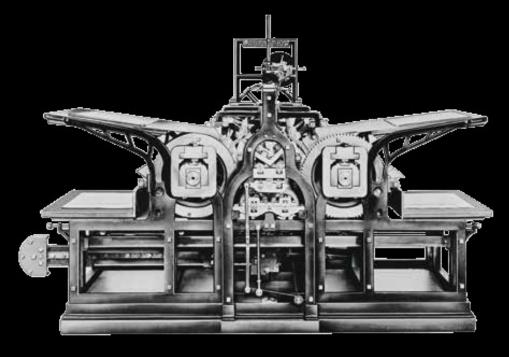


Philatelic Varieties found on Australian stamps produced by the Rembrandt Press



Friedrich Koenig and Andreas Bauer travelled to London in 1812 to design a press for The Times newspaper.

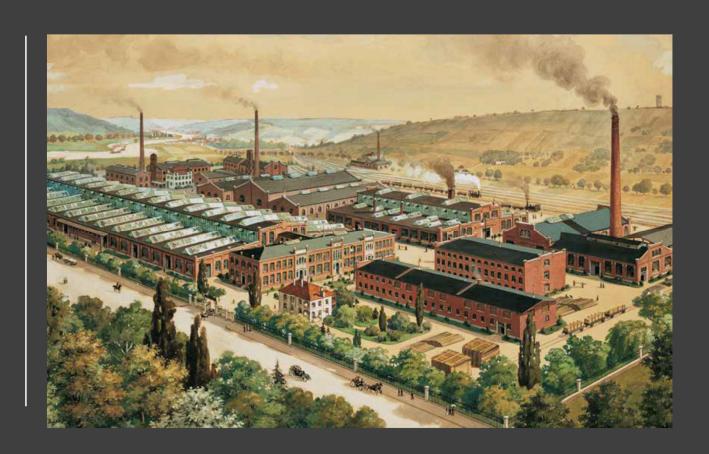
By 1814 they had produced a double cylinder press and the first edition was produced on 29 November.



Koenig & Bauer returned to Germany and founded their company in 1817.

The first factory was built at Oberzall near Wurzburg and the company flourished building printing presses for newspapers across Germany and Europe.

This factory was built in Wurzberg in 1901 but was destroyed near the end of World War II.



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New factories built in post-war reconstruction included one at Trennfeld where sheet-fed gravure presses were produced.

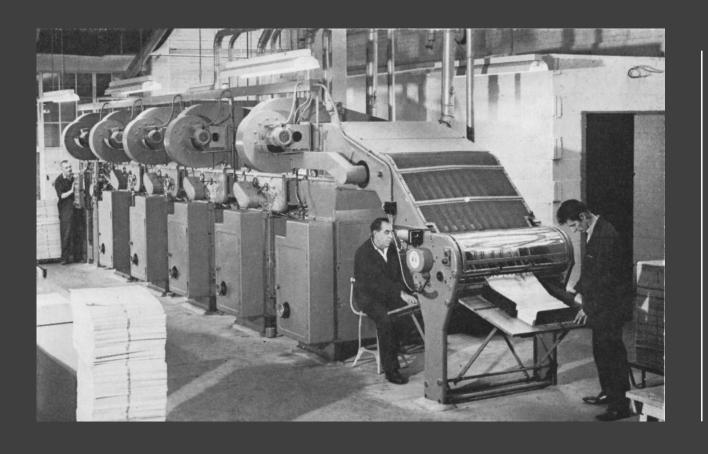


In 1951 Koenig & Bauer engaged Hans-Bernhard Schünemann, a brilliant engineer working for Giori.

By 1956 he was the chief designer of sheet-fed printing machines.

In 1959 he was adopted by the chairman of Koenig & Bauer, Dr. Hans Bolza and succeeded him in 1971. The company is now headed by his son Claus Bolza-Schünemann



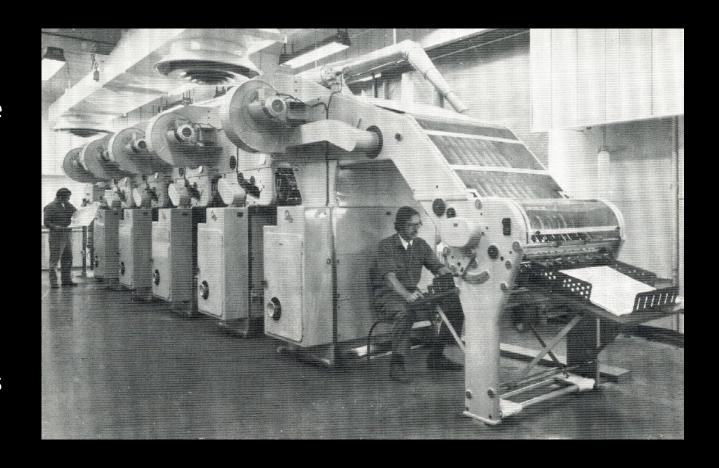


Hans-Bernhard Bolza-Schünemann patented over 250 inventions including the Rembrandt MTIII Press. The major buyers of this press were magazine producers. Harrison & Sons purchased one for producing British stamps from 1965. During the 1960s Bolza-Schünemann developed a sheet-fed offset press called the Rapida – a range that is

still in production today.

A Rembrandt Press was installed at the Note & Stamp Printing Branch of the Reserve Bank in 1972. This enabled the RBA to increase their capacity to produce multicoloured stamps in larger quantities than the Chambon Press installed in 1961.

The goal was to replace the single colour, intaglio stamps in use since the 1930s.

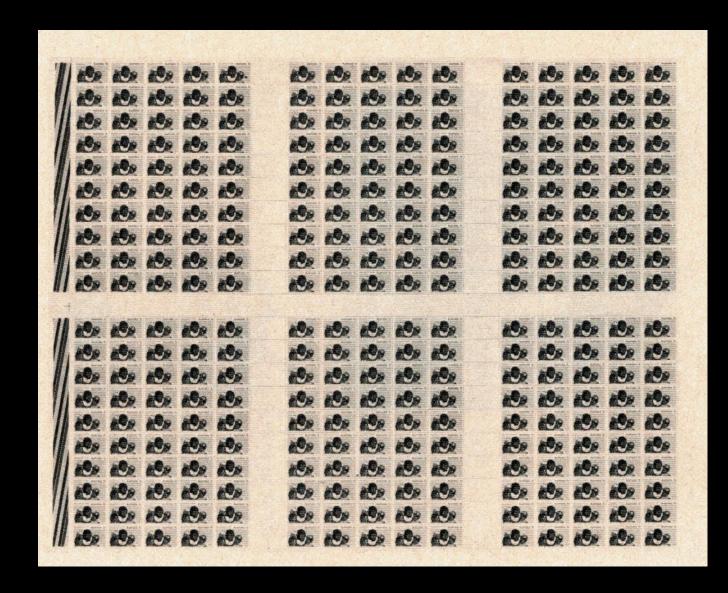


The Rembrandt produced stamps in sheets approx. 750mm x 538mm in size.

77 stamps were produced on the Rembrandt – the first being the 1972 Christmas stamp and the last the 1981 Thylacine definitive.













































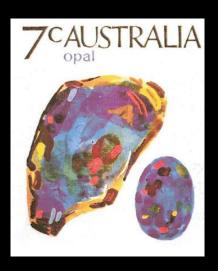


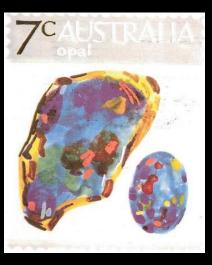


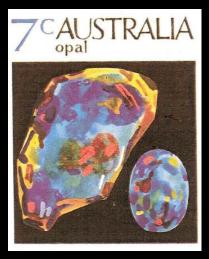
The Photogravure Process Design to Issued Stamp

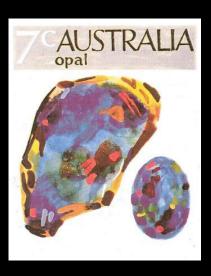


Design Selection













Colour Separation











Black & White drawings made for each colour. For the 8c opal design, five colours were used. Drawings are for blue, yellow, red, ultramarine and black. The intensities of colour are governed by the shades of black.

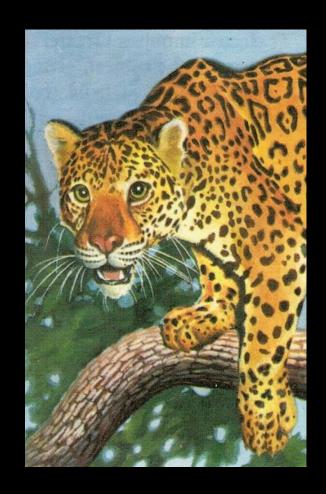
Colour Separation





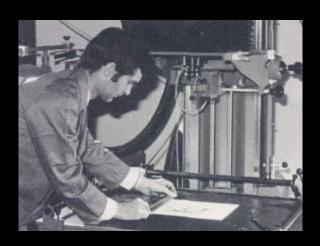


Colour separations from finished artwork may also be produced photographically. By using colour filters the illustration can be separated into the three colours of cyan, magenta and yellow.



Design to Multipositive

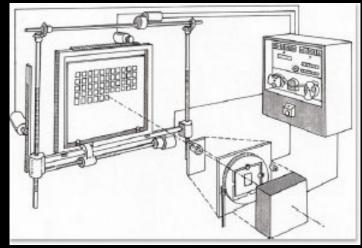




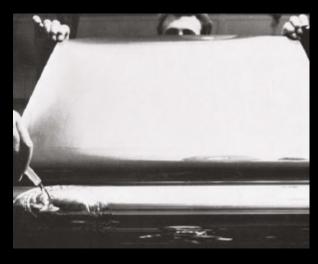


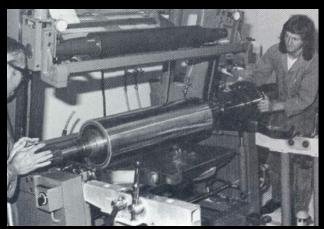
Finished artwork for each colour is transformed into a large multipositive – the same size as a printed sheet of stamps.

The artwork is photographed and the image reproduced over a glass or plastic plate using a 'step and repeat' camera. Colour bars, tone blocks and registration marks may be added at this stage and surplus images painted over to form sheet margins and gutters between panes.



Multipositive to Cylinder





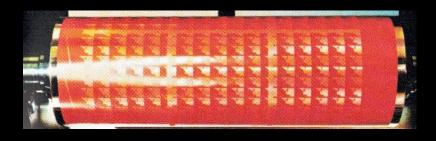
The carbon tissue is a sheet of paper coated with photo-sensitive gelatin that has been previously exposed to light through a screen of very fine lines (250/inch = 62,500 squares per square inch or about 100 / square mm).

The tissue is then covered by the multipositive and again exposed to light. The resultant image is now in negative.

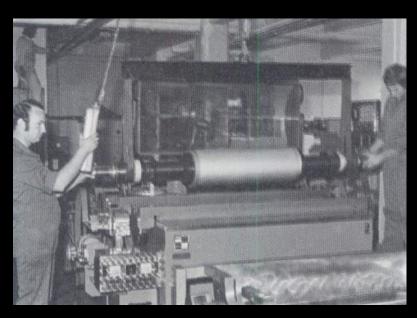
* Note that the point of application of the screen and the practice of reversing the image can vary.



Multipositive to Cylinder



After the carbon tissue has been wrapped around the cylinder it is dipped in hot water to remove the backing paper from the gelatin. The heat of the water also hardens the gelatin.

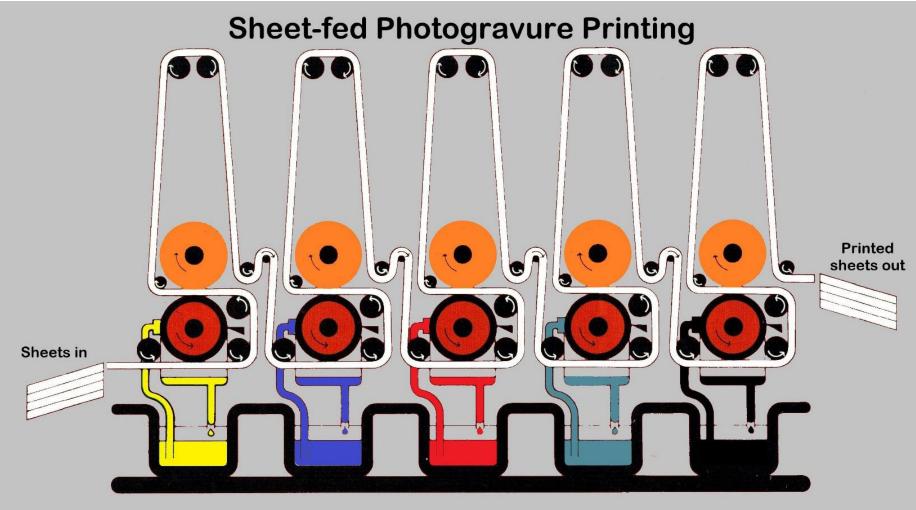


The painting out of surplus stamp images may be done at this stage.

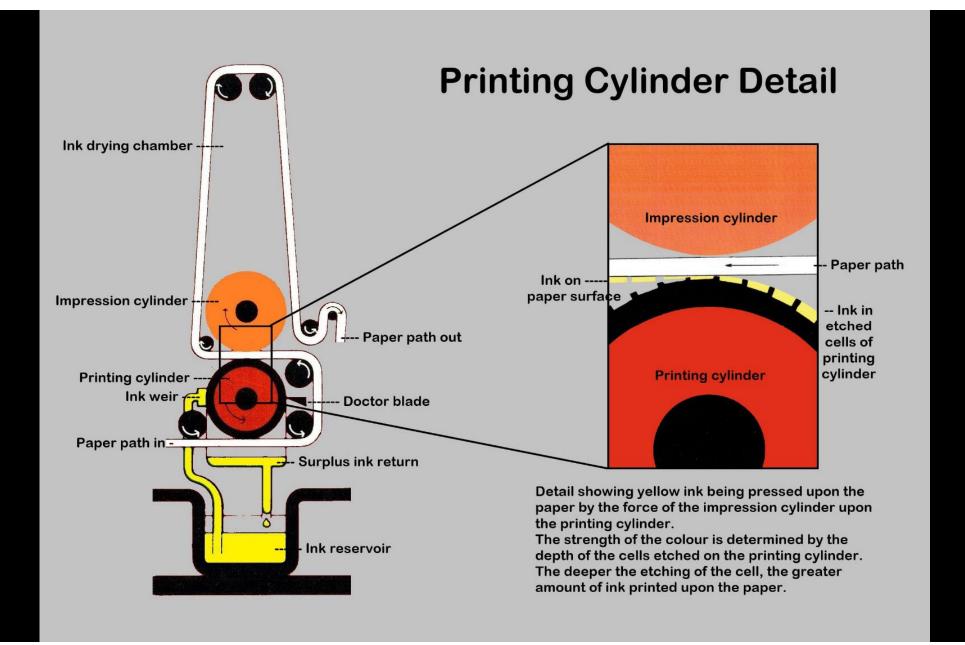
The cylinder is then dipped in acid to etch the images into the surface. The thinner the gelatin the deeper the etching and the darker the colour printed on the stamp.

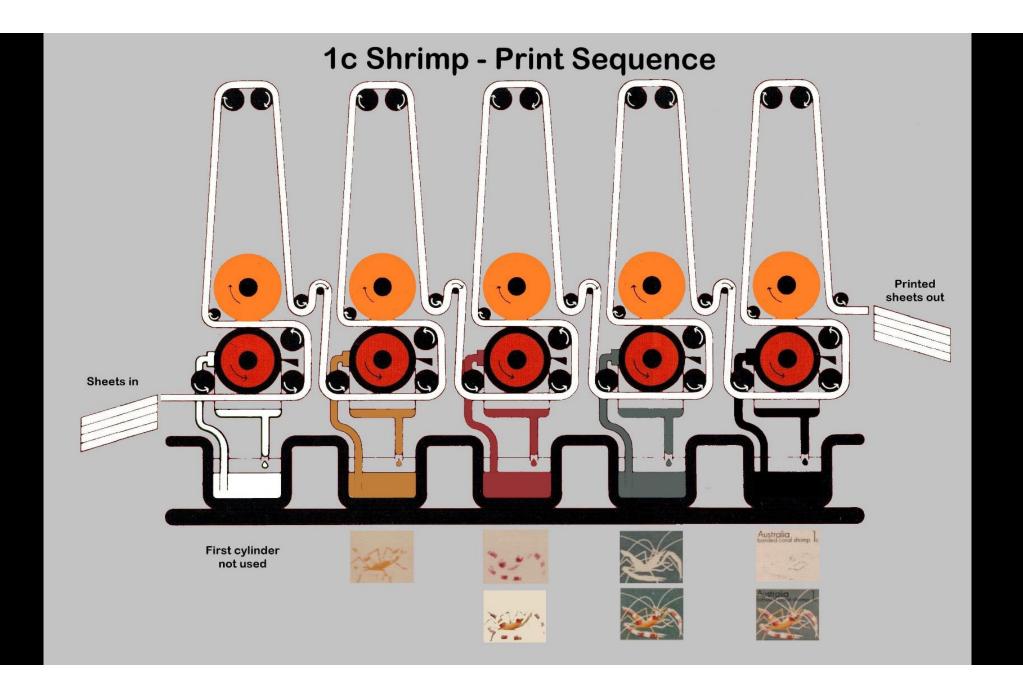
The final process is to coat the cylinder with chrome.



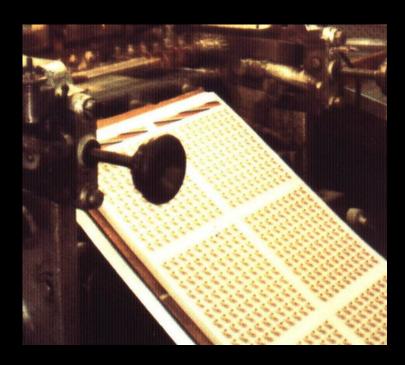


Paper sheets moved from left to right by chain drive Inks progress from lightest to darkest colours Not necessary to use all five printing cylinders Printed sheets emerge without perforations or numbering





Printing Press to Perforation







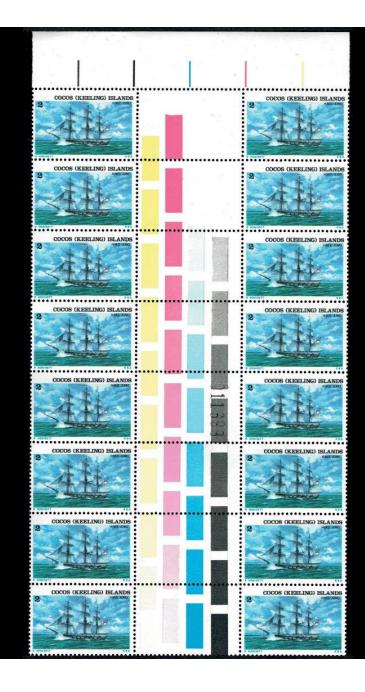
The printed sheets are then checked for printing errors using the colour bars at the edge of each sheet. They are then perforated and guillotined into smaller sheets for issue to the post office.

Tonal Step Wedges

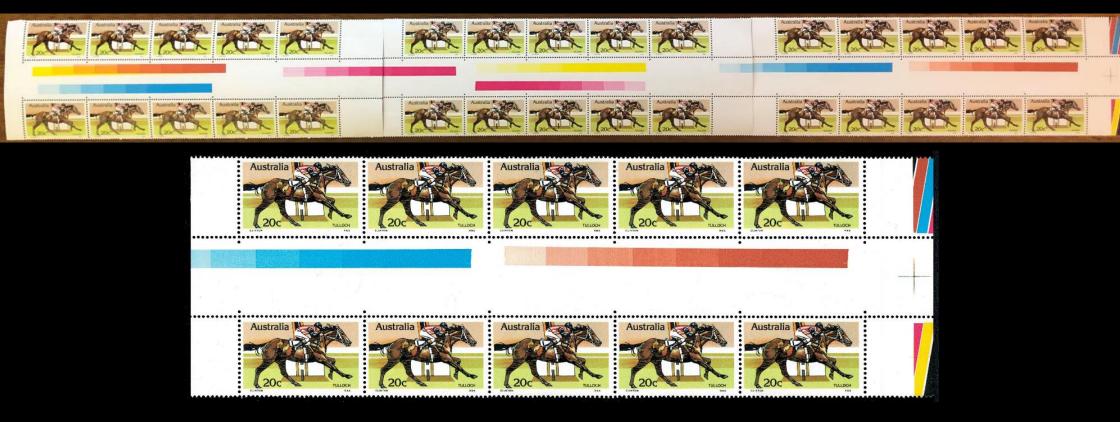
The stamp printer added tonal wedges to the gutters of stamps produced from cylinders created from filtered colour separations rather than drawings. They enabled the printer to assess the tonal graduations of colour in 10% increments.

The first stamps to show the tonal wedges were the Cocos (Keeling) Islands series of ships produced in 1975/76.

These were printed from the Chambon Press which also showed Autotron Markings instead of colour bars and sheet numbers.



Tonal Step Wedges



Tonal Step Wedges were later introduced to stamps produced on the Rembrandt Press. Their use seems to be confined to stamps printed from Cyan, Magenta and Yellow cylinders with extra colours added for inscriptions and denominations.

Alternative or Modified Separation Drawings?

According to McCleary's Australian Decimal Varieties the deep violet cylinder collapsed during the print run for this issue and a new cylinder was hastily made. Opinion is divided whether the differences between the so-called dies 1 and 2 are the result of using a different, or modified, piece of artwork to produce a new multipositive, carbon tissue and cylinder OR the etching of the new cylinder was too shallow and some of the detail was omitted in the balance of the printing.



Die 1- Kangaroo's eye is a dash.

Toes of the kangaroo and emu defined,
upper wattle sprig separate, line on
emu's beak, top left corner of shield
lined.



Die 2- Kangaroo's eye is a dot.
Toes of the kangaroo and emu missing,
upper wattle sprig joined, no line on
emu's beak, top left corner of shield
undefined.

Multipositive Varieties from 'Step & Repeat' Camera malfunctions

If the mechanisms governing the movement of the camera, or plate, fail, the images will be out of alignment in comparison with its neighbours.

The black cylinder used for the first printing of the 3c Marine Life had the lettering of the fourth row of sheet C Upper approx. 2mm to the right.

Sheets from this printing were destroyed.



Multipositive Varieties from 'Step & Repeat' Camera malfunctions





An under-exposure of the image on to the multipositive will result in a paler image which reveals itself on the stamp as a paler colour than its neighbours. Stamps 3-7 in the bottom row of Sheet A, left pane show a paler green colour in the landing net. This is attributed to a weaker exposure of the yellow image on the multipositive.

Multipositive Varieties from 'Step & Repeat' Camera malfunctions



Under-exposure.
Sheet C, upper pane, stamp 10/5 shows a paler brown.



Over-exposure.

Sheet C, left pane, stamp 10/2 shows a more intense black.

Multipositive / Carbon Tissue / Cylinder — Weak Colour Varieties



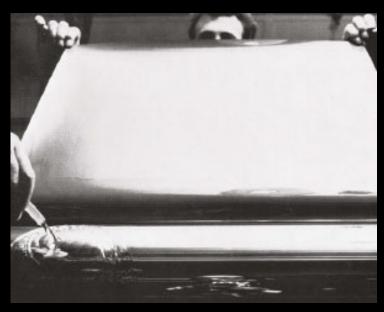




Constant varieties showing weakened colour are possibly due to -

- 1) The multipositive plastic not being held flat whilst the stamp images were being exposed upon it thus creating small blurred areas out of focus, or
- 2) Small bubbles being trapped between the carbon tissue and the cylinder affecting the etching process.

Carbon Tissue / Cylinder Colour Disturbances



Constant varieties showing weakened colour are possibly due to small bubbles being trapped between the carbon tissue and the cylinder being pressed out.



Multipositive / Carbon Tissue / Cylinder – No Colour Varieties









Constant varieties showing lack of colour are possibly due to –

- 1) Dust, etc settling on the multipositive film preventing the laying down of the image
- 2) Dust, etc settling on the carbon tissue preventing the etching of the cylinder.

Note - Where colours are overlaid the resultant effect of a lack of colour from one cylinder could create a spot of different colour on the stamp. See 10c & 50c stamps.

Multipositive / Carbon Tissue / Cylinder — Coloured Varieties





Constant varieties showing extraneous colour are possibly due to –

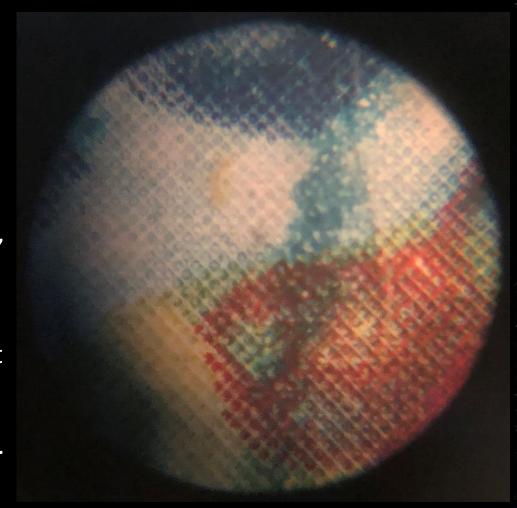
- 1) Dust, etc settling on the lens, etc of the step & repeat camera and creating a 'shadow' on the multipositive.
- 2) Damage to the carbon tissue allowing unwanted etching of the cylinder.

Note - Where colours are overlaid the resultant effect of extra area of colour from one cylinder could create an area of different colour on the stamp.

Multipositive / Carbon Tissue Varieties

8c opal. Sheet A, upper pane, rows 6,7 & 8, stamp 5. Blue line through uncut stone.

Variety is screened so it must have been on the image placed upon the carbon tissue from the multipositive.





Multipositive / Carbon Tissue Varieties



1c shrimp. Red line across claw.
Variety is screened so it must have been on the image placed upon the carbon tissue from the multipositive.



Cylinder Retouch



8c Opal – White space in uncut stone filled with solid blue colour. The new colour is unscreened indicating it was a result of a retouch. Retouching was done by an engraving tool or a fine brush to apply acid.

Cylinder Flaw, Retouch & Replacement



7c Agate – Sheet A Upper, rows 1 & 2, stamps 9 & 10. Loop of 'g' of agate missing on proof sheet (reconstructed image). Loop corrected by hand and printed as solid unscreened black. Replacement cylinder with normal 'g' printed in screened black.

Offsets or "kiss" prints



Offsets are occasionally found on the face of stamps. They are "kiss" prints caused by sheets falling face down on other sheets whilst the ink is still wet. Usually limited to the last colour printed. The image of the offsets are reversed and may be left-right or topbottom depending on the way the sheet falls.

Offsets or double prints?

These examples of a doubling of the black printing are recorded. The exact cause of these errors is difficult to determine.

They are likely to be caused by release of the pressure between the impression and ink cylinders with the sheets slipping forwards or backwards and printing resumed in the wrong place.





Doctor Blade Flaws

The purpose of the doctor blade is to wipe ink from the surface of the printing cylinder whilst leaving ink in the etched cells below the surface. Flaws follow the print direction.



Coloured flaws are created when the blade fails to wipe all the ink.



If the doctor blade is set too firmly it can wipe the ink from the etched cells leaving a paler than usual colour. The right two columns show a paler green due to the scooping out of the yellow.

"Gripper" Flaws

In early 1975 the "grippers" of the chain drive pulling the sheets of paper disturbed the wet ink of the stamps. This was reported on printings of the 3c crab and the set of Prime Ministers short-term definitives.





Missing Colours



Most missing colour errors are attributed to a relaxation of the pressure between the ink and impression cylinders. Errors of this type are in a row perpendicular to the direction of printing.



Missing Colours from the last cylinder





















Of 41 stamps recorded with missing colours, 25 involved the colour printed by the last cylinder.

Missing Colours



On rare occasions some foreign matter will get between the paper sheet and the ink cylinder. When the foreign matter is removed a void is left on the printed stamps.

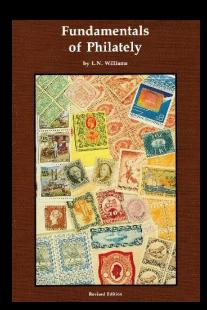


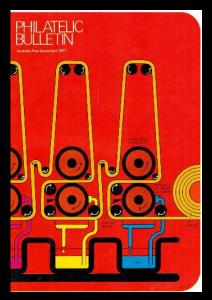
Perforation errors

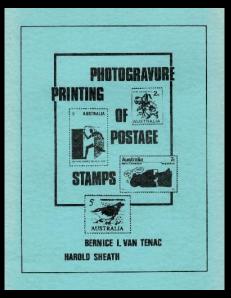


As the stamps produced by the Rembrandt Press are printed on loose sheets the corners occasionally are folded over during the perforating process. This may cause partially imperforate stamps.

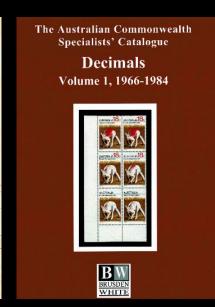
Recommended Reading











Gravure Stamp Cylinders by Glenn H Morgan FRPSL appearing in Gibbons Stamp Monthly Feb, Mar and April 2016 issues.

From letterpress to digital print: 200 years Koenig & Bauer by Klaus Schmidt *Currency*, house journal of the Reserve Bank of Australia, Jan & Feb 1973 issues. 1997 Australia Post Collectors' Diary for images of the 7c Opal designs.

Thank Yous and Acknowledgements

Bernie Beston, for conceiving the DotCom Challenge of Modern Philately in 1997.

Bruce Assheton, for the images of the 1c shrimp printing progression.

Betty Van Tenac, for her encouragement and assistance with the "DotCom" Challenge.

Arthur Gray Decimals Collection Sale Catalogue

Richard Breckon, for his ongoing assistance and encouragement whilst researching the Marine Life & Gemstones stamp issue.

Australia Post Archival Collection for the images of the 8c Opal separation drawings.

Bryan Young, Geoff Kellow and Brusden White for the Decimals Volumes of the Australian Specialists' Catalogue

The RPSV for the opportunity to revisit the DotCom Challenge and to stimulate this presentation and hopefully the viewers.