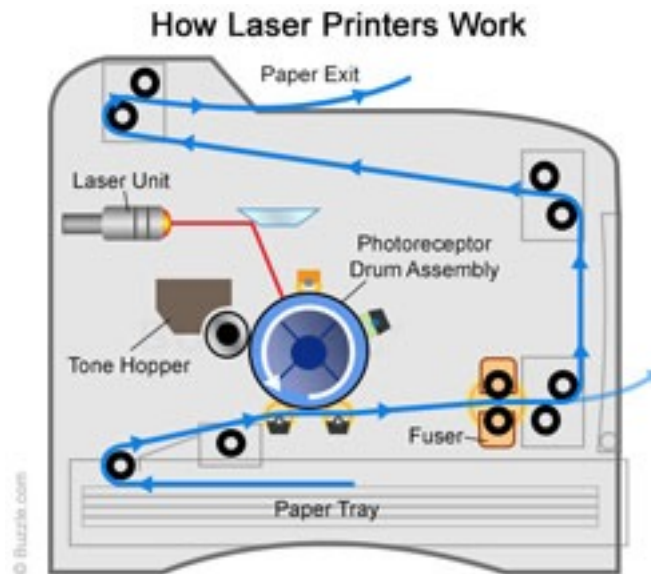
(Also applies to LED Printers - they are the same apart from the light source.)

Low end Laser printers can be purchased for around \$130.00 but are black only, colour inkjets can be bought for under \$50.00. Be aware that both printer types in the low price range come with “starter cartridges”. These only have a 25% fill, so you will need ink fairly soon after purchase.

Replacement inks for your Inkjet, for the most part, will cost at least as much as the printer cost you to buy, and in a lot of cases exceed the purchase price of the printer.

Generally Inkjets print better photo's, as the laser tends to look washed out on normal 80GSM paper. Specific papers are available for printing photo's on both types of Printer but they're obviously more expensive.

The larger the printer, i.e.; more copies/minute, the cheaper the Laser will be to operate, however there are definite limits for the home office, not the least of which is initial cost of the unit and the room required to house it. A minimum amount of space is required around a Laser Printer for cooling. The reason for this is that Laser printers run the fusing section at 140Deg C (or more) to melt the Toner, and need cooling air to avoid overheating.



The design and paper path will vary with brand and model.

Laser printers use an Electrostatic process to make prints. They are more complex with more steps involved in the print process, and they use more parts. Laser printing uses dry Toner powder. This toner is carried within a "Developer" which for all intents and purposes consists of Iron filings and is commonly referred to as the Dev, or mix. When the Dev is tumbled around a magnetic roller it sets up a latent charge within the itself that attracts the toner it carries to make the print. Magnets housed within the main developer roller make the Dev stand up to "brush" the toner on to the charged areas of the drum, which is then transferred on to the paper. The paper then moves on through the Fuser section which melts the toner on the paper. Laser printing is more efficient with the Toner so the cost per page is considerably less than an Inkjet.

As far as running costs go, inkjets printing black will cost you around 5c page, colour will cost in the region of 8-11c / page. With Laser, black will be around 1 cent /page and colour prints can cost up to around 22c/copy + paper, depending on brand. Yield on Laser Toner cartridges starts around 2-12,000 prints and goes up from there.

Paper

One of the most important things with both types of printer is to make sure you buy quality paper. You need a minimum of 80GSM to minimise problems in the operation of your printer of either type.

GSM refers to the paper weight, as in Grams per Square metre, and 80 GSM is the lightest weight paper you should consider for your printer.

Paper brands like Reflex, Fuji Xerox, Canon, Double A, AJ Burrows etc, will work well in your printer.

AJ Burrows, Reflex, and other manufacturers market “Recycled” papers for use in your printer, most work reasonably well, but the copy is not as clean, as there are myriad small black dots throughout the surface of the paper. This doesn't worry copies made for in house use, but may affect the “look” of copies going out to clients. Some will also load the machine with paper dust!! which plays havoc with the feed system and copy quality. The cheap papers you see on special at various outlets are not always what they seem. Most are underweight and are prone to jamming, especially if they have absorbed some moisture, be aware, paper absorbs moisture!!

A cheap ream of paper priced at \$3.00 costs 0.6 Cent/page, a ream of quality paper priced at \$5.00 costs 1.0 Cent/page. As you can see the saving is minuscule and is not worth the problems that come from using cheap paper.

Moisture in paper causes a number of issues, especially in the winter months, or in times of very high humidity. The main issues will be with the paper feed and image quality. You can also have “static” problems with paper that has a reduced moisture constant in a very dry environment. Static problems seem to mainly rear their ugly heads on high speed machines, I have seen paper literally stick fast to the frames of machines causing all sorts of problems for the operators. The usual result is paper jammed at multiple locations in the machine.

Inkjet photo papers <<http://www.pcworld.com/article/120899/article.html>>

Fan the paper

before you put it in the printer tray.

We fan the paper because it is packaged in reams of 500 sheets, packed into a box of 10 reams, and then transported on pallets 5 or 6 boxes high. The ream you just bought may have been transported in the bottom box on the pallet so that ream of paper will have had all the air expelled from between the sheets due to the weight on top. How do you “Fan” the paper? It's easy to do.

Hold enough paper for your printer tray lightly at both ends and pull it round into a U shape, hold the ends tight and straighten it out flat again while maintaining your grip this will make the centre of the sheets separate away from each other.

Let one end go and the paper will fan out and separate the ends of the sheets. Do that a second time for the opposite end. You have now introduced air and separated the sheets to assist your Printer to feed the paper, one sheet at a time!



Ricoh video, how to fan paper <<https://youtu.be/UrrTkVzhORs>>
another way <<https://youtu.be/HlckEao241l>>

Consumables

Laser printers use a number of “Consumables” in their [operation.ie](#); Dev, Drum, Hot roller/ Pressure roller, Cleaning blade, Toners, (Black/colour) Waste Toner Bottle etc. These items are built into the “Cartridge” in the home office type machine, where in the larger machines they are separate items.

Damp paper wants to roll up instead of feeding properly through the machine, and in the Laser can wrap round the hot roller, usually destroying it on the spot.

Aftermarket inks or toners may play havoc with the printer, they don't last, they have poor colour density, they block the print heads, cause excess head cleaning and fill the absorption pad, which in the case of Canon and their like, renders the unit unusable. Laser printers also suffer, damp paper plays havoc with the feed system and contributes to very poor copy quality, and jams throughout the unit. Letterhead paper that has had powder applied to stop pages sticking together when printed absolutely stops feed rollers from working in laser printers/copiers in about 3 copies!!

Office Printing/Copying

For those considering placing a Laser printer in an Office situation (where high print volumes are required), you need to be aware of the proposed monthly volume and the exact costs involved with leasing/owning a Laser printer. The major players will offer a “cost per copy” agreement for servicing the unit. For a monthly fee (x amount of copies @ Y cents/copy) you are covered for Labour, All parts (including costly electronic boards) and in many cases Toner. Do not consider an Office Printer, or Copier, without a CPC agreement in place, as without the cover the cost of maintenance will very quickly get out of hand.

Lack of use causes the Developer to lose it's latent charge causing severe quality problems, i.e., washed out copies, and if left like this long enough it can't be recovered.

Hot rollers and pressure rollers wear out, Cleaning blades wear out, Developer has a limited life as does the OPC drum which can also be scratched, Engagement/Wedding rings are a big culprit here when removing paper jams.

These items all have a life and have a warranty, but in a lot of cases damage is caused by operators, usually due to lack of training or knowledge.

To rebuild the larger Laser Printers with new consumables can cost \$1000.00 at a minimum when labour is taken into account.

Any of the top Brands are good in an office situation, i.e.; Xerox, Konica Minolta, Ricoh, Canon, Sharp, HP, etc. In the home office suitable Laser models come from bands such as, Oki, Samsung, Brother, and the small Xerox models.

I trust some of this has been helpful.

Mike Laws.

Retired Photocopier Tech

SAAUC Member.

2016 Committee Member.

Editor's Extra...

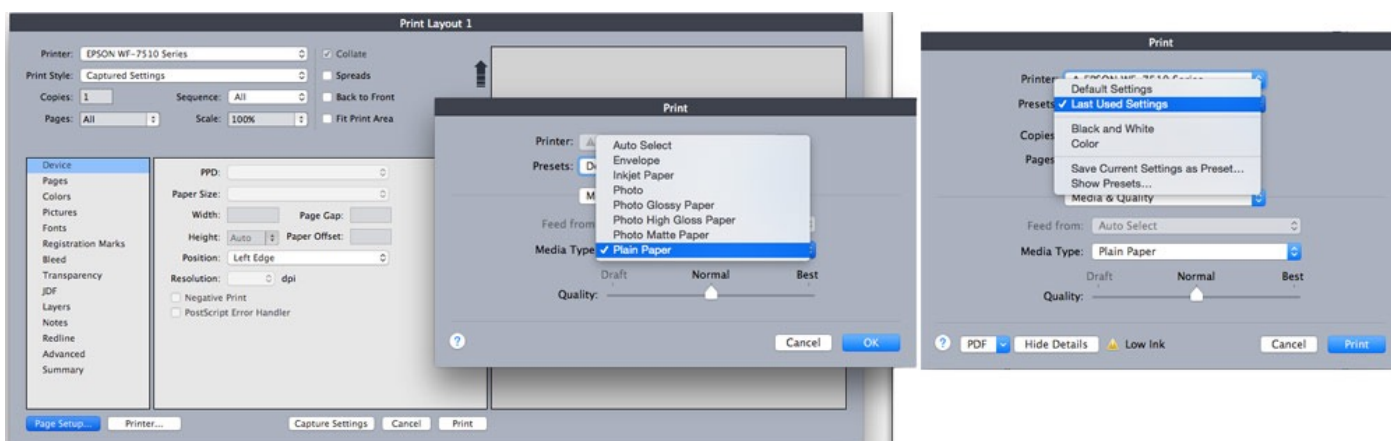
When considering buying a printer, it can be helpful to search the web for reviews that compare the current range of printers that are on sale. Apart from cost, the quality of the print should also be considered. This can vary even between models of the same brand using the same ink type.

For the best quality Photo printing, Epson and Canon make 6 colour (CMYK + Light Cyan & Light Magenta) models which increases the colour accuracy of prints. It is also worth comparing the cost of photo printing at home (Printer, ink & Photo paper) to printing photos at a store.

Printing options

All printers give the user some control over printing.

With inkjets, the options will include paper size, paper type and ink density. The way to choose these options will depend on what is shown in the print dialogue window which will vary with the App you are printing from, In some cases you may need to choose the options via the controls on the printer.



With my Epson, when printing on plain 80GSM paper, I need to choose “Plain Paper” rather than “Auto Select” to minimise ink usage, this does not alter quality but less ink is used. A quality/ink density slider is an option that requires trial and error to find out how it improves quality, I leave mine on “Normal”.

If your document has only black print, select “Black and White”, this will stop the printer using all 4 (or more) inks to blend for black as it does for a colour print.

Ink and Toner estimated yield

All manufacturers give a number of pages that an ink or toner cartridge will print based on ISO testing standards. The published yield figures are useful for comparing different printers, the prices of the ink or toner and calculating page per print cost.

The advertised amount is based on printing pages with 5% of the page covered with ink or toner. Therefore, the actual amount of pages you can print will vary depending on what you print.

(100% coverage would be where every part of the page is covered with ink such as when printing a photo.)

Some photo printer makers will also advertise how many 6”x4” photos you can expect to print from a set of cartridges. Even this is a guess as the balance of colours in your photos is unlikely to be the same as those used for testing.



Further Reading

<<http://www.printware.co.uk/Blog/Printing-Technology.html>>

<https://en.wikipedia.org/wiki/Laser_printing>

<https://en.wikipedia.org/wiki/Inkjet_printing>

<http://www.pcworld.com/article/114728/cheapskate_printing.html> (written in 2004 so printer models have changed, prices are for USA, but advice principles are the same)

<<http://au.pcmag.com/printer-reviews/37182/guide/the-best-inkjet-printers-of-2016>>

Rob.



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