

# SPECIAL FINISHES

It is important to think about the requirements and limitations of any special finish or ink that is being used as they all require slightly different design considerations.

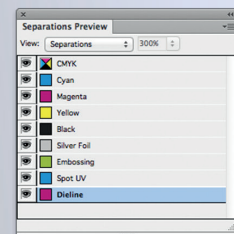
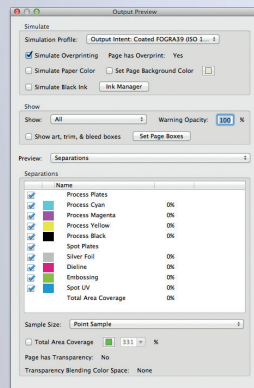
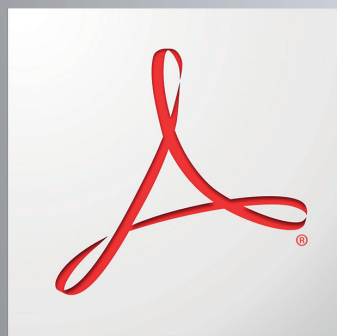
However, there are some rules that are common to all finishes so we'll start here.

# Common rules for all finishes

- Must be a spot colour
- Must be solid (100%)
- No soft edges, gradients or feathering
- Set to overprint

## **Common rules for all finishes**

These common rules are for special finishes only, not special inks.



# Separations

## Separations

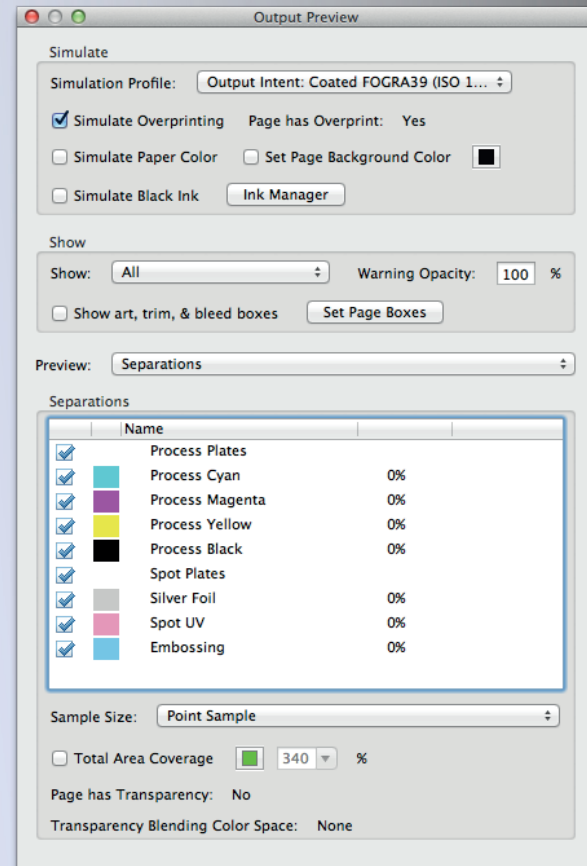
Checking separations is a vital part in checking your work and how it will print.

We can use separations to check all the common rules mentioned on the last slide.

# Checking PDFs



Print Production



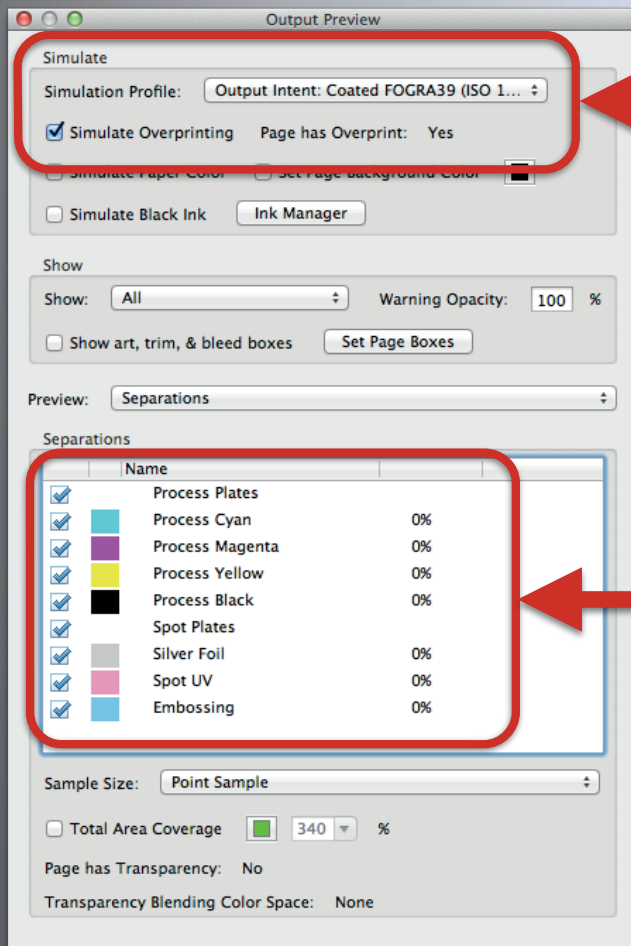
## Checking PDFs

We'll use Acrobat as this will be the point at which you start to check files.

Separations are available in the Output Preview window which is located amongst the Print Production tools.



# Checking PDFs



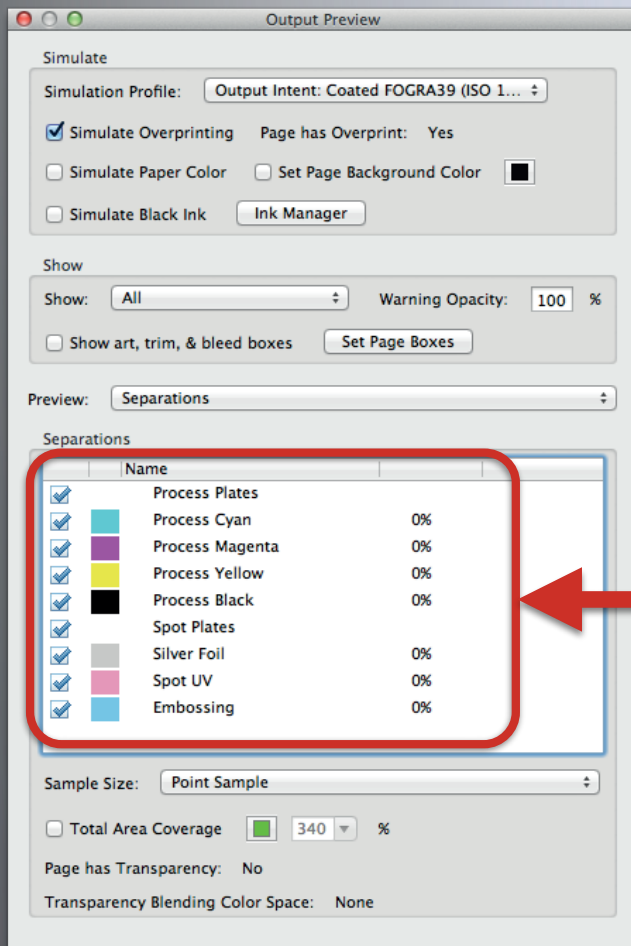
- Colour profile
- Overprint simulation

- Separations
- Tint values

## Output preview

First of all, I'd check the colour profile is correct and overprint simulation is turned on. If these are wrong it could indicate the wrong PDF export setting was used or your Preferences aren't right.

# Checking PDFs



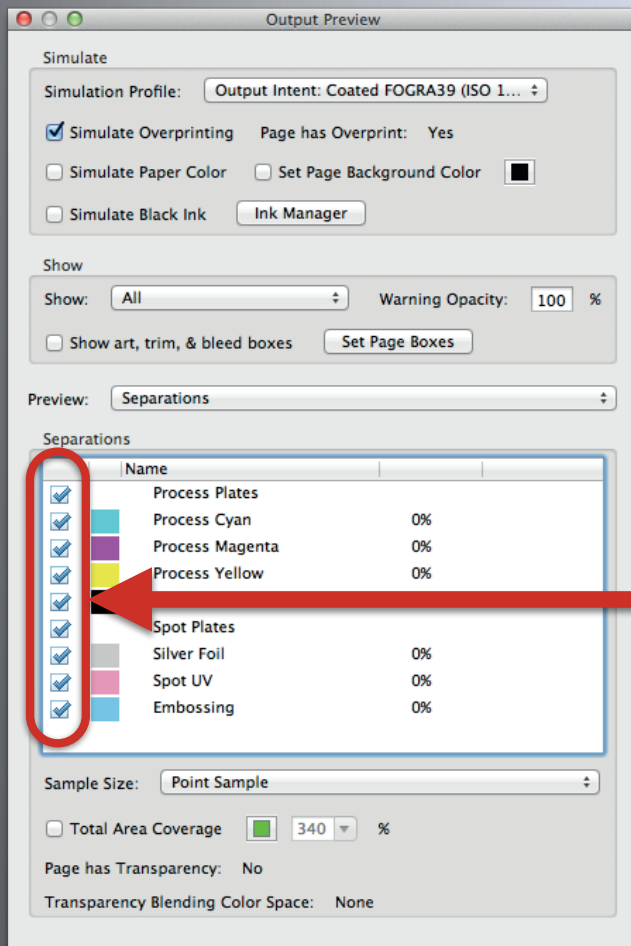
- Do you have the correct separations?

## Checking separations

Are there any missing? This could be that either the special finish layer were not switched on in InDesign when the PDF was made or that the special finish swatches were not created as spot colours.

Do you have unwanted separations? CMYK swatches should not be created as spot colours.

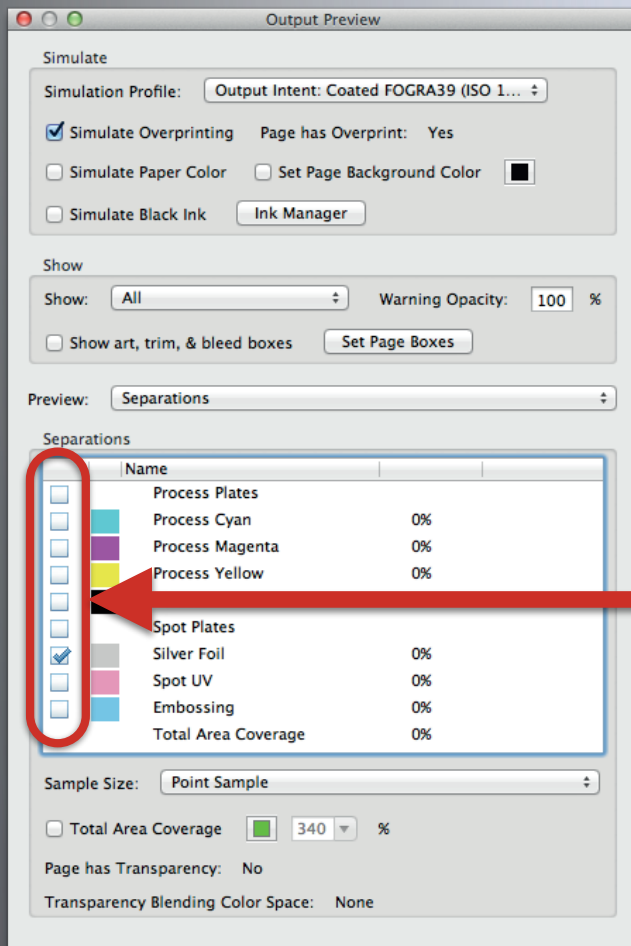
# Checking PDFs



- View your spot colour separations individually

Checking separations

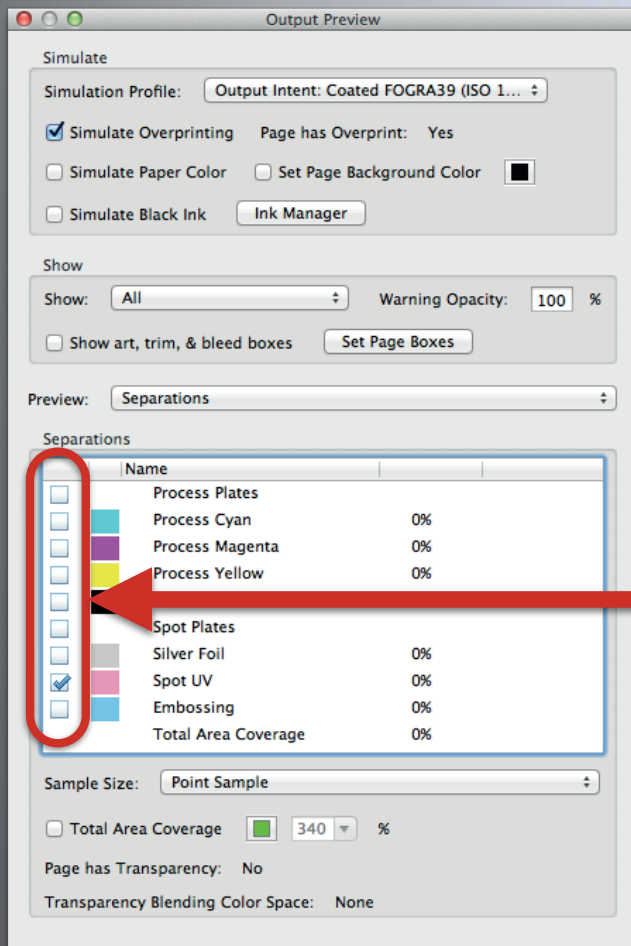
# Checking PDFs



- View your spot colour separations individually

Checking separations

# Checking PDFs

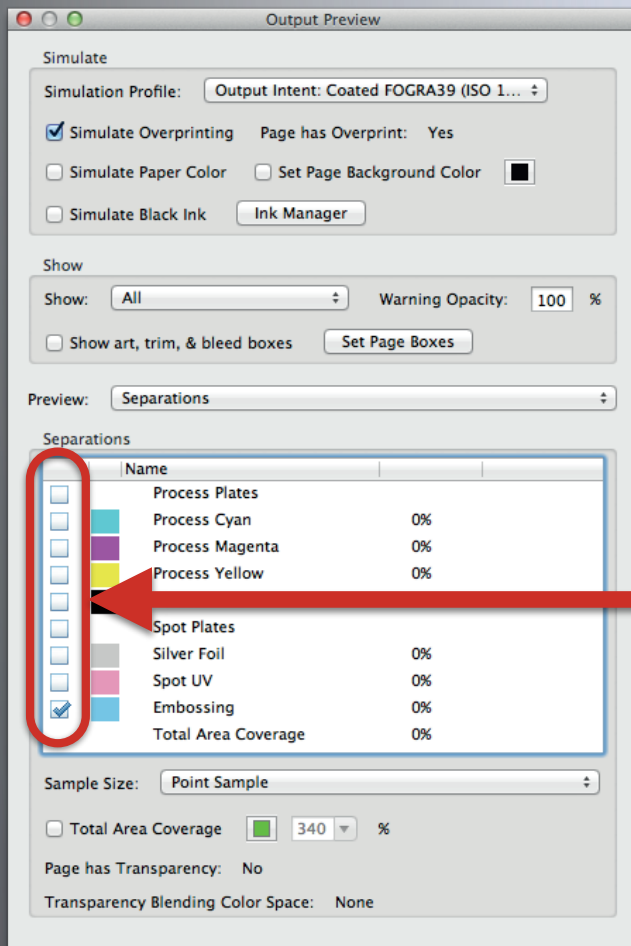


- View your spot colour separations individually

Checking separations

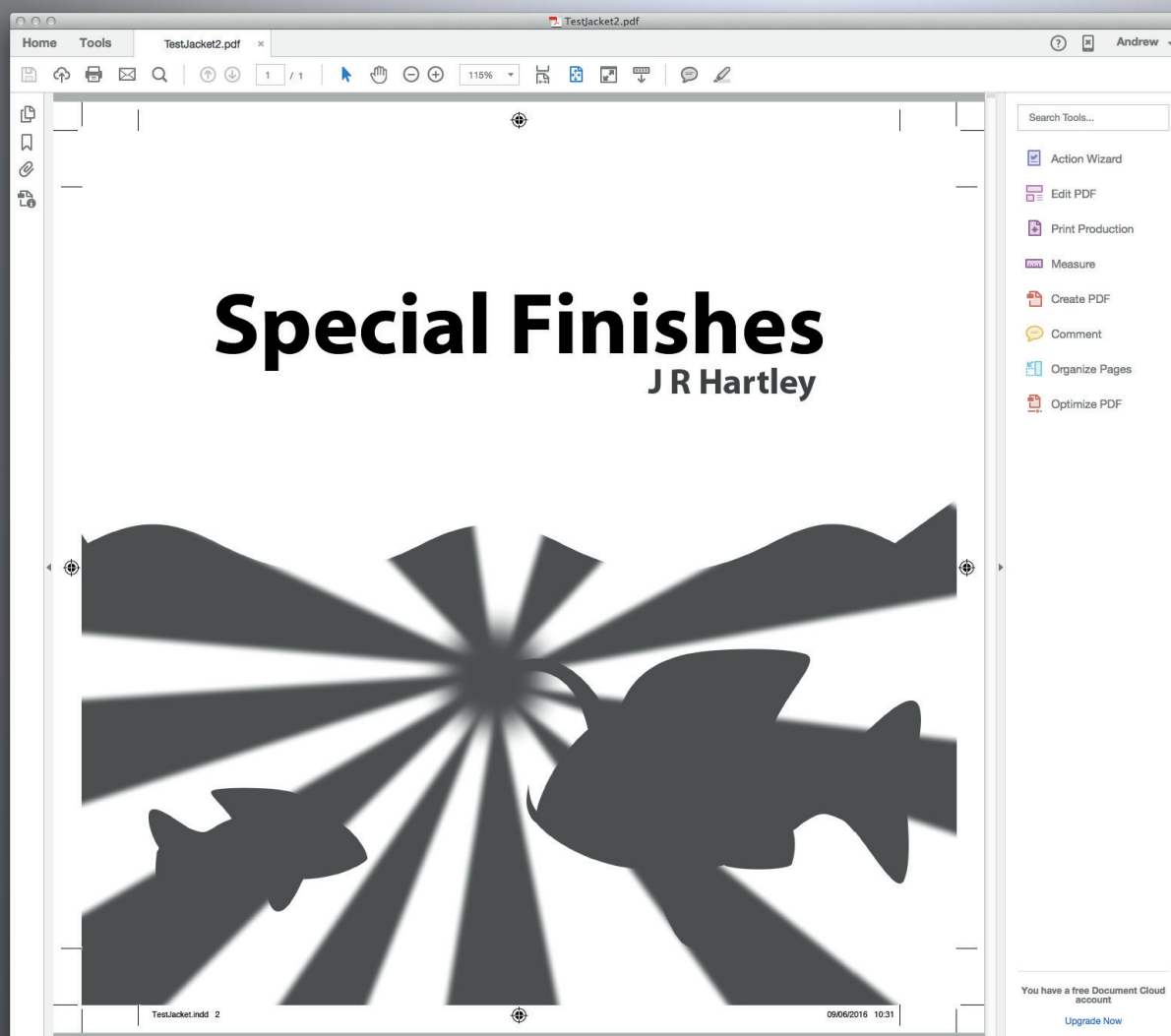


# Checking PDFs



- View your spot colour separations individually

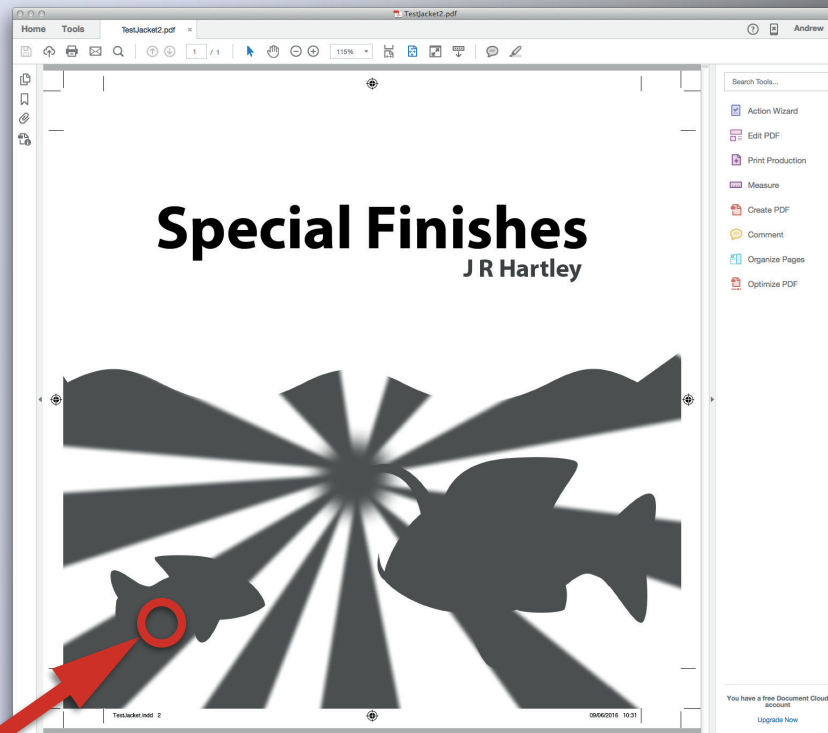
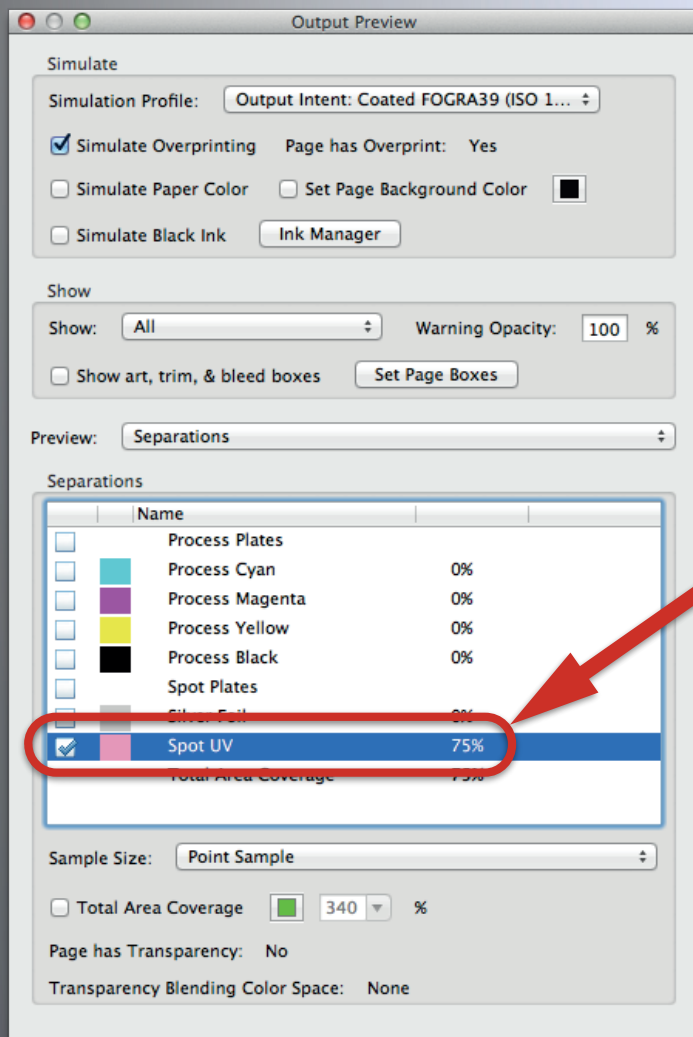
Checking separations



- Easier to spot soft edges and reduced tints

### Checking that there aren't any soft edges or reduced tints

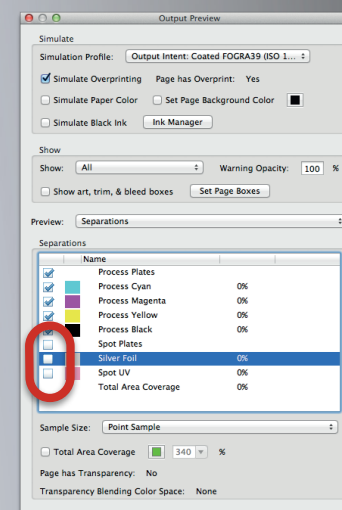
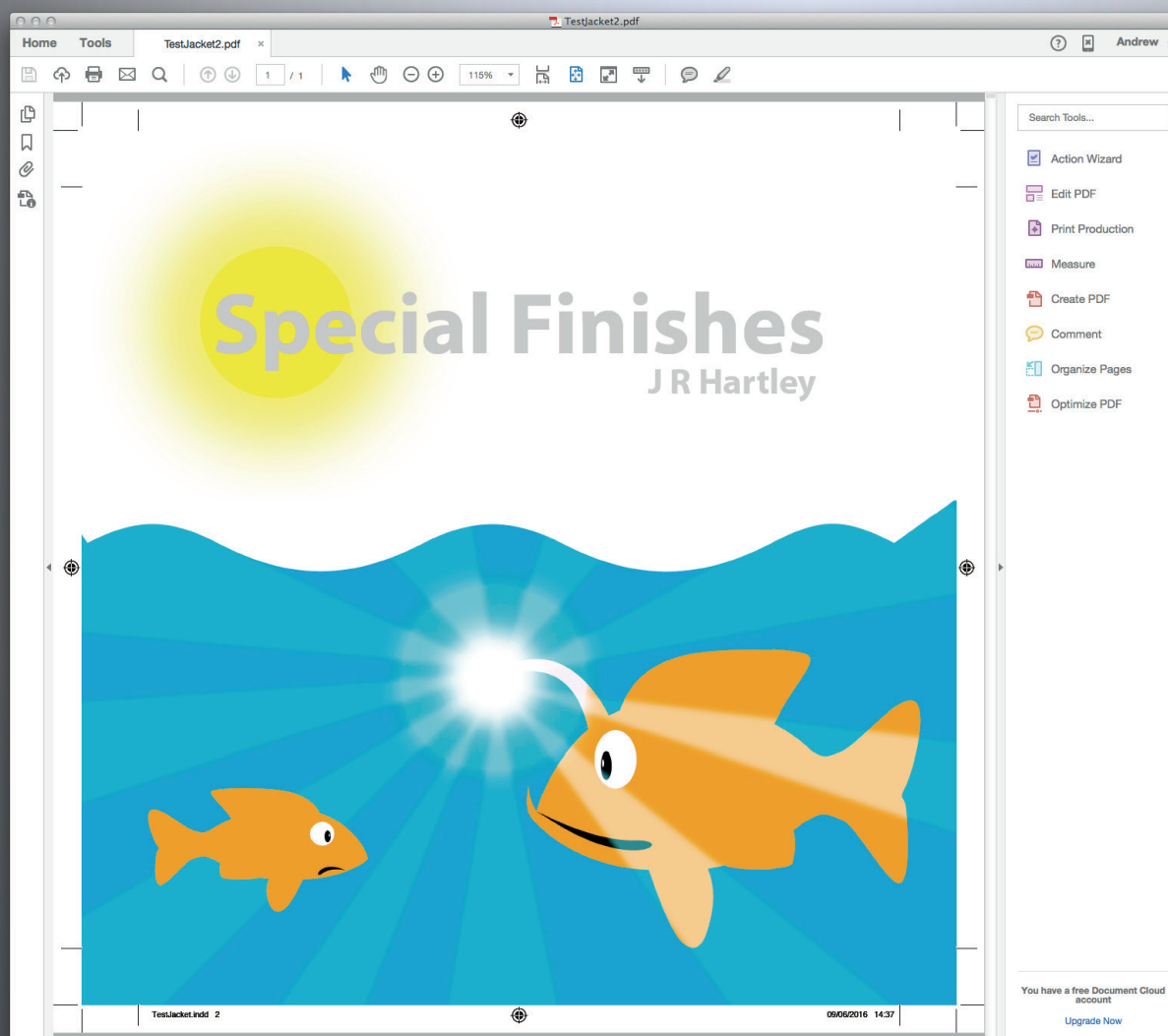
These things won't stand out as much when viewed with the CMYK separations switched on as well.



- Hold your cursor over elements to read tint values

## Reading tint values

If you think you've found reduced tints you should zoom in to check that the surrounding white area is not being measured with it.

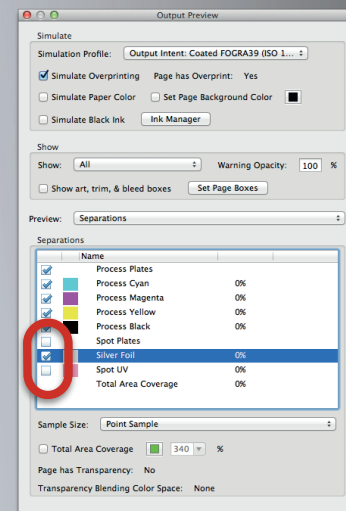
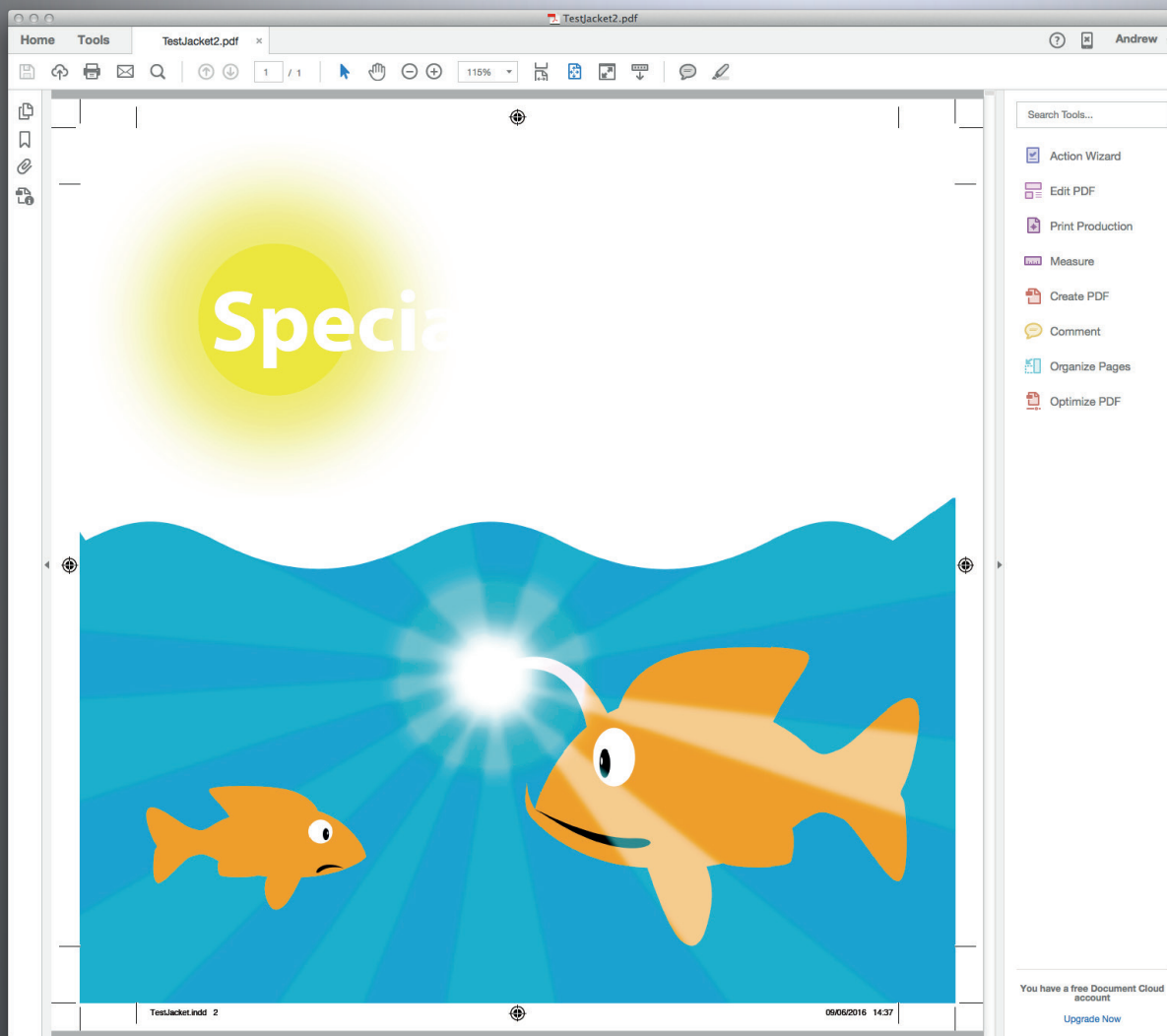


- Toggle finishes on and off with the CMYK left on to check it's overprinting

### Checking for overprint

Switching the spot colours on and off will draw your attention to them as you see them disappear, then reappear.

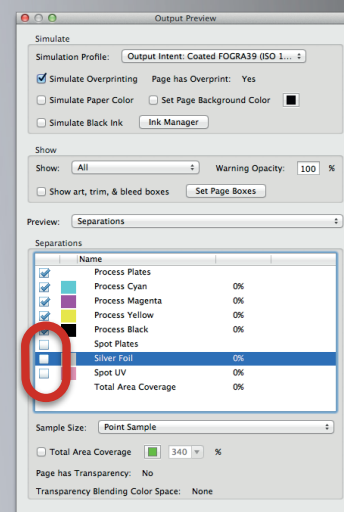
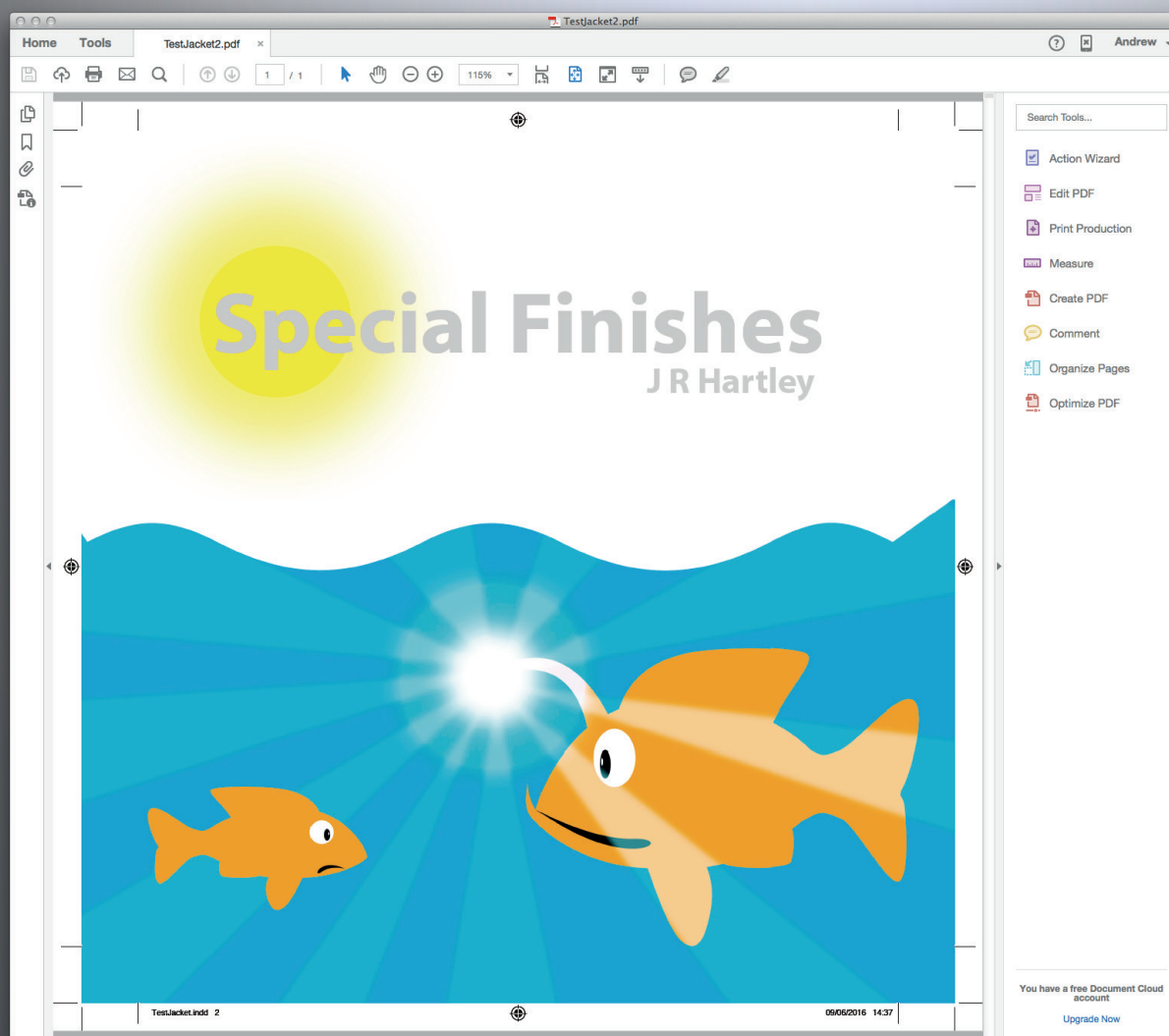




- Toggle finishes on and off with the CMYK left on to check it's overprinting

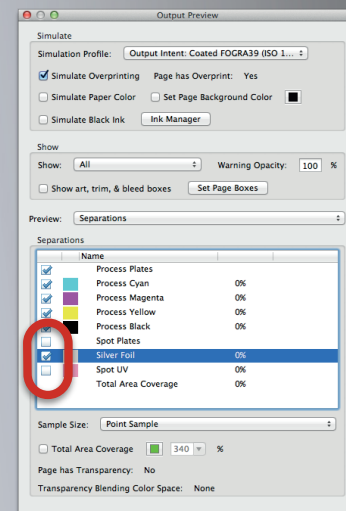
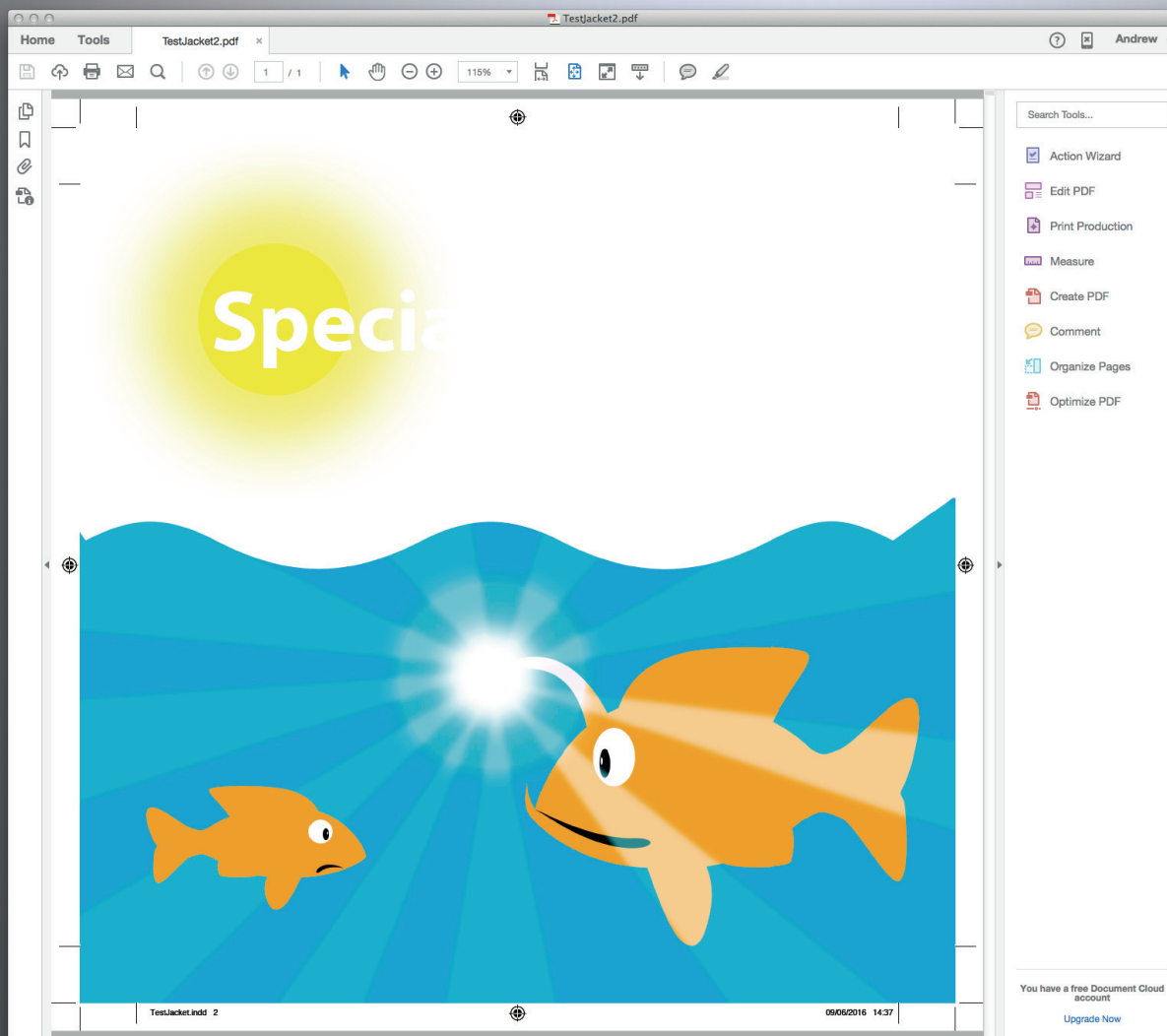
Checking for overprint





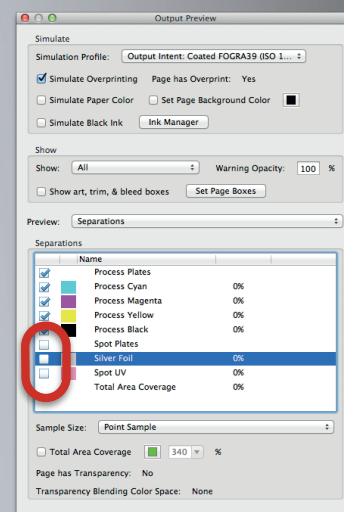
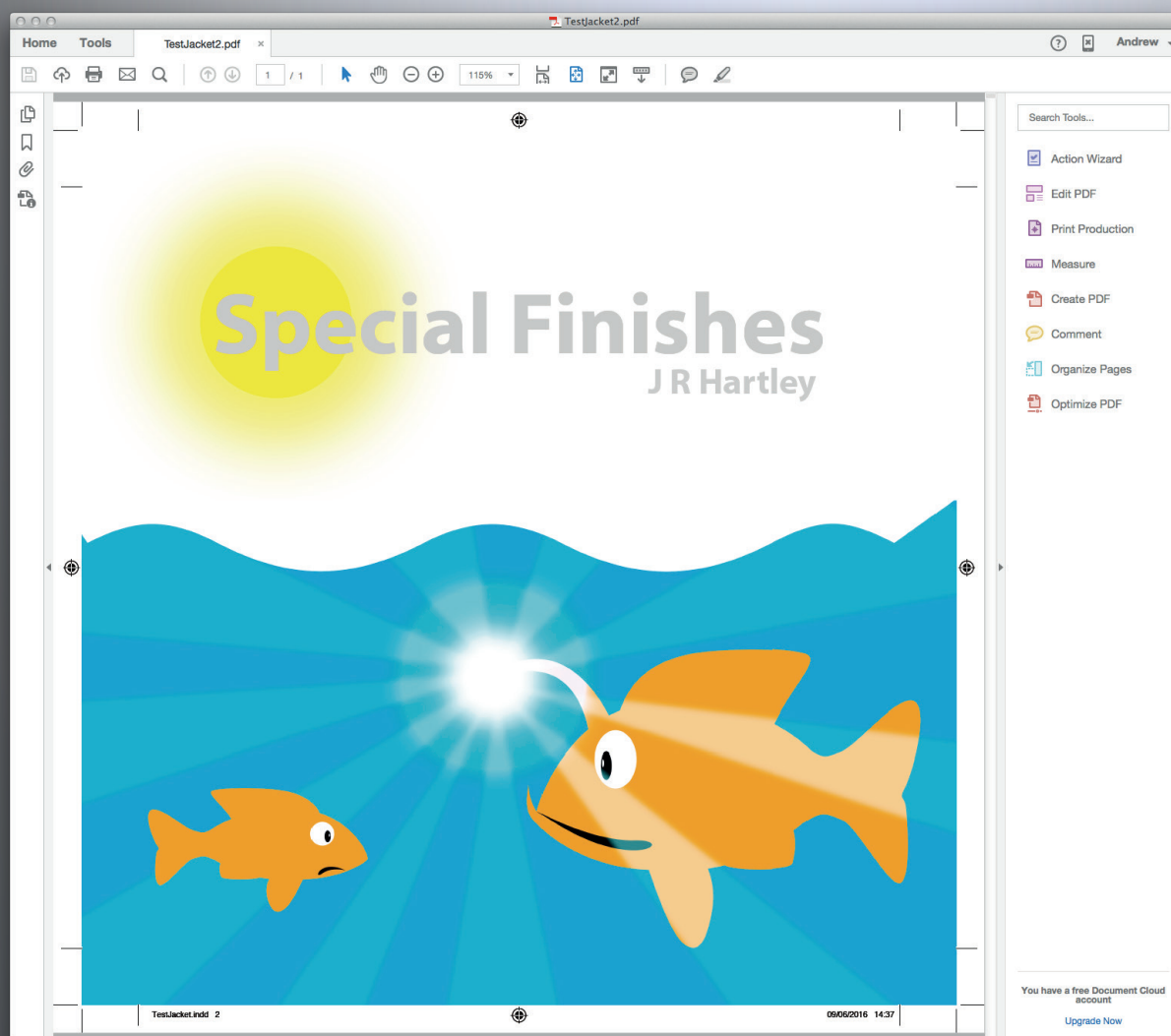
- Toggle finishes on and off with the CMYK left on to check it's overprinting

Checking for overprint



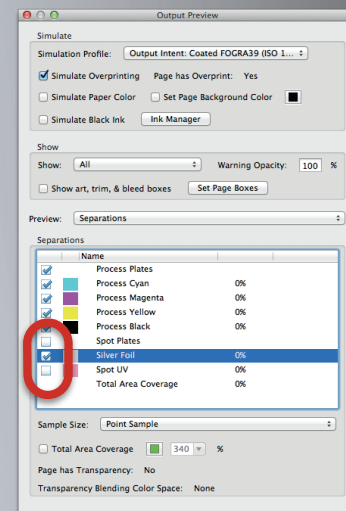
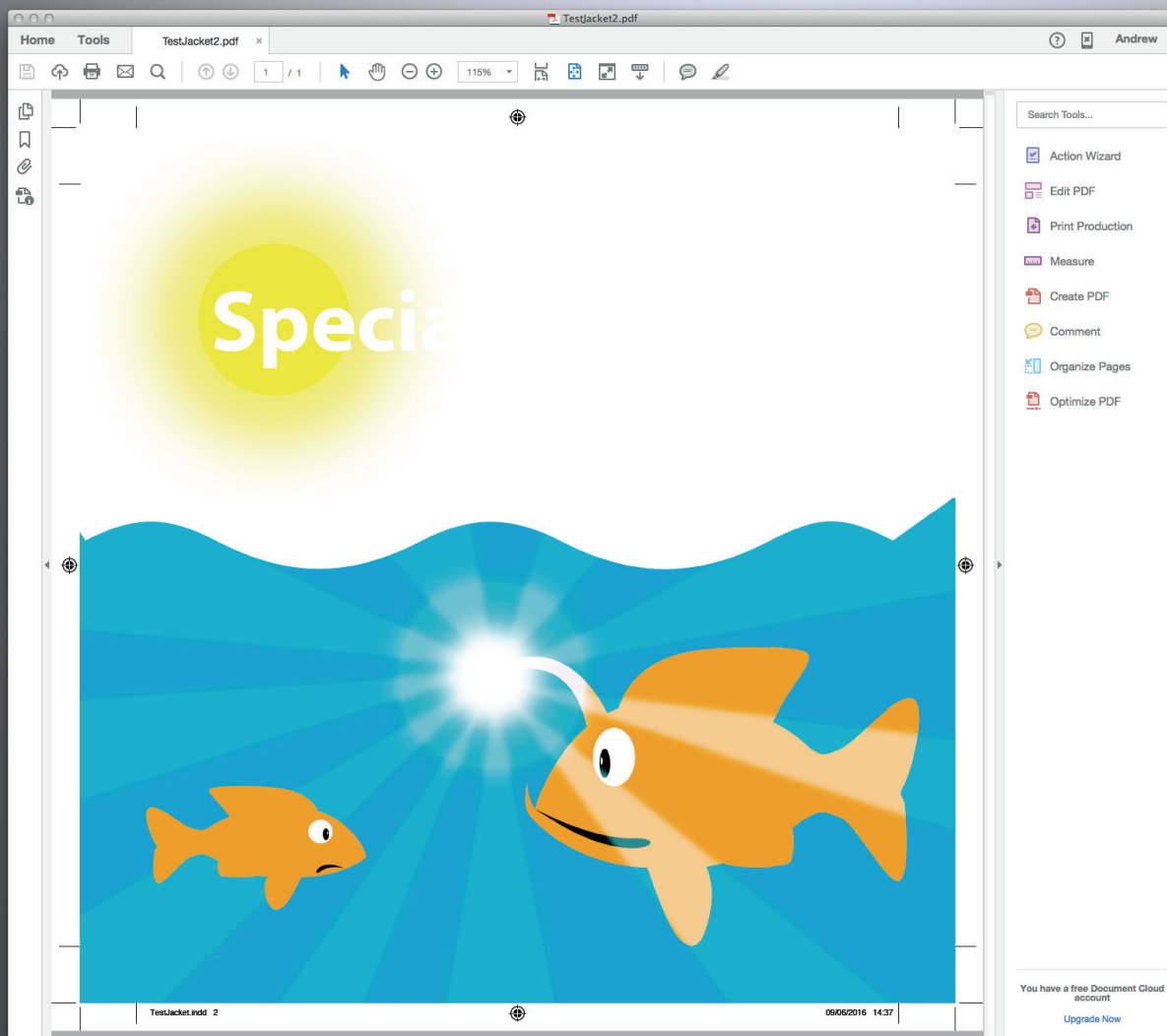
- Toggle finishes on and off with the CMYK left on to check it's overprinting

**Checking for overprint**



- Toggle finishes on and off with the CMYK left on to check it's overprinting

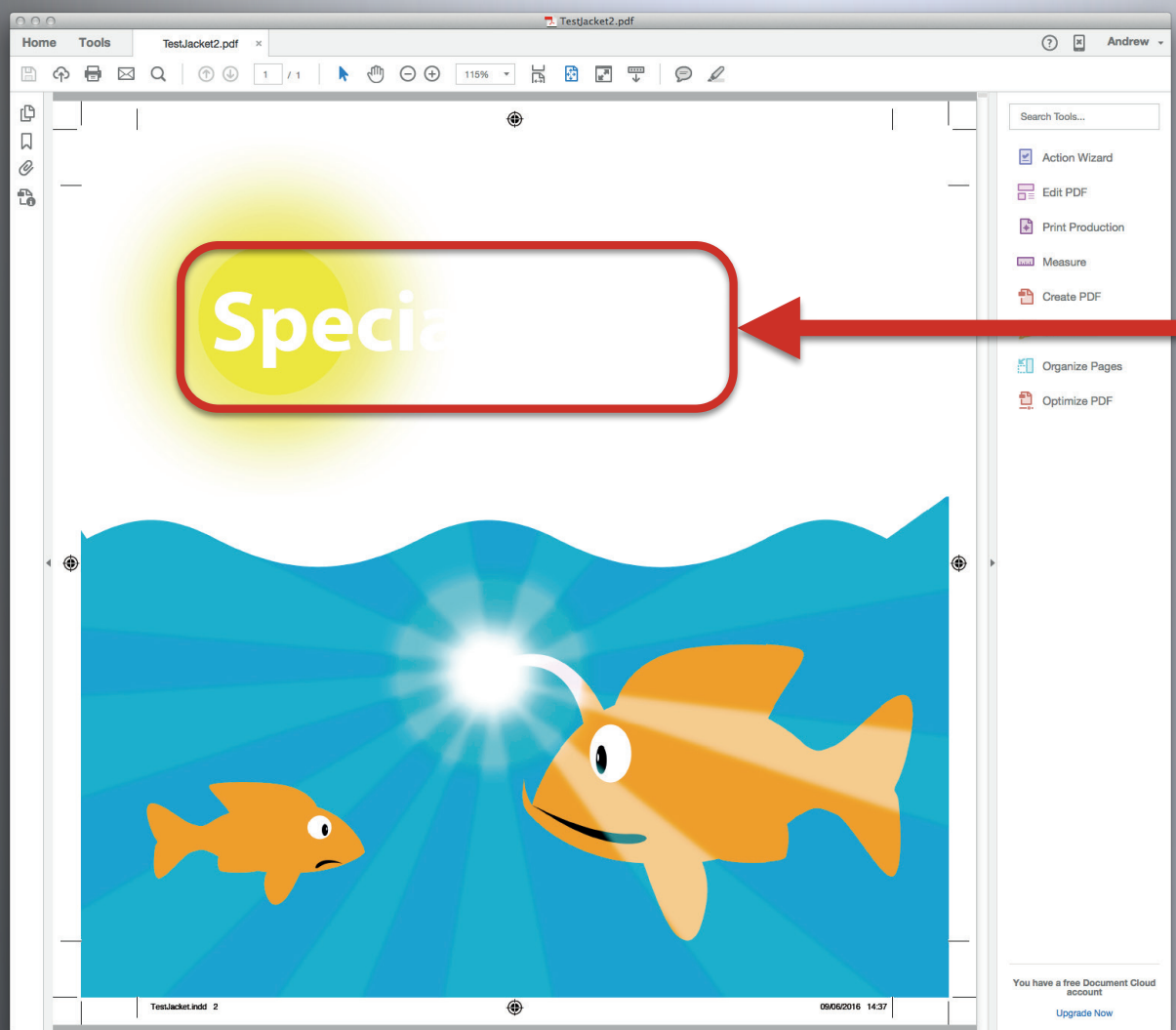
Checking for overprint



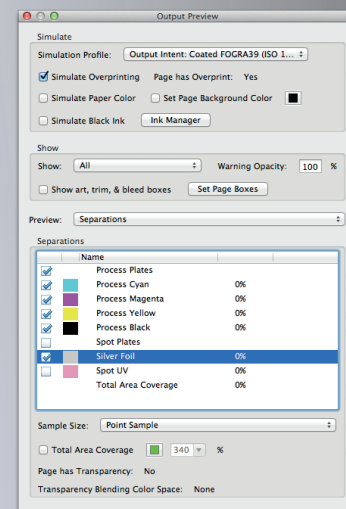
- Toggle finishes on and off with the CMYK left on to check it's overprinting

Checking for overprint





- White areas beneath a finish show it was not set to overprint (unless it's meant to print as white)



### Checking for overprint

Seeing a white duplicate shape remain after you have switched off the spot colour indicates that the spot colour element was not set to overprint.

That is unless the element is meant to be white. White text that's being spot UV'd would be an example where it should be white beneath.

Check the InDesign file or ask the Designer.



# FOILS

## **Foils**

Foils can come in many different varieties including metallic, pearlescent, holographic and transparent. These can be applied to paper using various methods including hot foil stamping and cold foil blocking.

# FOILS

## Varieties

- Metallic
- Holographic
- Pearlescent
- Clear

Are they opaque  
or transparent?

### **Foils**

You need to know if it's transparent or opaque as they require different set-ups.  
Holo foil can come in both.

# FOILS

## Unique rules

- No very fine details (1 pt minimum)
- Registration is less accurate than ink
- Can print under or above ink (must check)
- Ink can look weak when printed on top

### **Foils**

Fine foil details can break up and fine details holes in foil can fill in.

You can't always tell from the PDF if the foil is meant to overprint the CMYK or vice versa so you should always check with the designer.

# Opaque foil registration

## 3 things to check

- Duplication
- Alignment
- CMYK knockout

### **Foils**

These are extra things to check when you have opaque foil overprinting ink.

Duplication, Alignment, and CMYK knockout will all create registration issues on press but these can be solved by trapping.

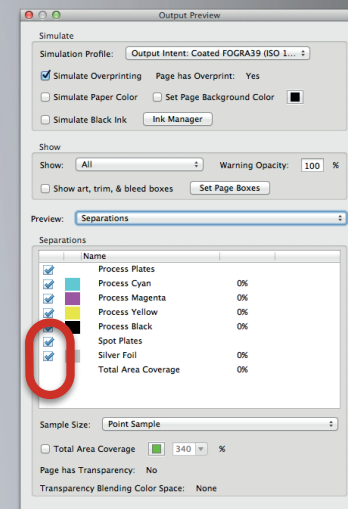
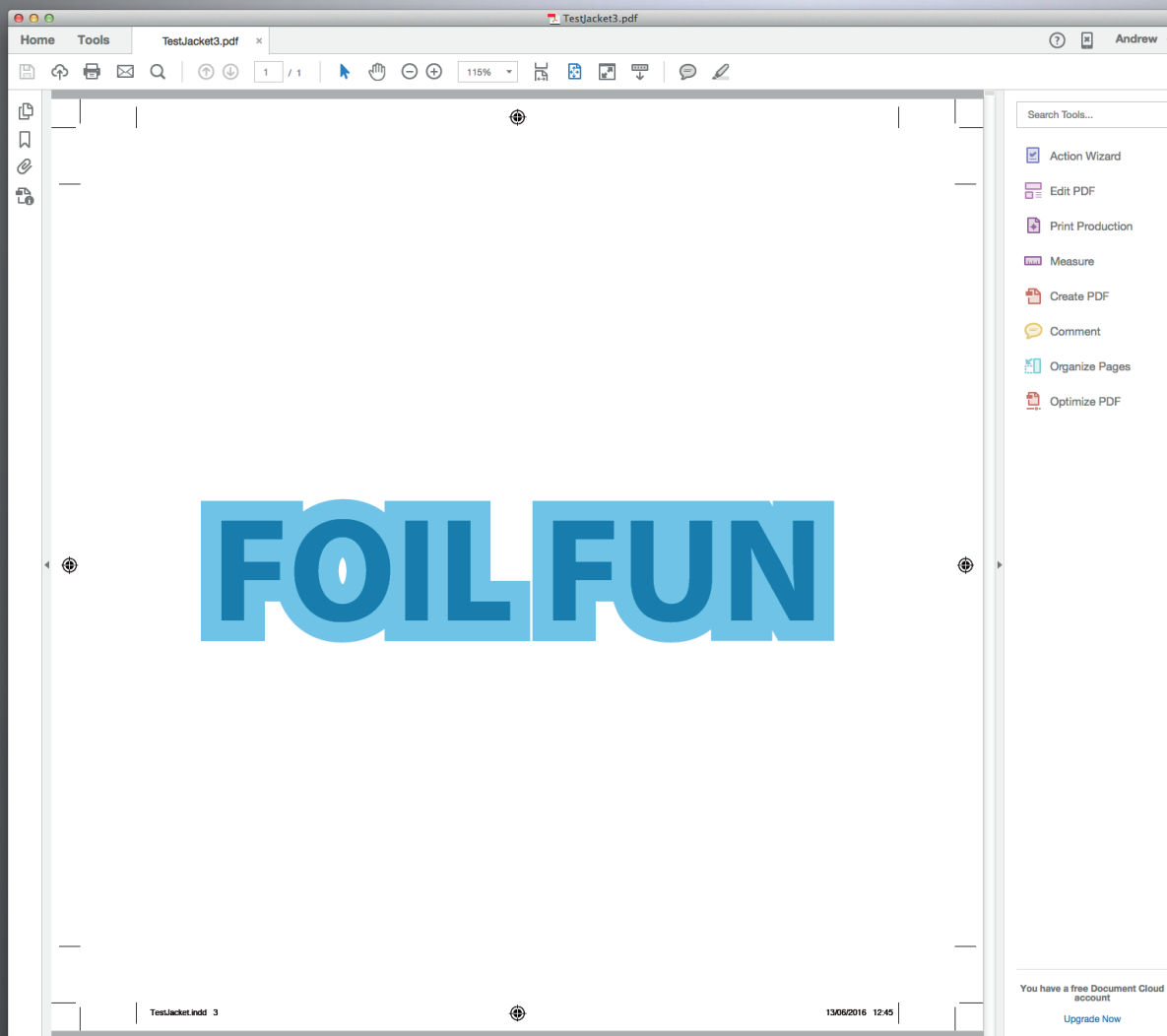
This will be the most complex in terms of set up and checking.

# Trapping

## **Trapping**

Trapping is a method of compensating for the misregistration between printed separations that occurs on press. Misregistration occurs because of the physical printing process that involves printing each separation (Cyan, Magenta, Yellow, Black, Foil, Spot UV etc...) one after the other onto a printed sheet. It's a bit like laying down a jigsaw, but unlike a jigsaw, the process of laying the pieces down causes the shape of each piece to change slightly.

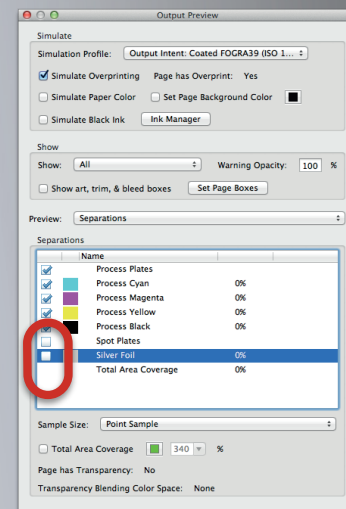
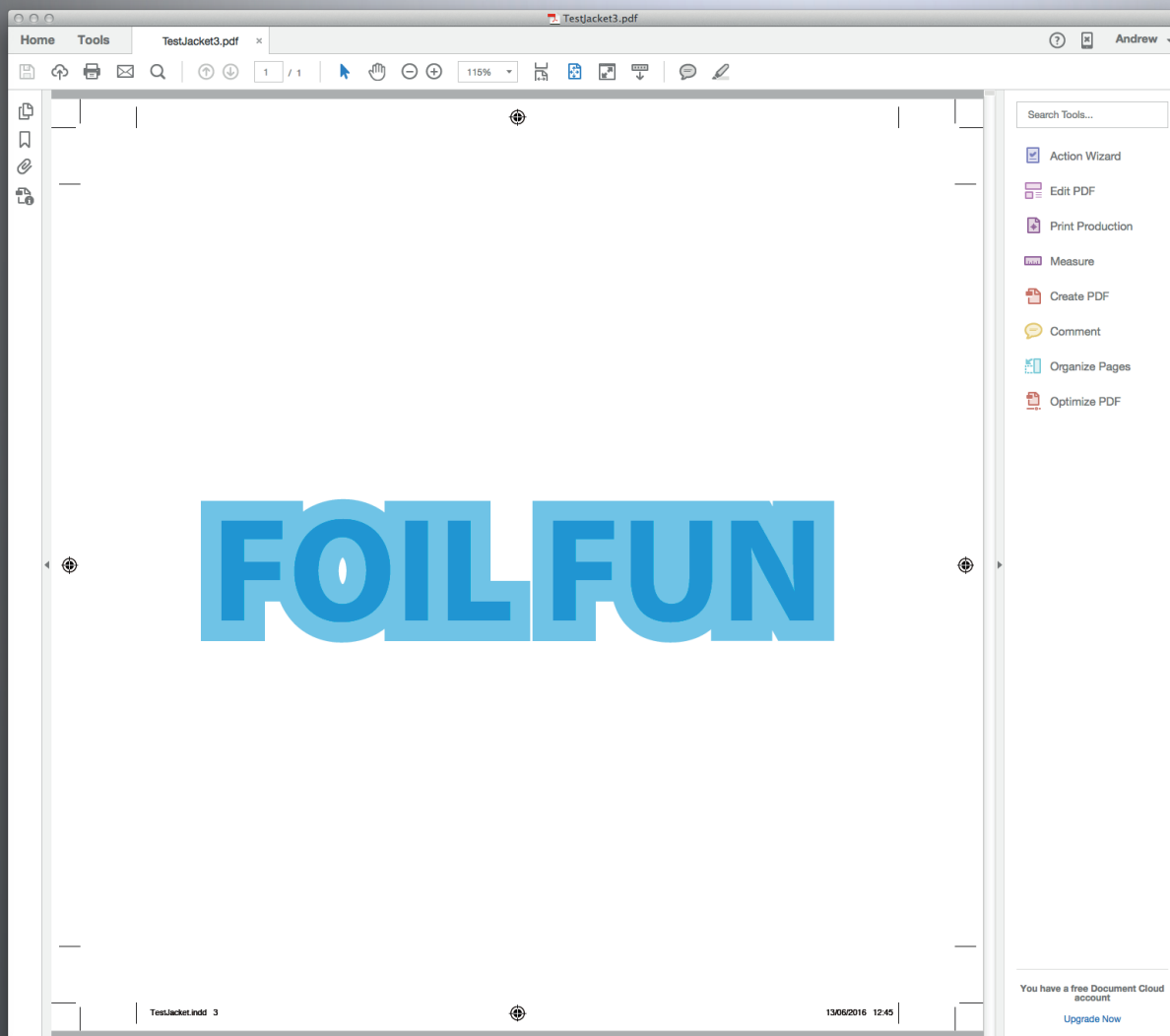




- Toggle foil and CMYK to check for registration issues

## Duplication

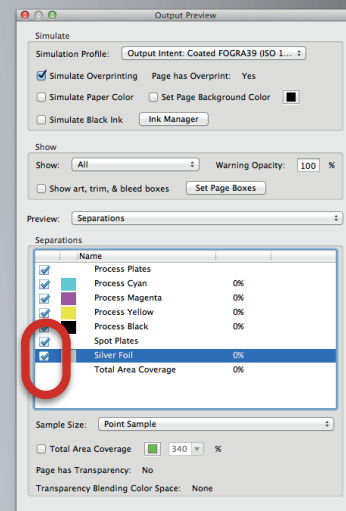
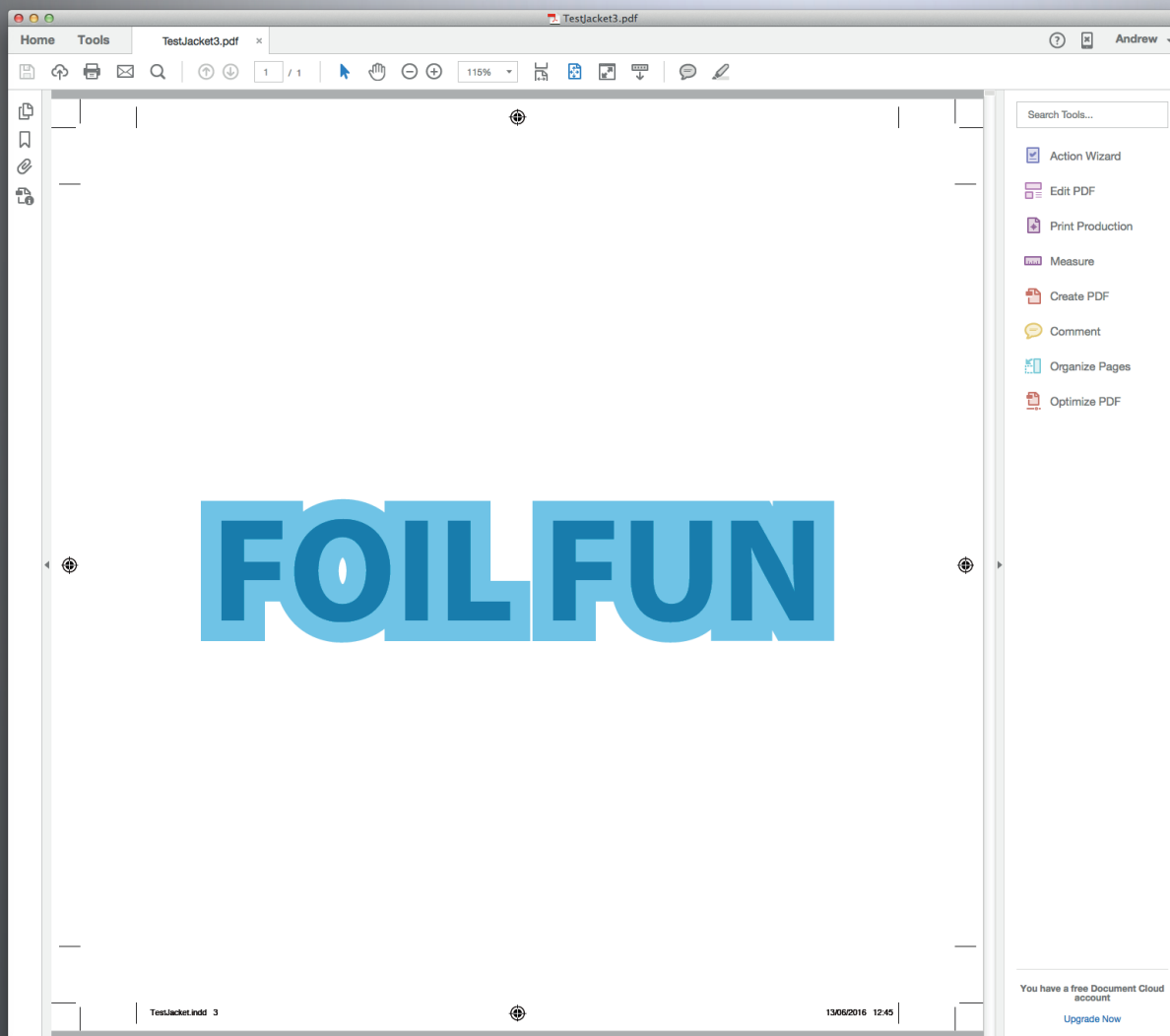
This is when a CMYK and foil object are the exact same shape and size.



- Toggle foil and CMYK to check for registration issues

## Duplication

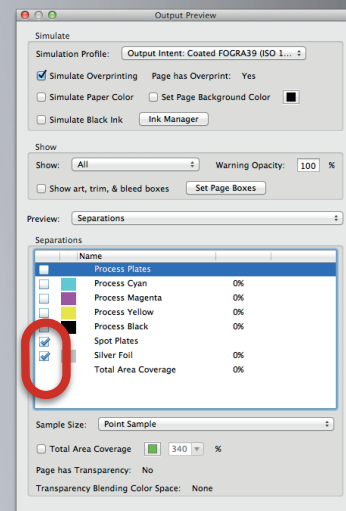
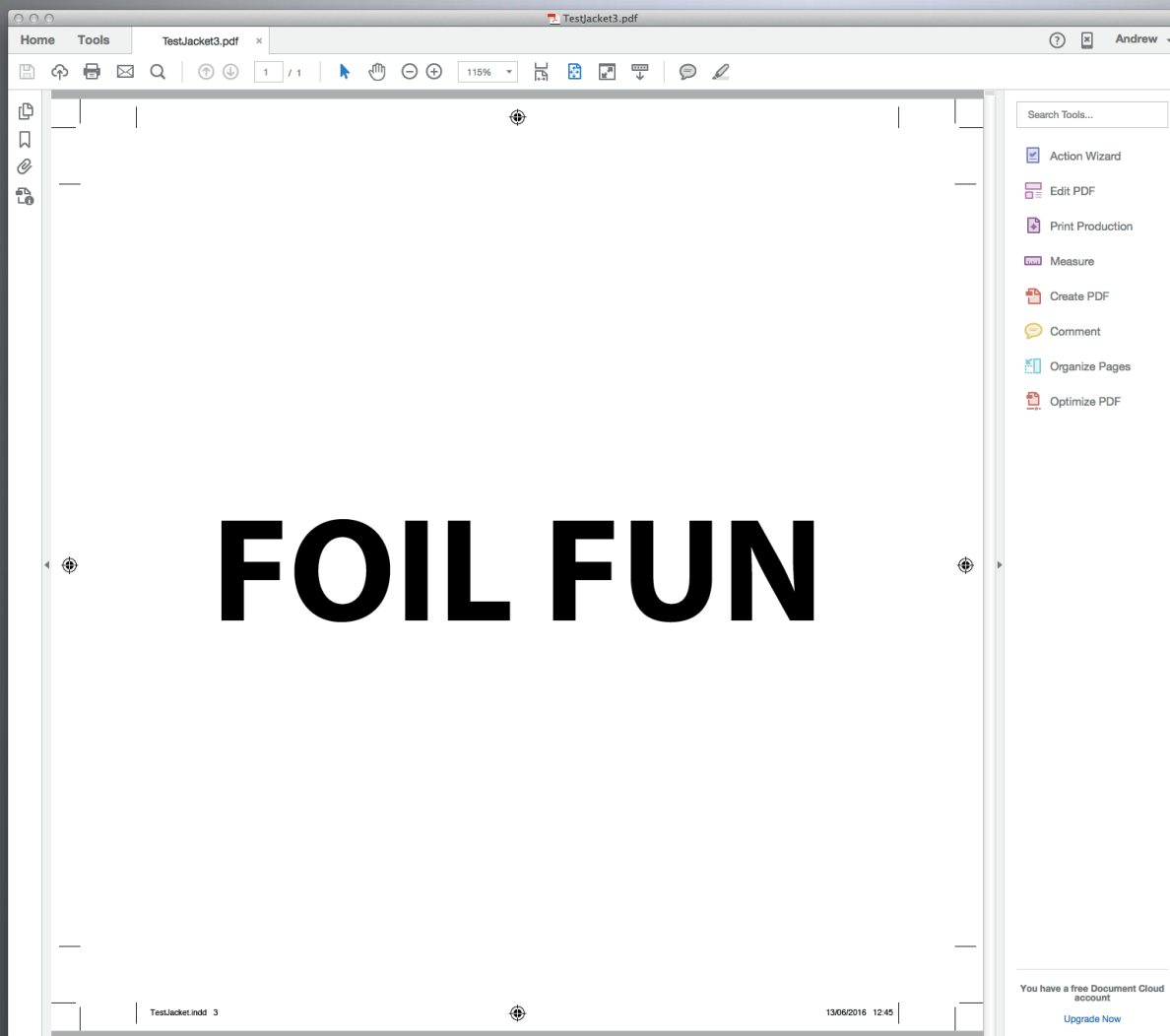
Here are the CMYK separations.



- Toggle foil and CMYK to check for registration issues

## Duplication

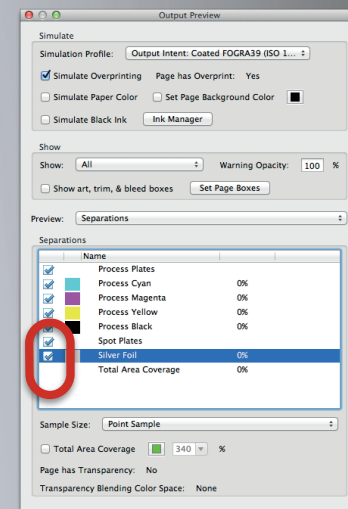
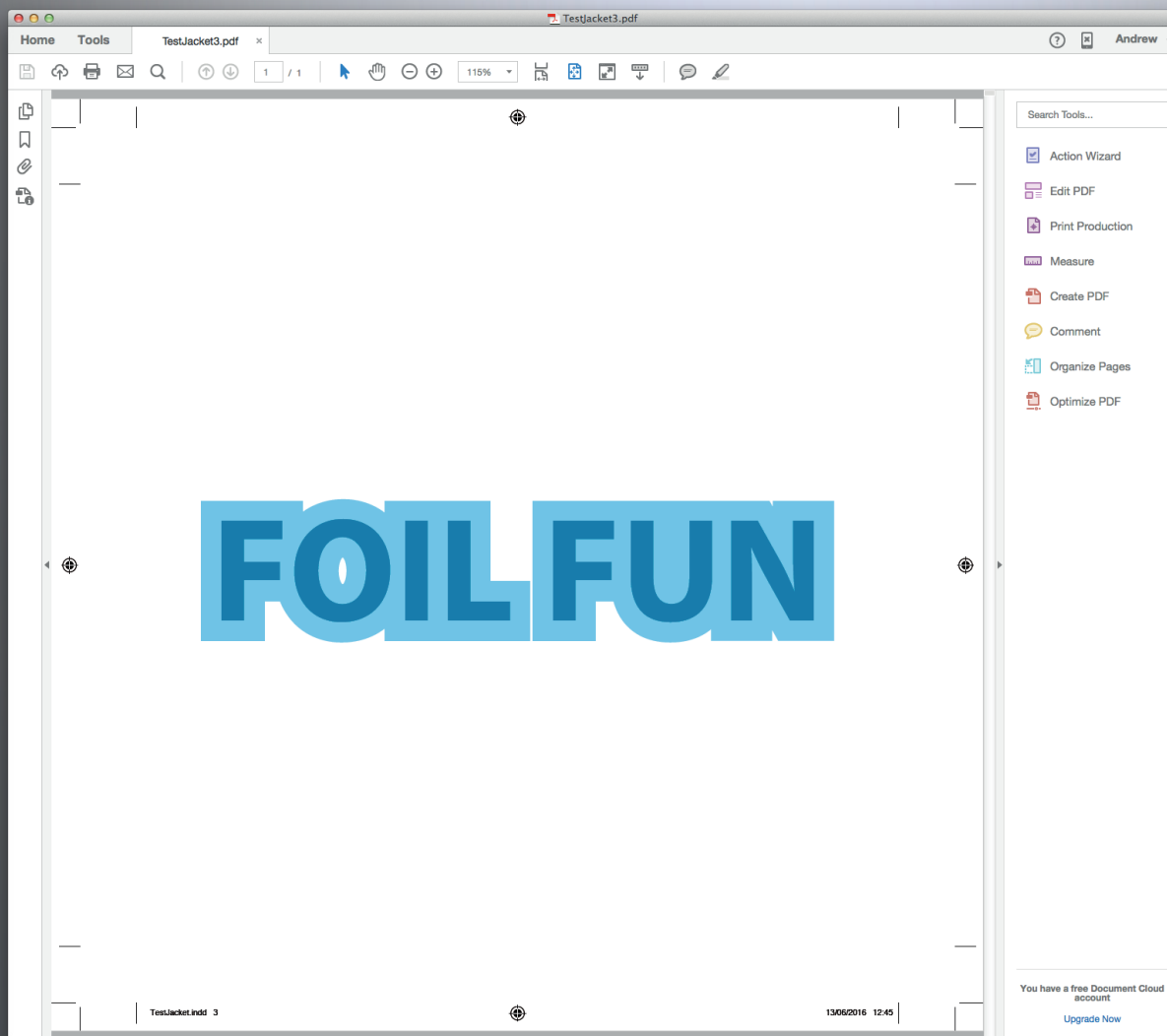
Here are the CMYK and foil separations.



- Toggle foil and CMYK to check for registration issues

## Duplication

Here is the foil separation.

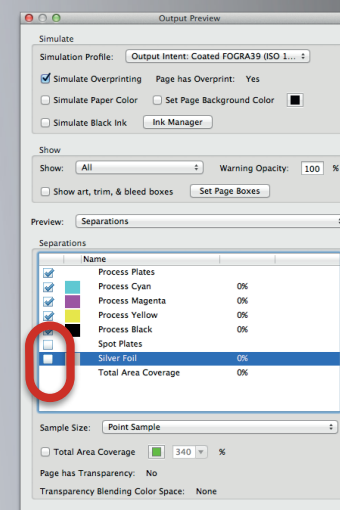
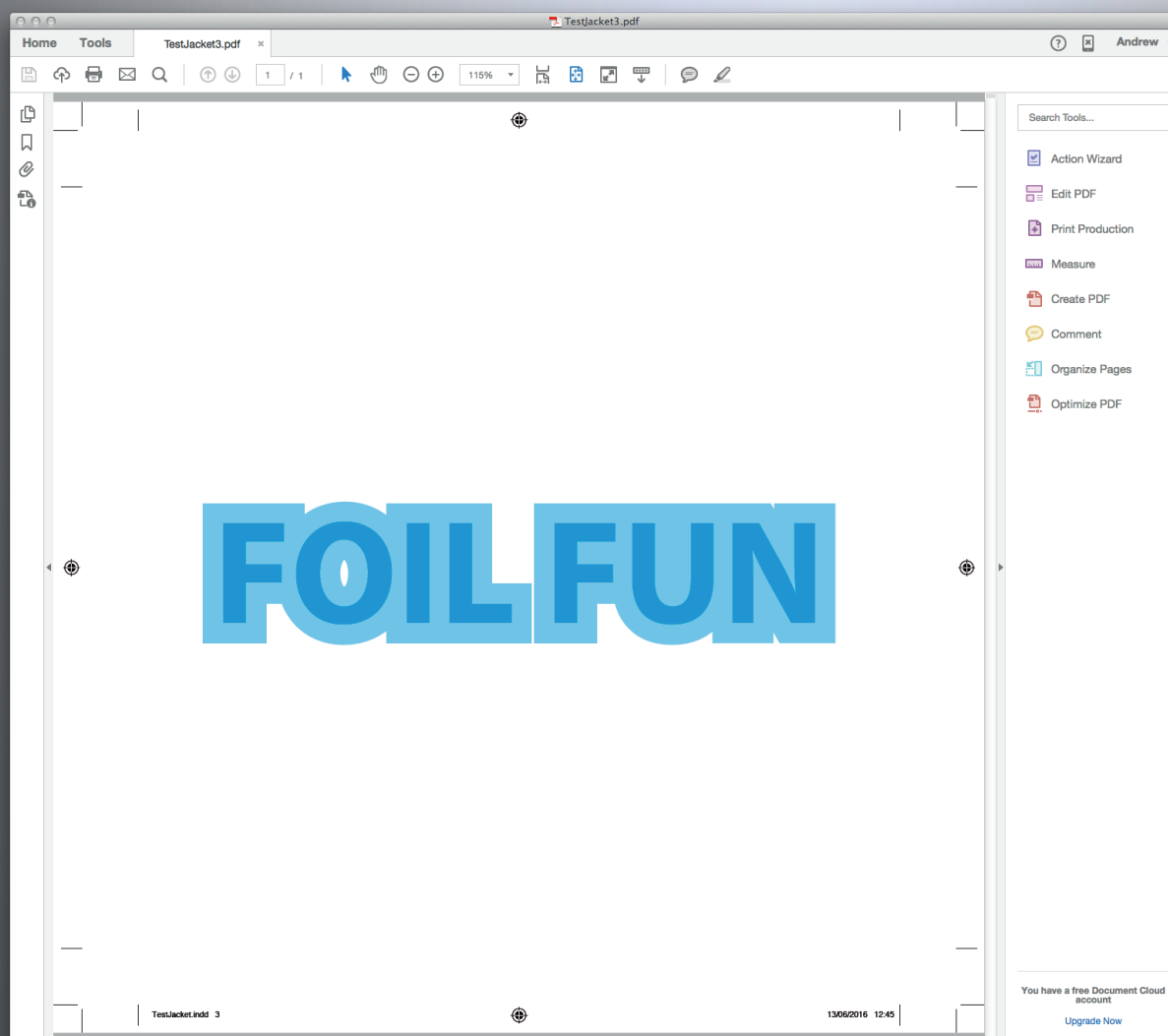


- Toggle foil and CMYK to check for registration issues

## Duplication

It can be helpful to toggle through these combinations a few times in order to zero in on what is actually happening within the set up.

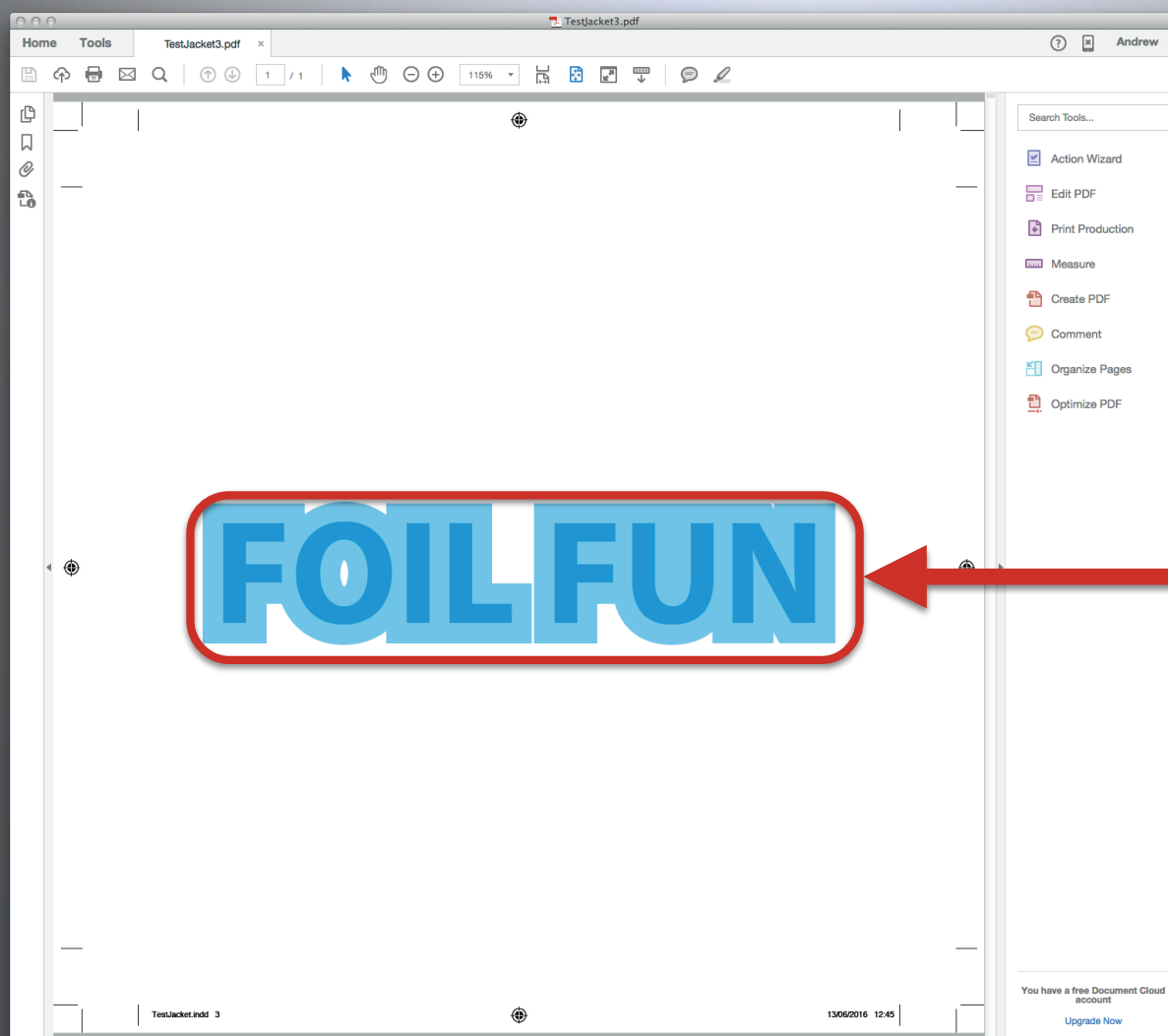




- Toggle foil and CMYK to check for registration issues

## Duplication

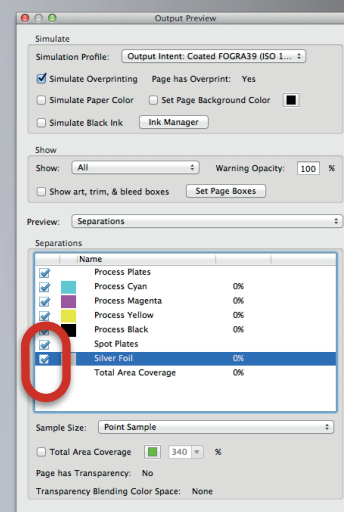
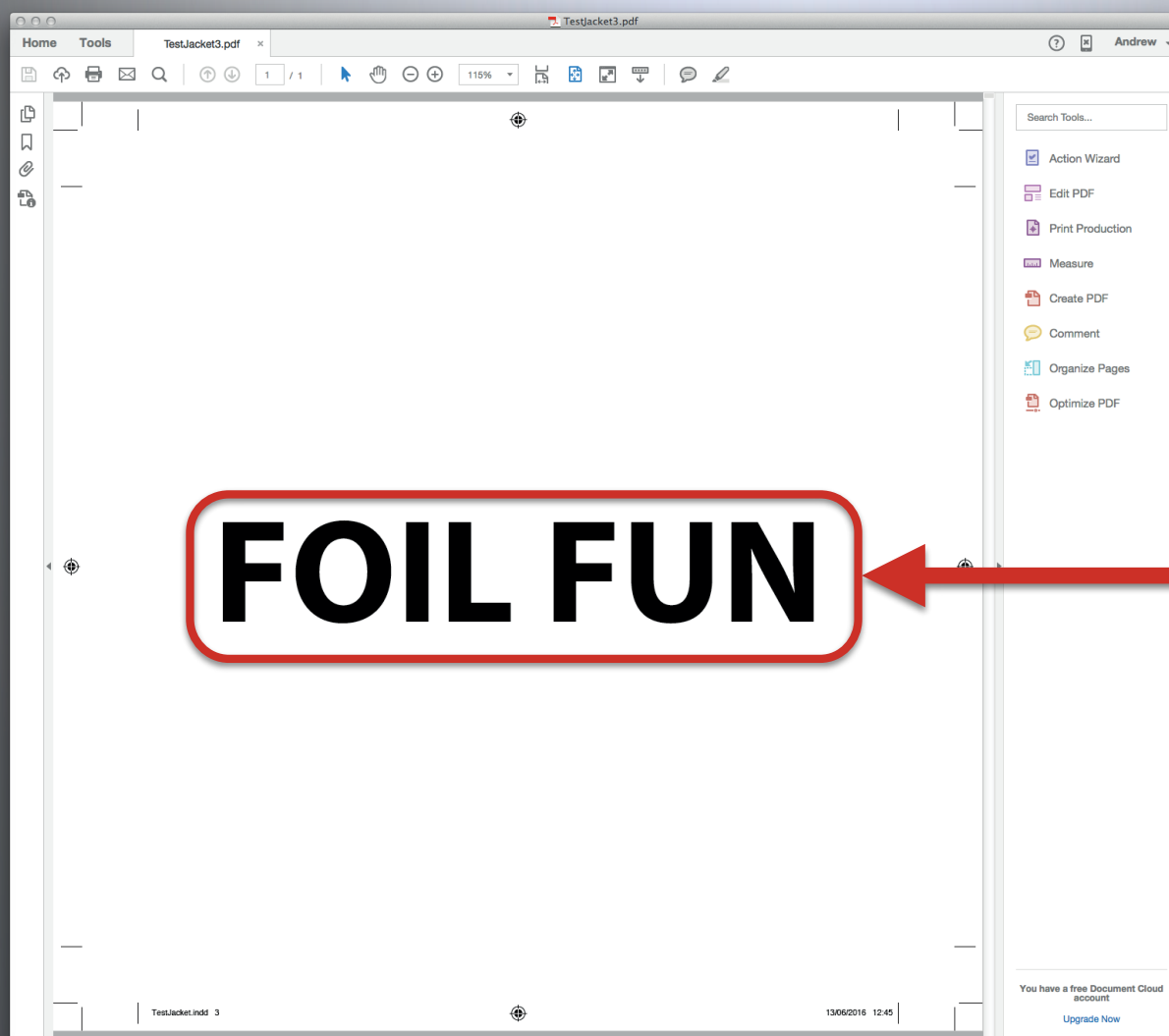
It can be helpful to toggle through these combinations a few times in order to zero in on what is actually happening within the set up.



- The fill shape has been duplicated to create the foil

## Duplication

We can see that the darker Cyan fill area is the same shape and size as the foil area.



- The fill shape has been duplicated to create the foil

## Duplication

This will normally occur when foil has been added as an afterthought and the CMYK element is duplicated to create a foil.

# FOIL FUN

Using duplicate colour and foil elements

## **Duplication**

Although the foil perfectly covers the darker Cyan fill area, the final printed copy won't due to the physical process involved in applying foil.



**FOIL FUN**

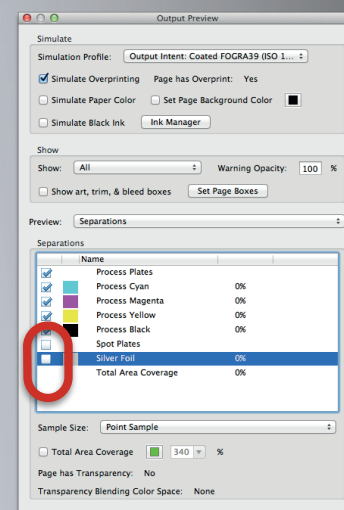
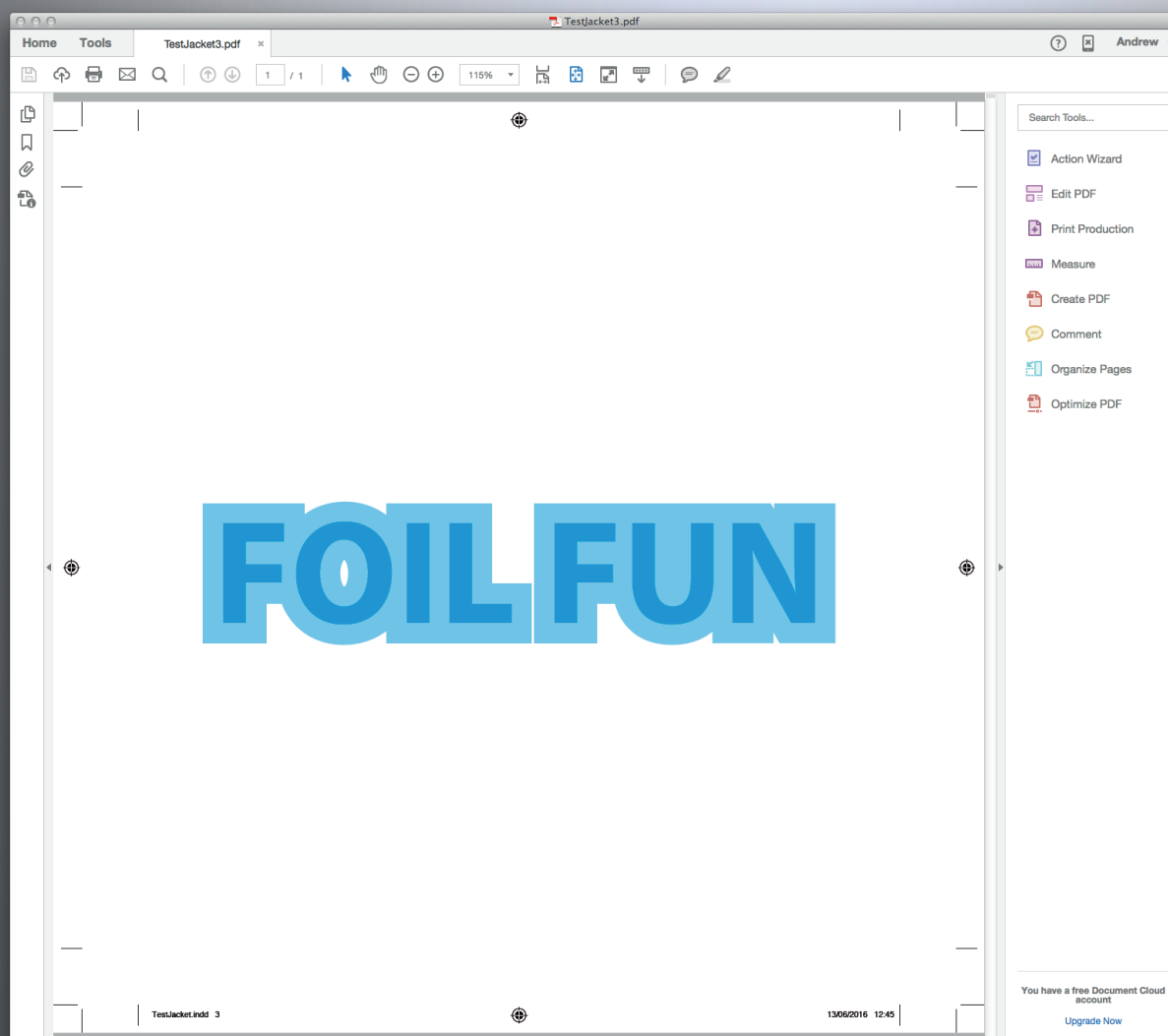
will result in registration issues on press

### **Duplication**

Here is a little simulation of the foil movement you will get on press.

This is very similar to the issue you would face if it was not overprinting at all. If it was set to knock out, the text creeping out from behind would be white instead of 100% Cyan.

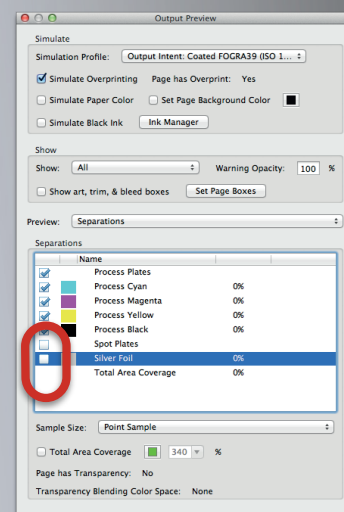
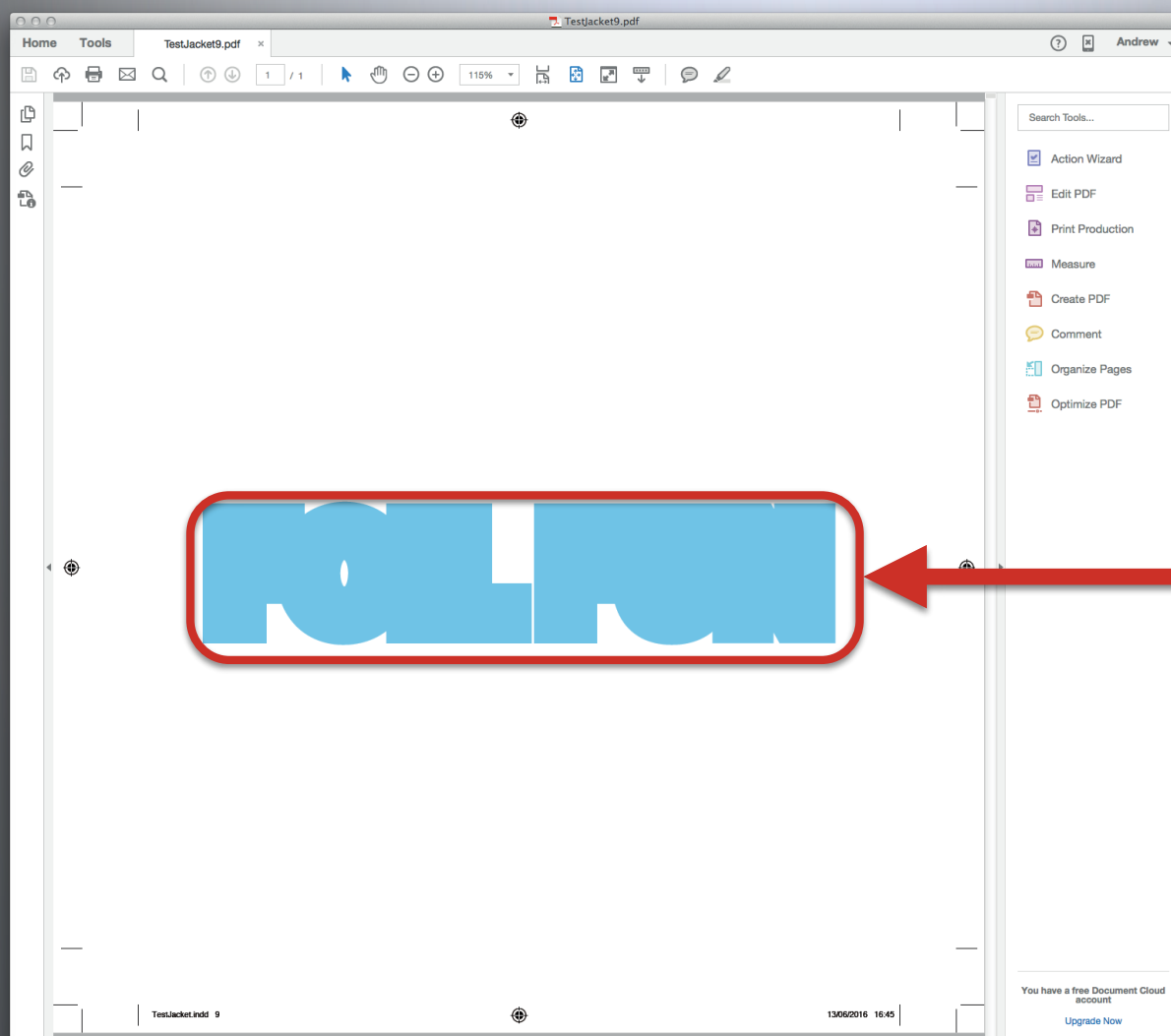




- Remove the duplicate CMYK shape

## Duplication

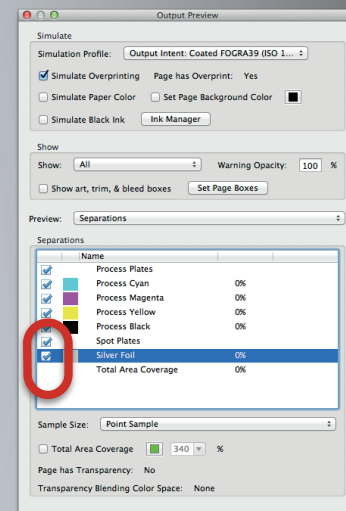
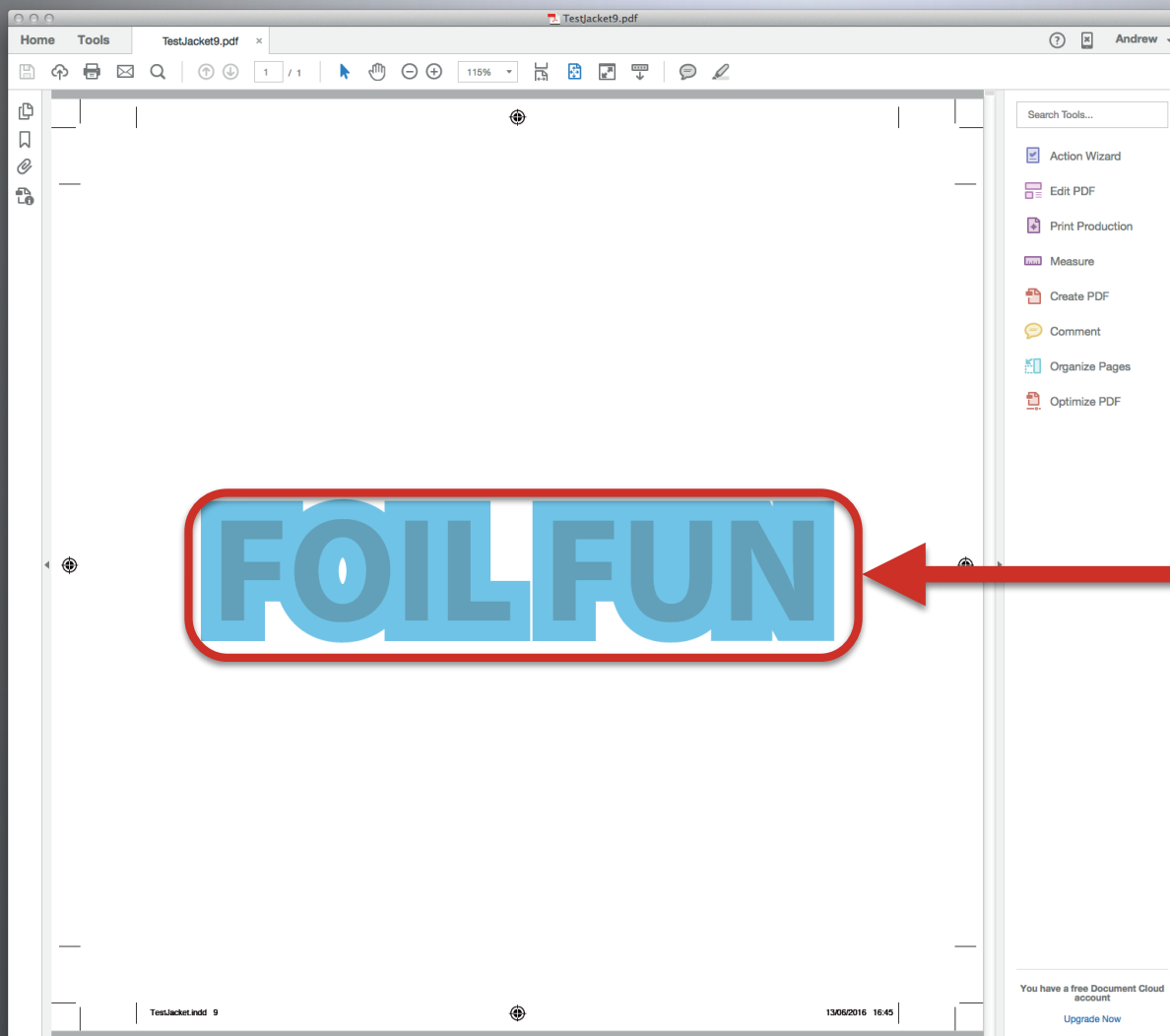
It is quite simple to resolve this issue by removing the darker cyan fill area. It is not meant to be seen anyway.



- Remove the duplicate CMYK shape

## Duplication

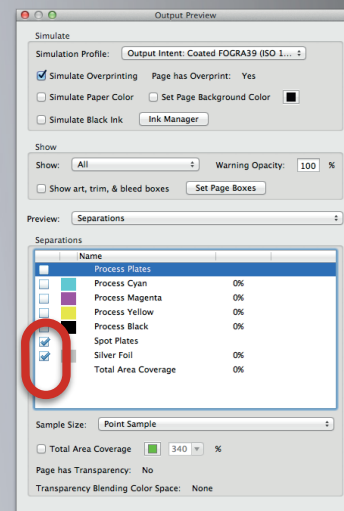
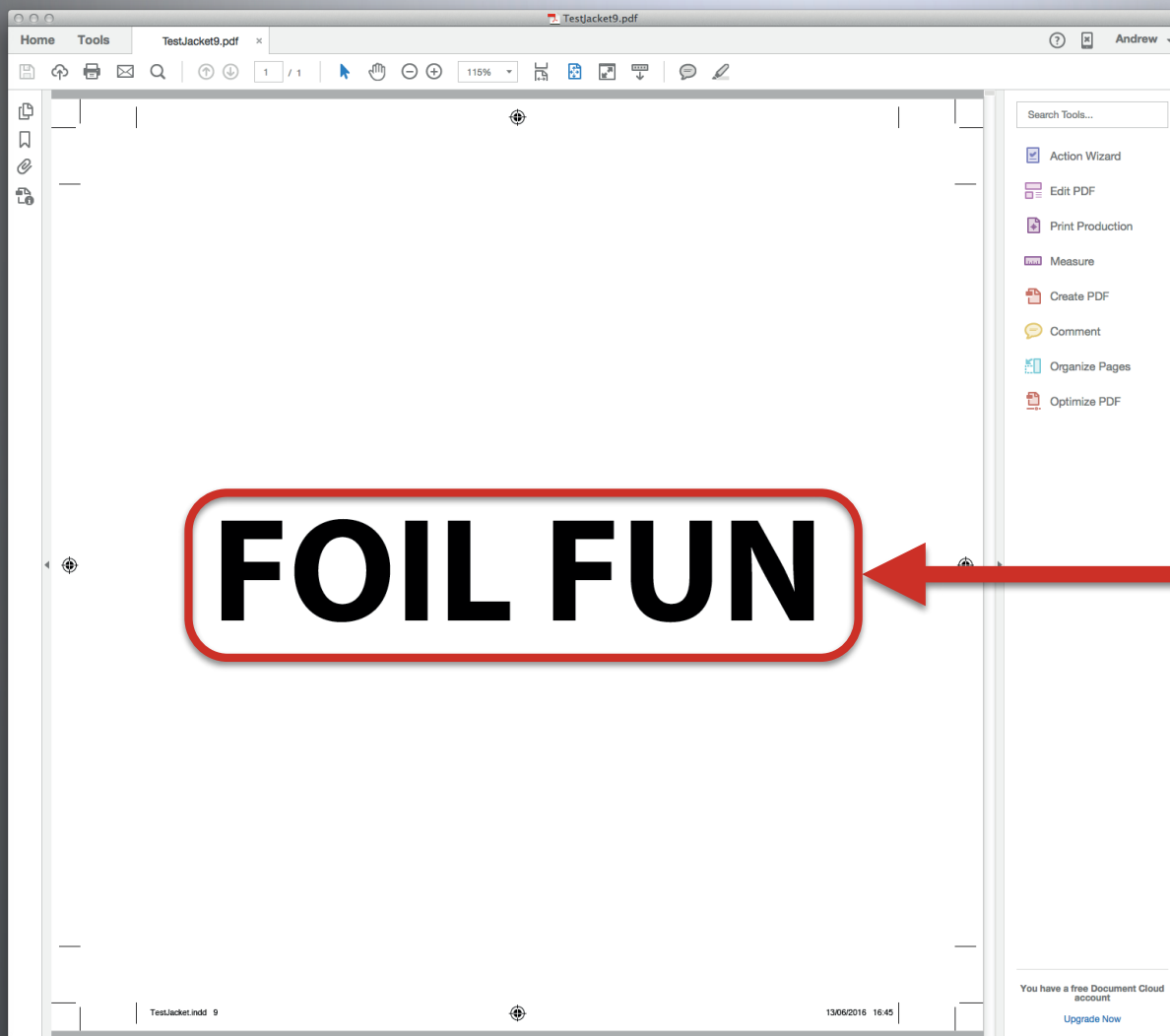
The surrounding lighter Cyan colour should continue were the darker Cyan once was.



- Remove the duplicate CMYK shape

## Duplication

Now the foil is unique within the file.



- Remove the duplicate CMYK shape

## Duplication

The foil area remains the same.

The image shows the text "FOIL FUN" in a bold, rounded, sans-serif font. The letters are filled with a gradient that transitions from dark grey on the left to light grey on the right. A thick, bright blue outline surrounds each letter, creating a 3D effect. The text is centered horizontally within a dark grey rounded rectangle that has a subtle drop shadow.

Removing the duplicate colour and foil elements

**Duplication**

The intended look is exactly the same as before this alteration.





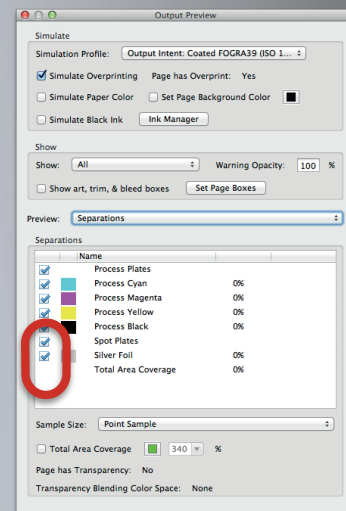
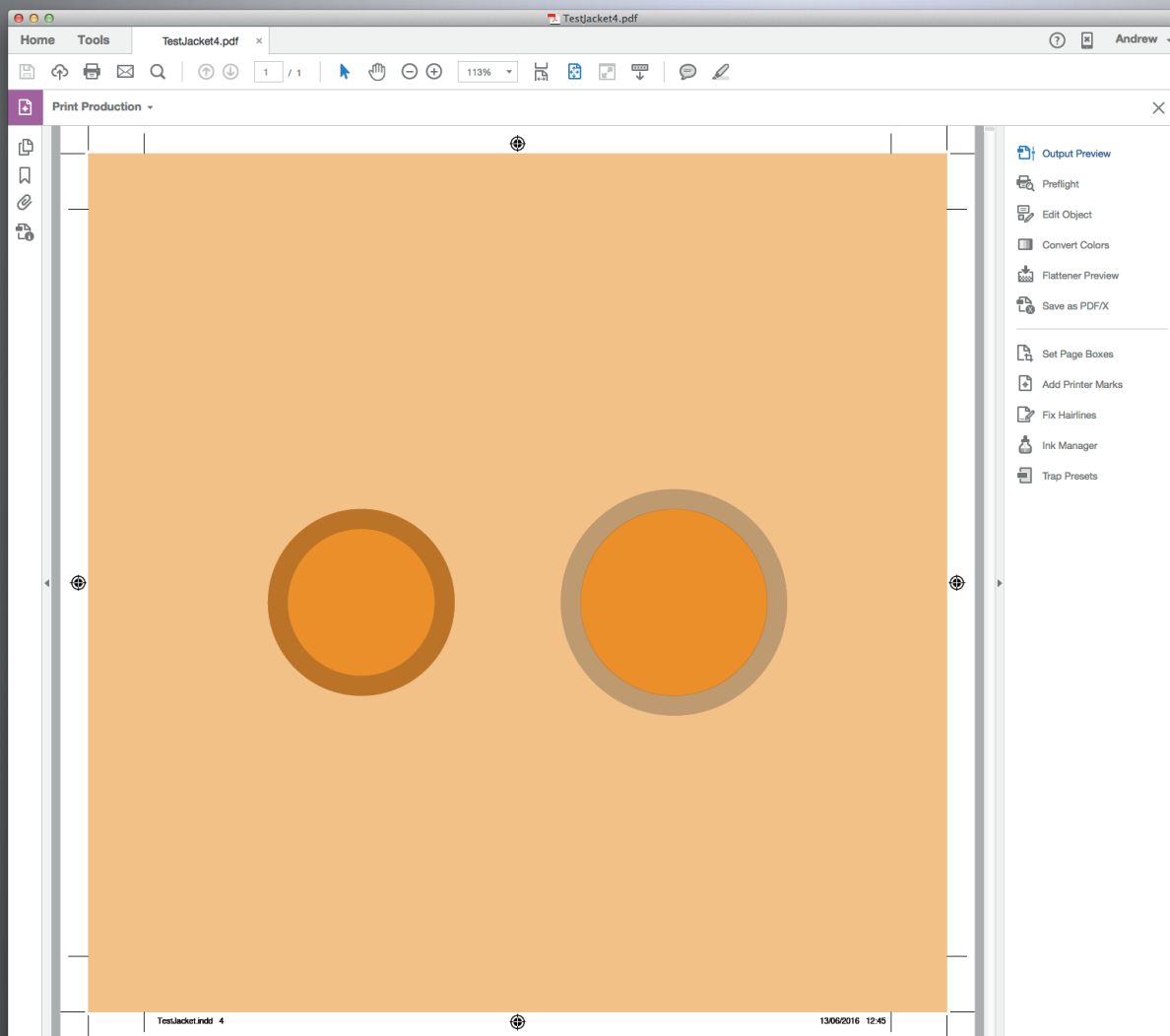
**FOIL FUN**

will eliminate the registration issues on press

### **Duplication**

Here is a little simulation of the foil movement you will get on press.

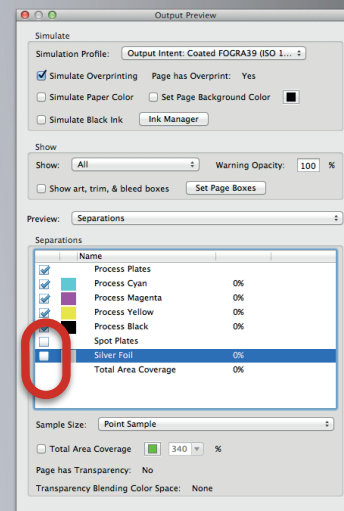
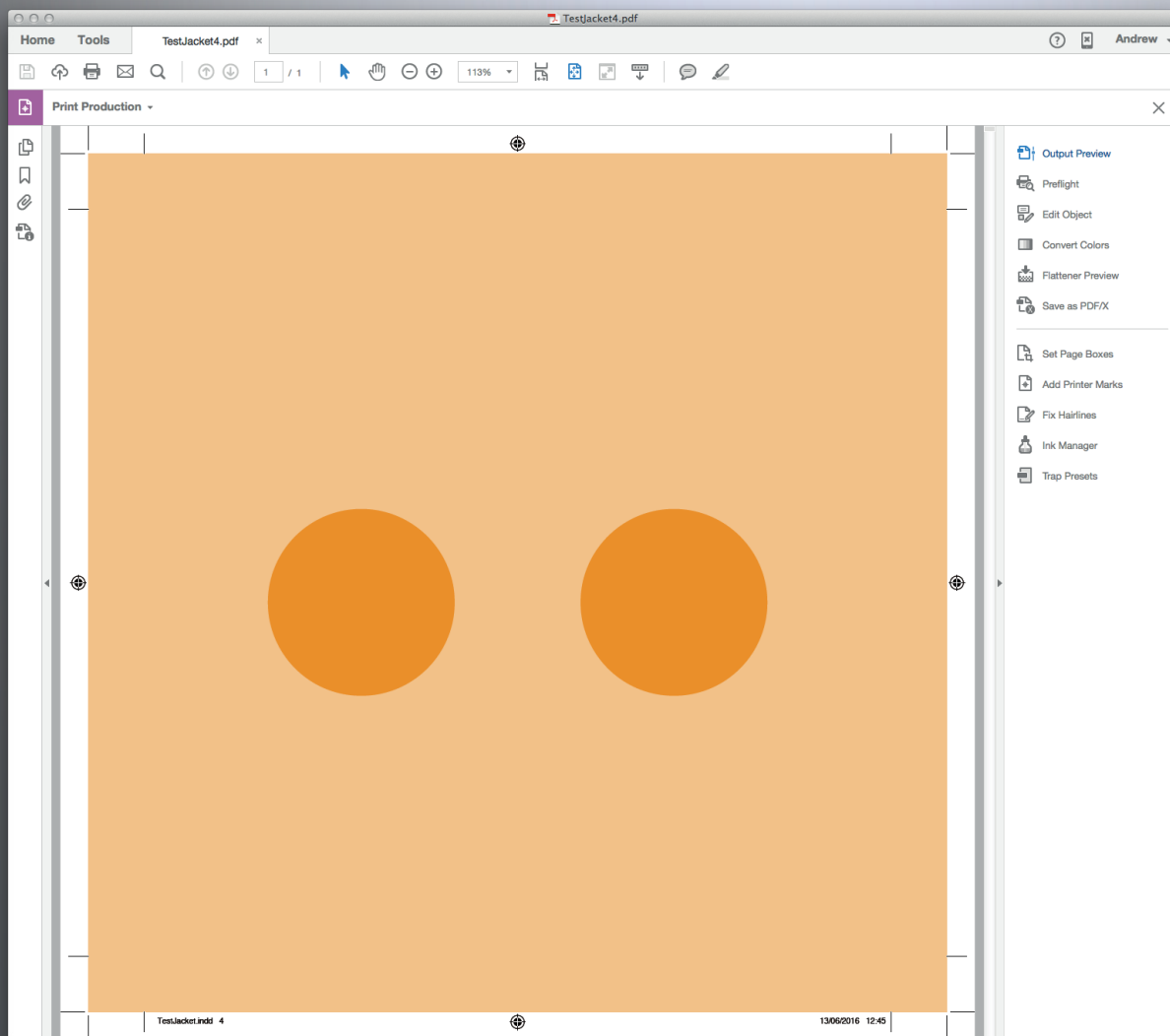
By adjusting elements that were behind the foil and not meant to be seen, we have created a file which will print to look exactly the same, but will not have any noticeable registration issues.



- Toggle foil and CMYK to check for registration issues

## Alignment

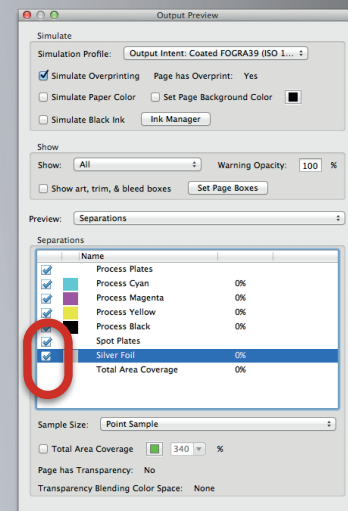
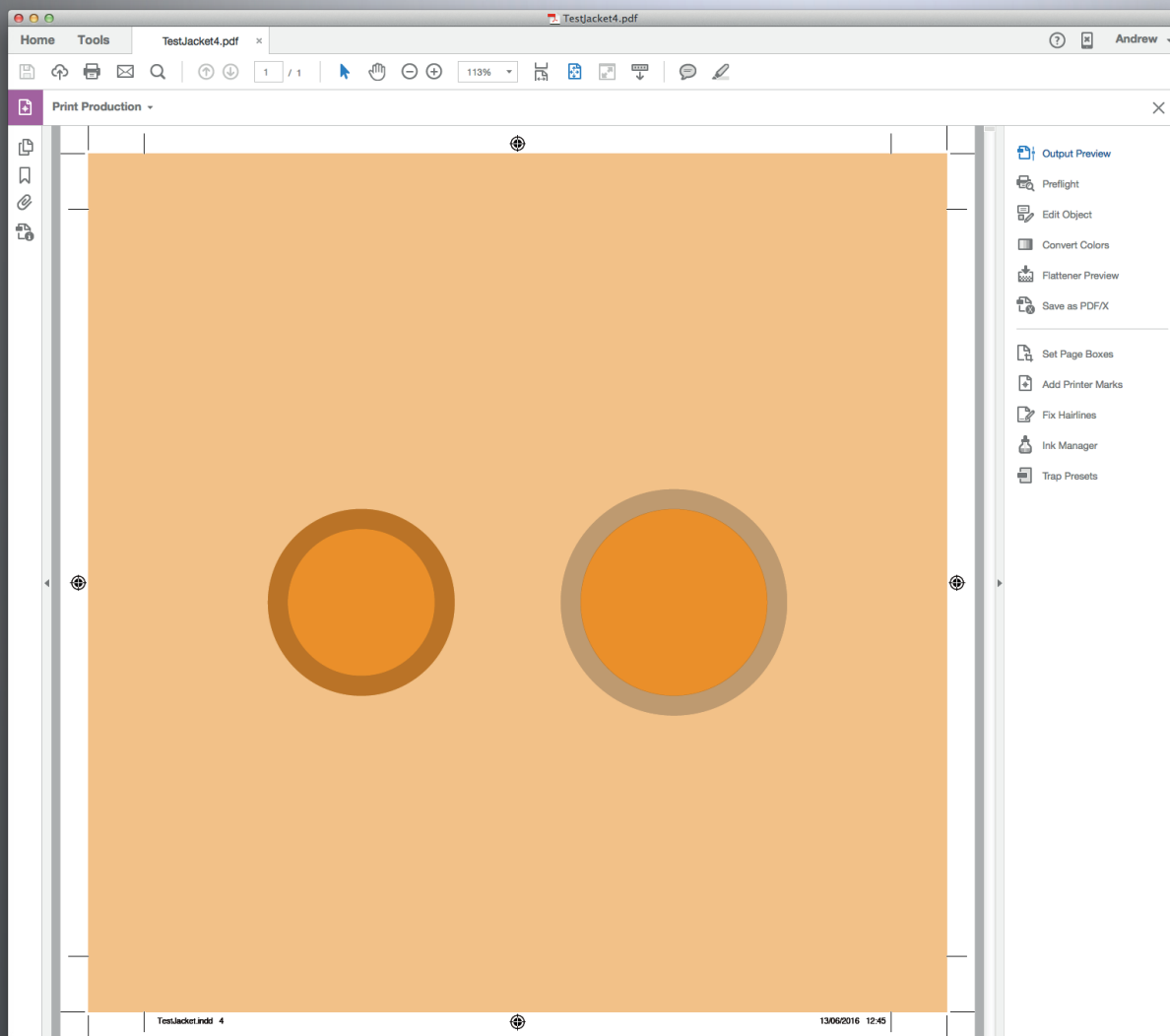
This is when a CMYK object and foil object perfectly align together.



- Toggle foil and CMYK to check for registration issues

## Alignment

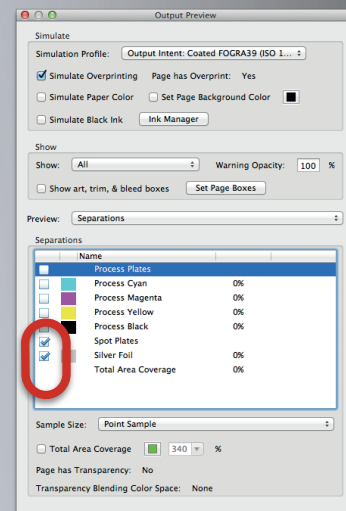
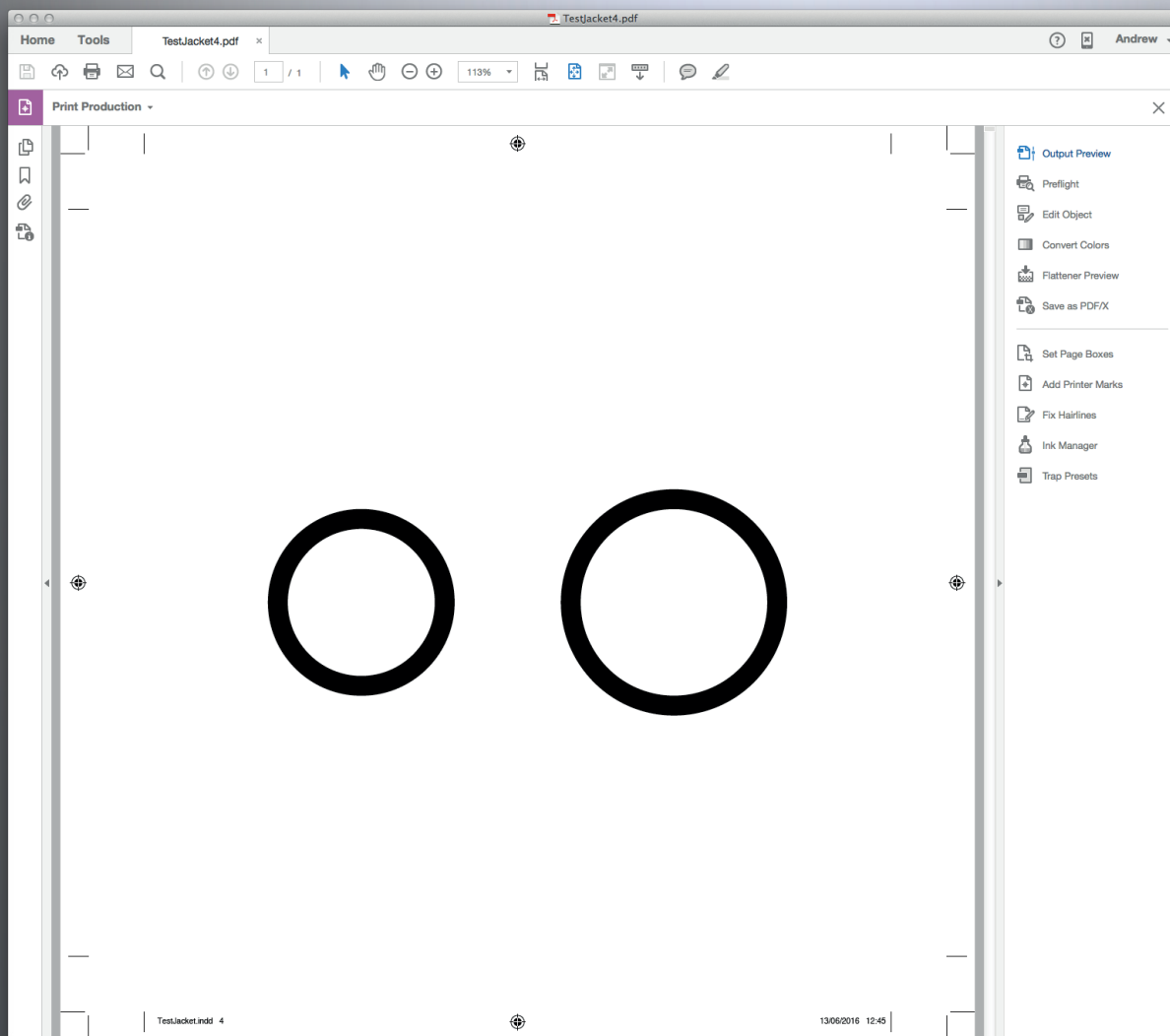
Here are the CMYK separations.



- Toggle foil and CMYK to check for registration issues

## Alignment

Here are the CMYK and foil separations.

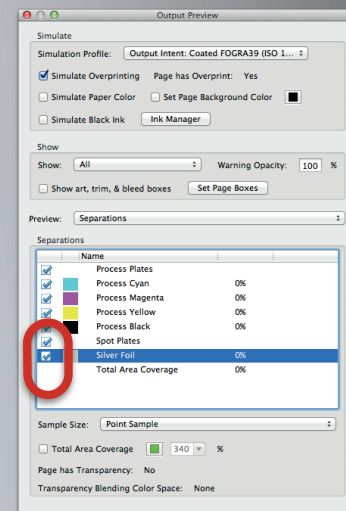
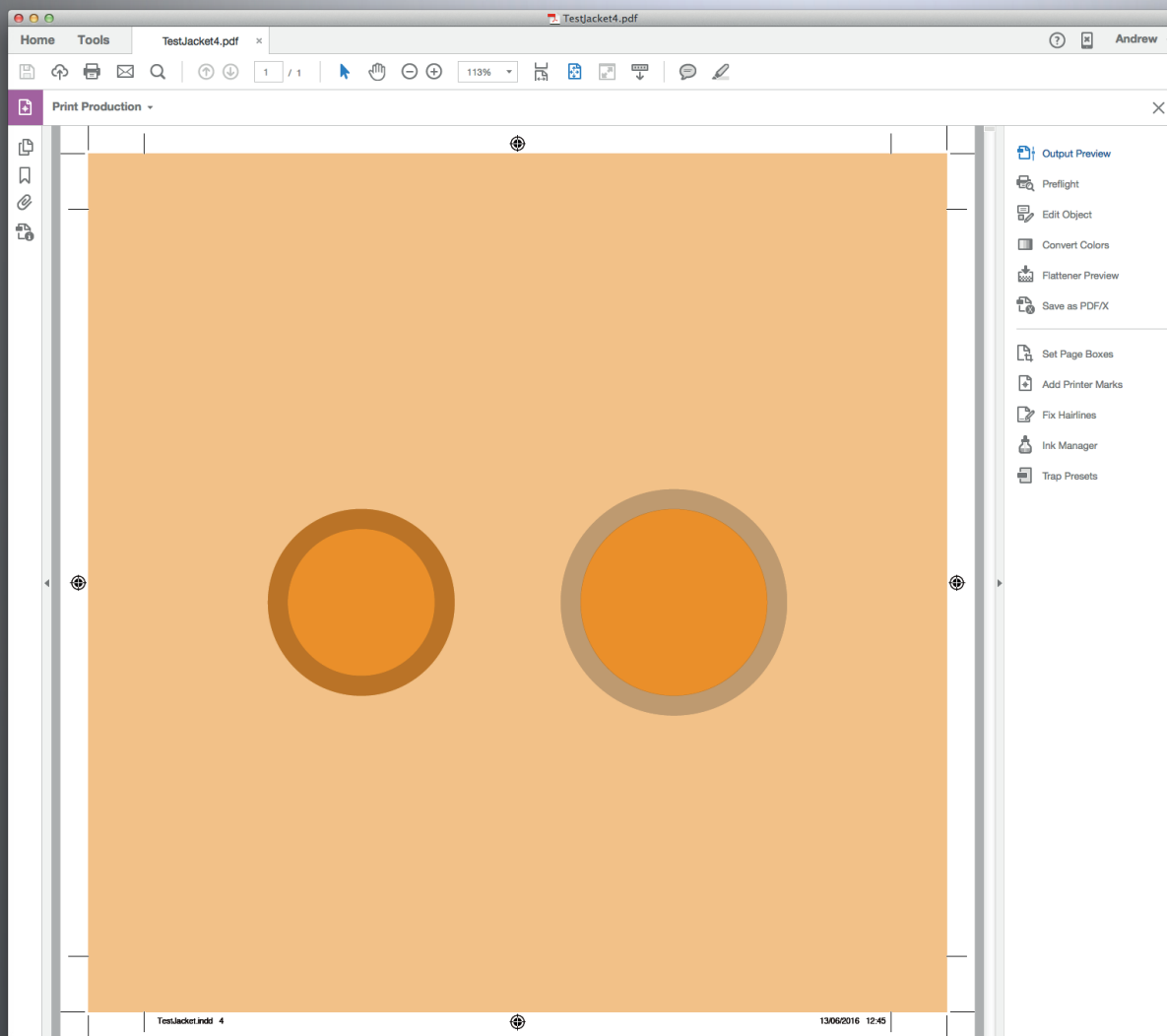


- Toggle foil and CMYK to check for registration issues

## Alignment

This is the foil separation.

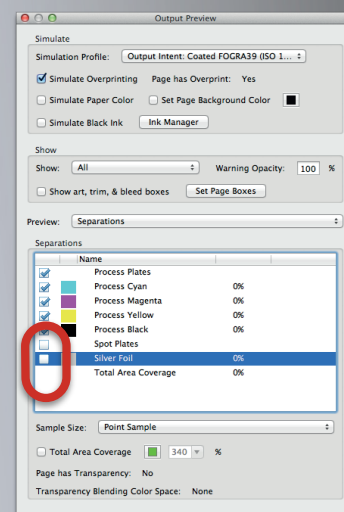
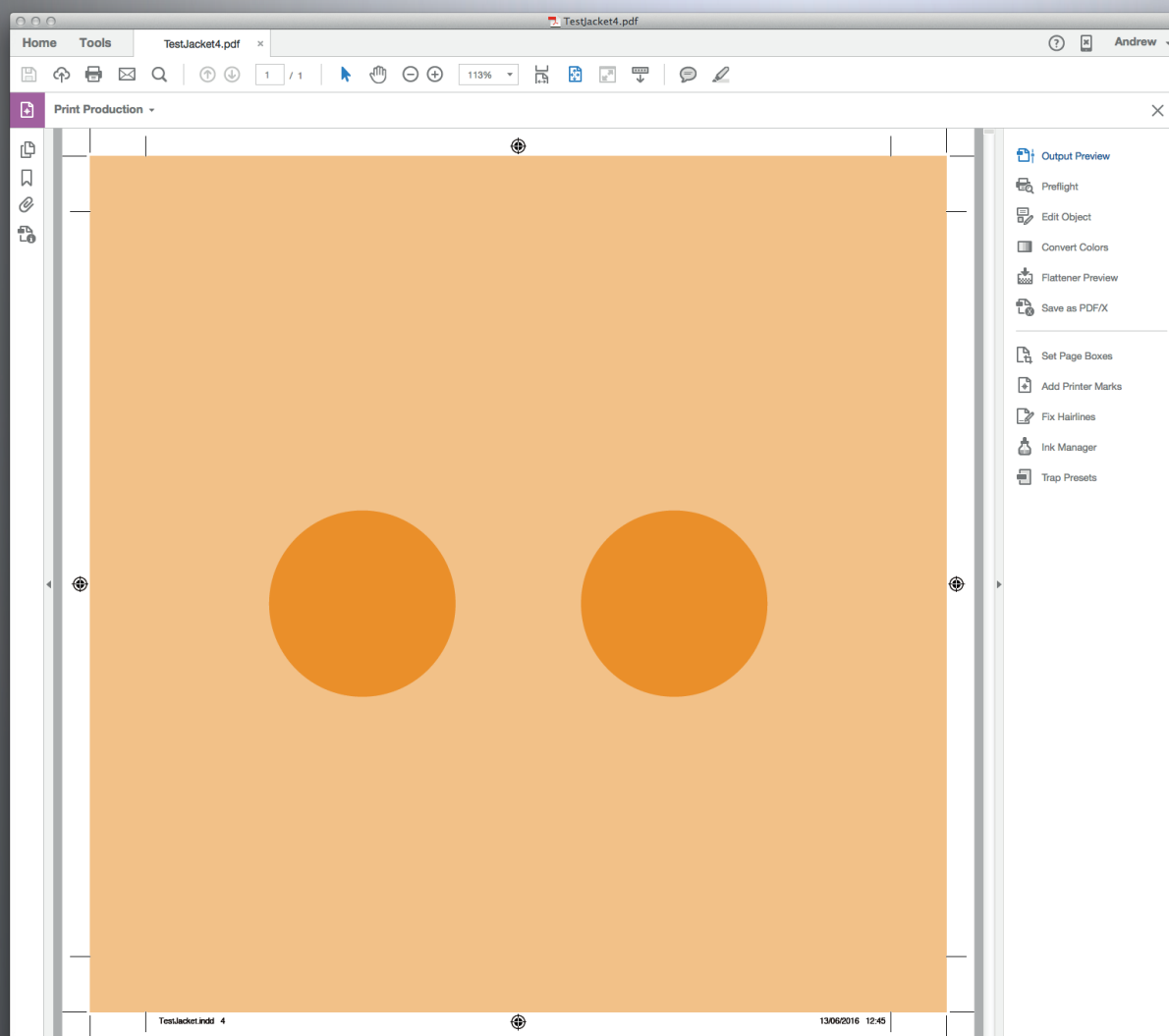




- Toggle foil and CMYK to check for registration issues

## Alignment

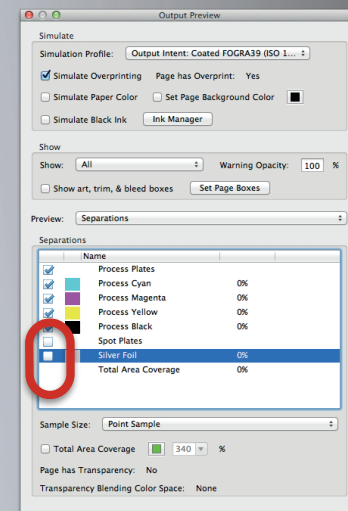
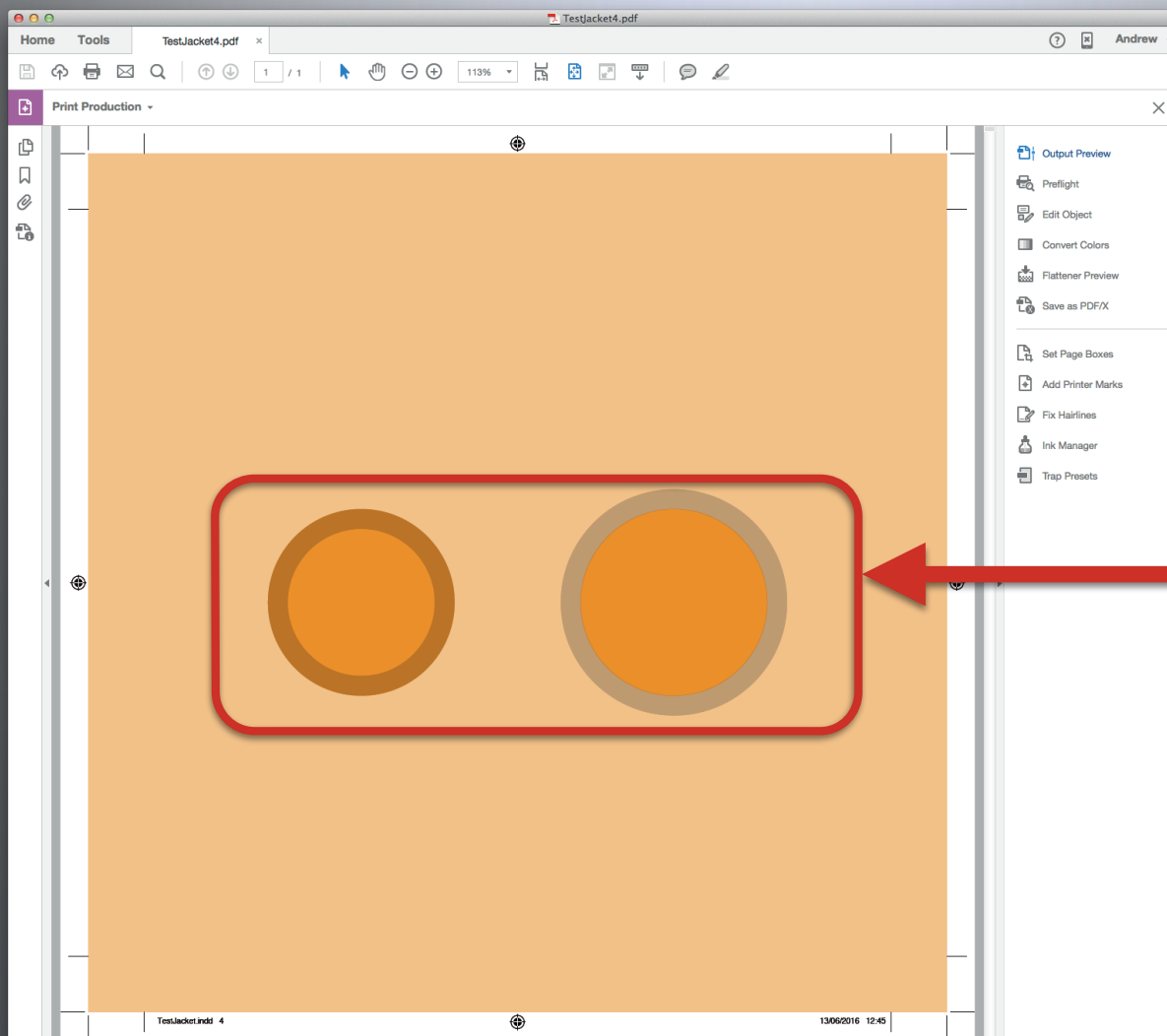
It can be helpful to toggle through these combinations a few times in order to zero in on what is actually happening within the set up.



- Toggle foil and CMYK to check for registration issues

## Alignment

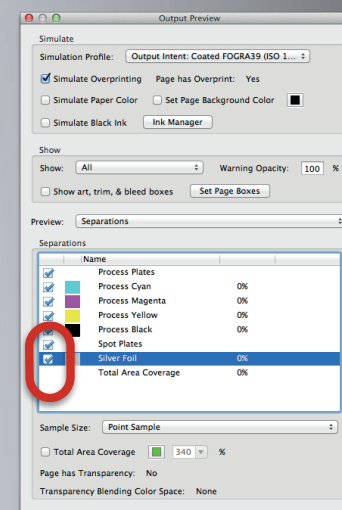
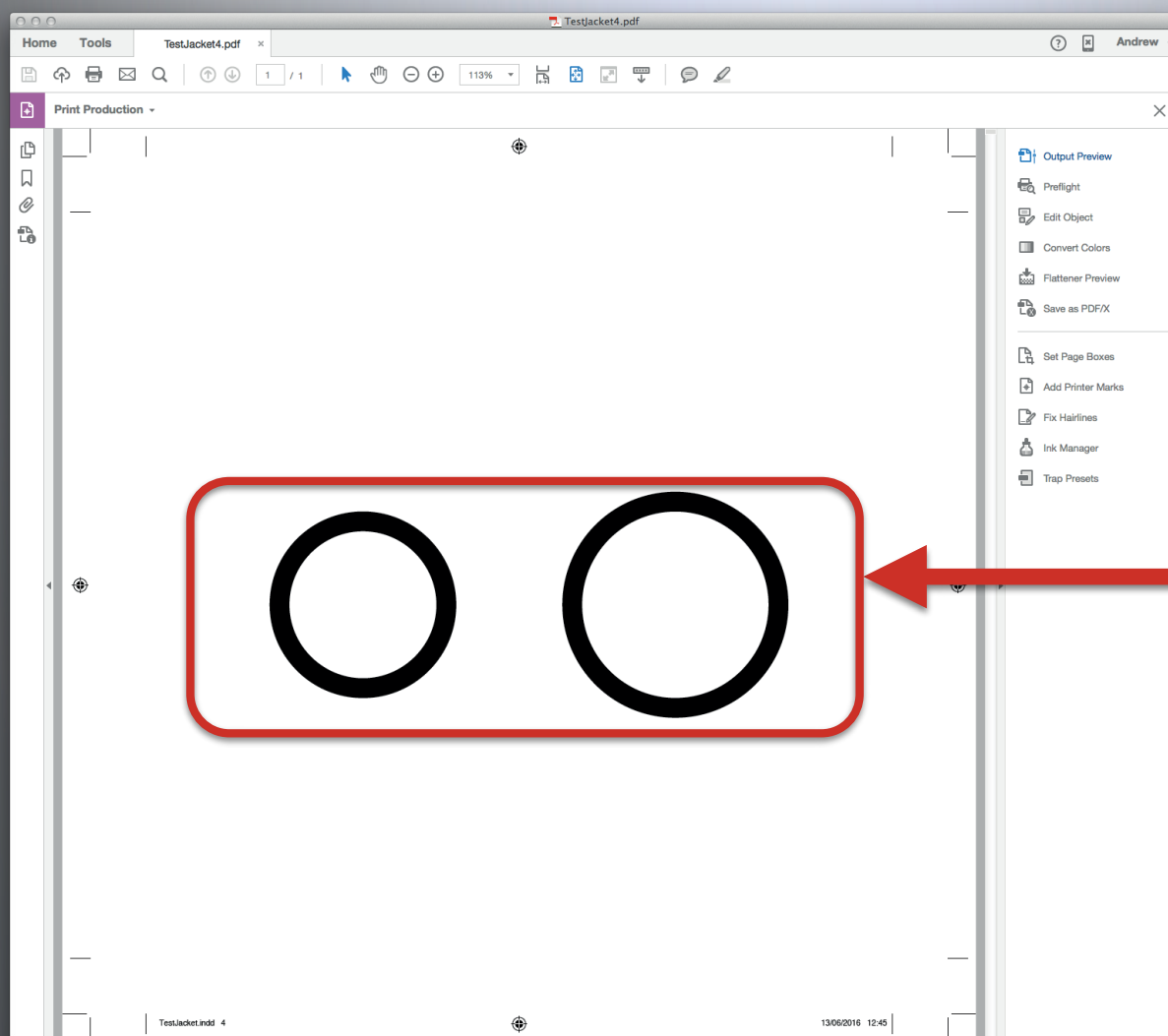
It can be helpful to toggle through these combinations a few times in order to zero in on what is actually happening within the set up.



- The foil edges align directly with the CMYK edges

## Alignment

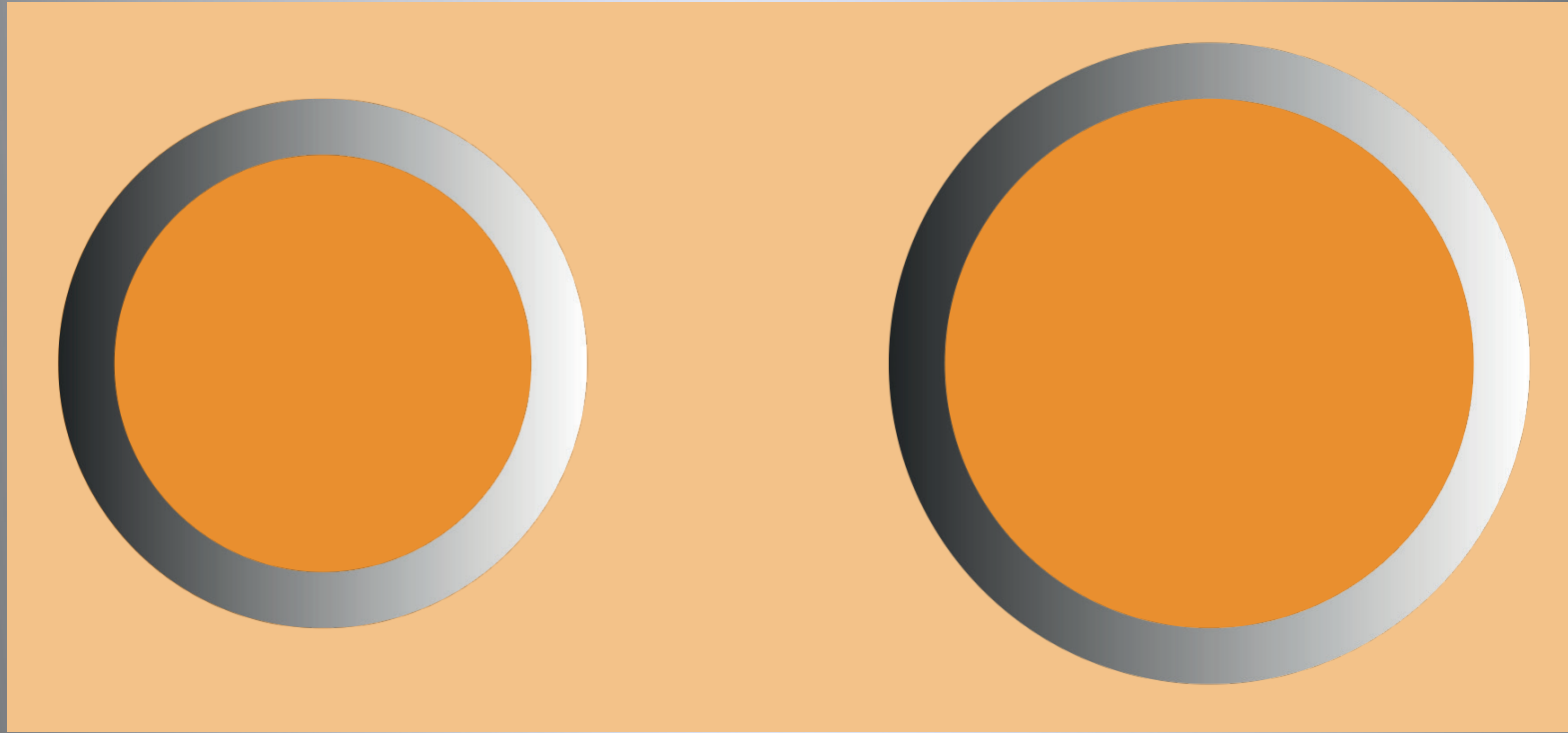
The foil stroke on the left circle has been aligned to the inside edge and the one on the right has been aligned to the outside.



- The foil edges align directly with the CMYK edges

## Alignment

The foil stroke on the left circle has been aligned to the inside edge and the one on the right has been aligned to the outside.

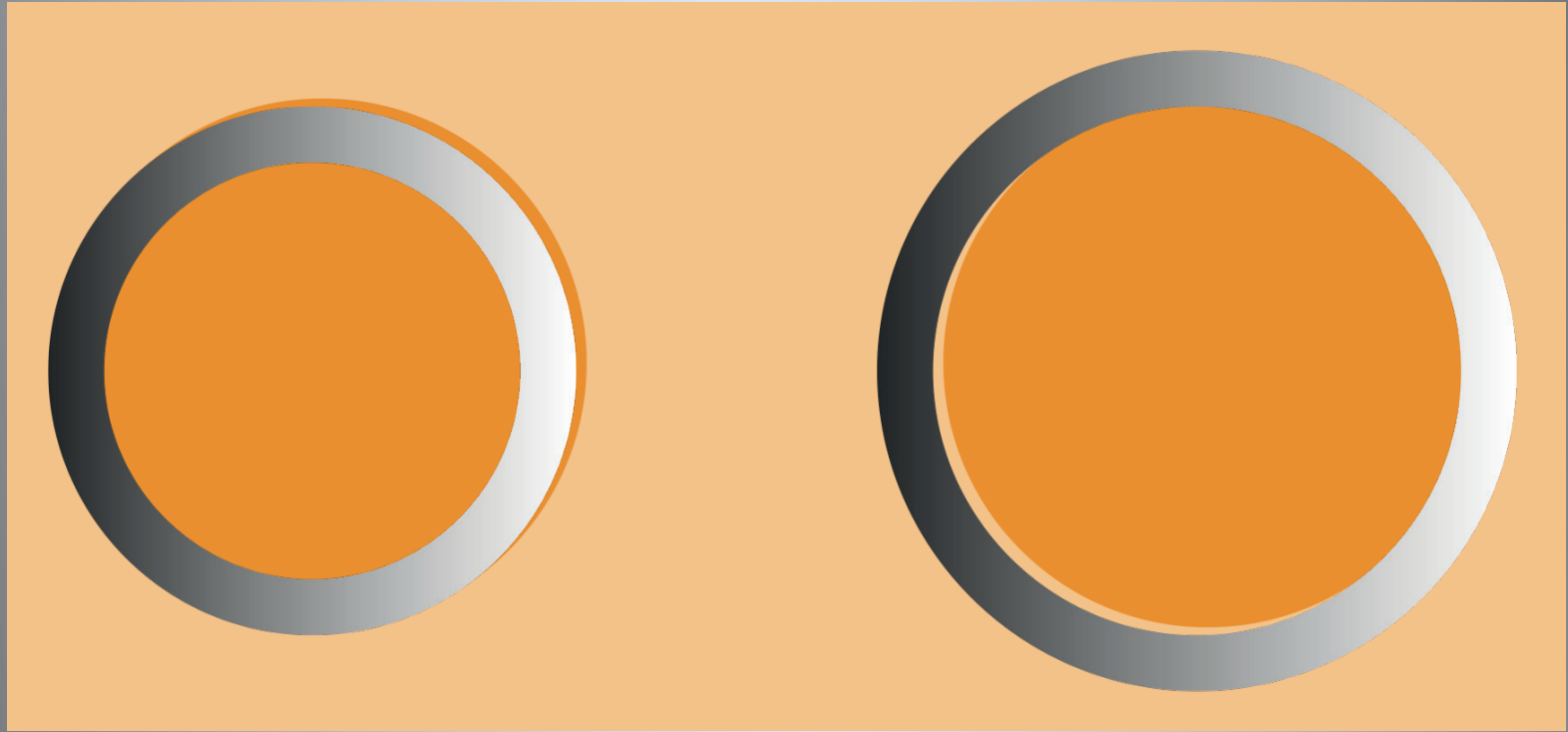


Aligning foil edges to CMYK edges

### **Alignment**

Although the foil perfectly aligns to the darker orange fill area, the final printed copy won't due to the physical process involved in applying foil.



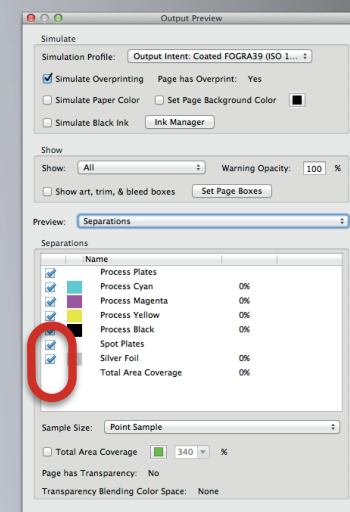
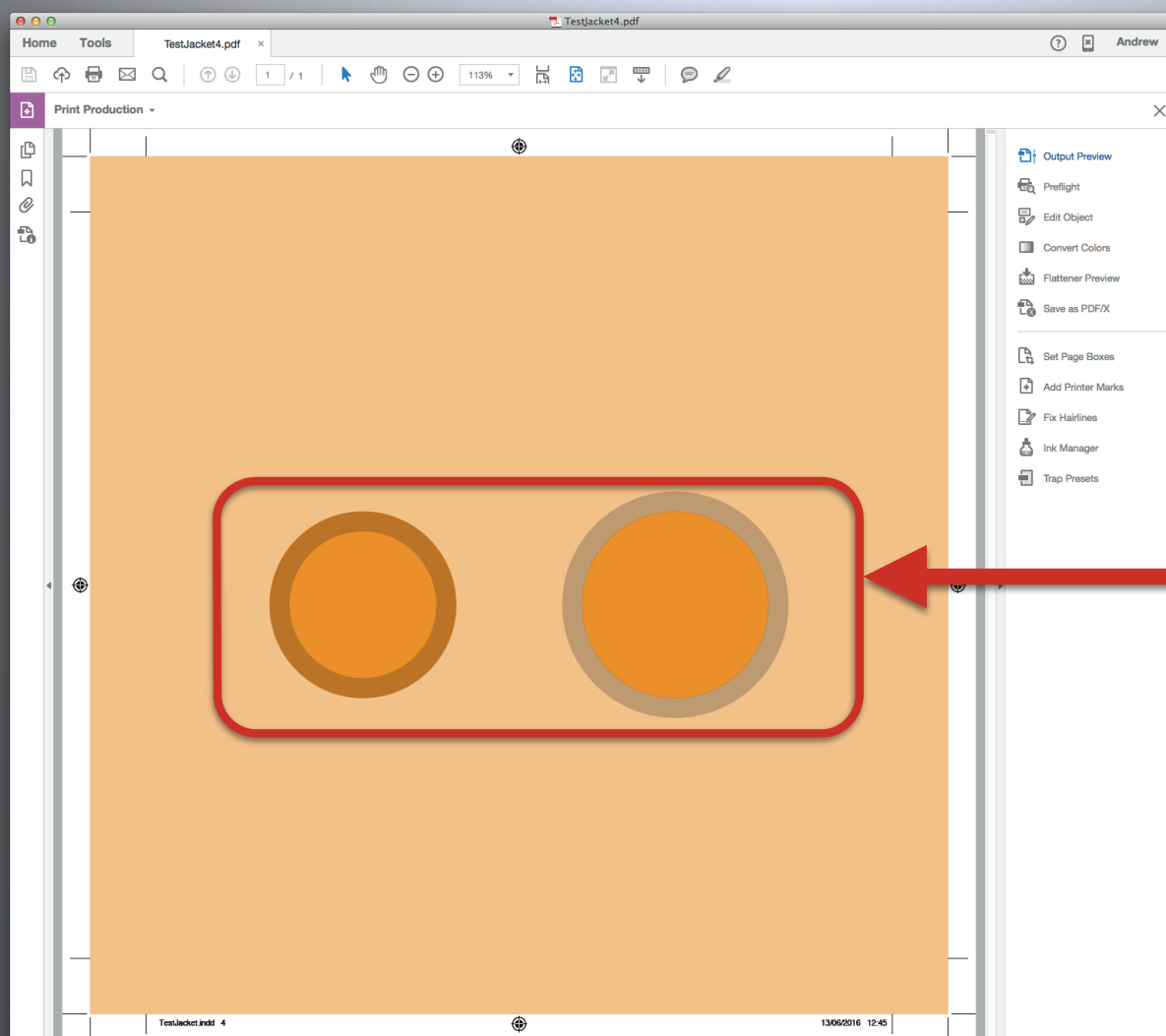


will result in registration issues on press

### **Alignment**

Here is another simulation of the foil movement you will get on press.

Although both foil strokes are aligned differently, they both will produce unwanted results when printed.

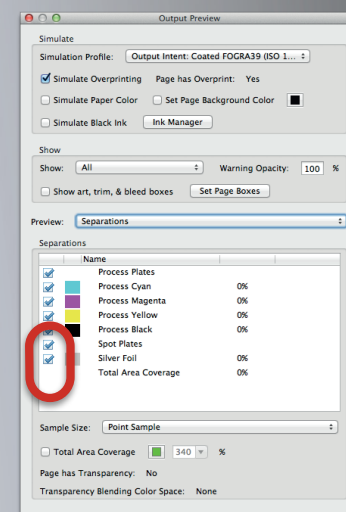
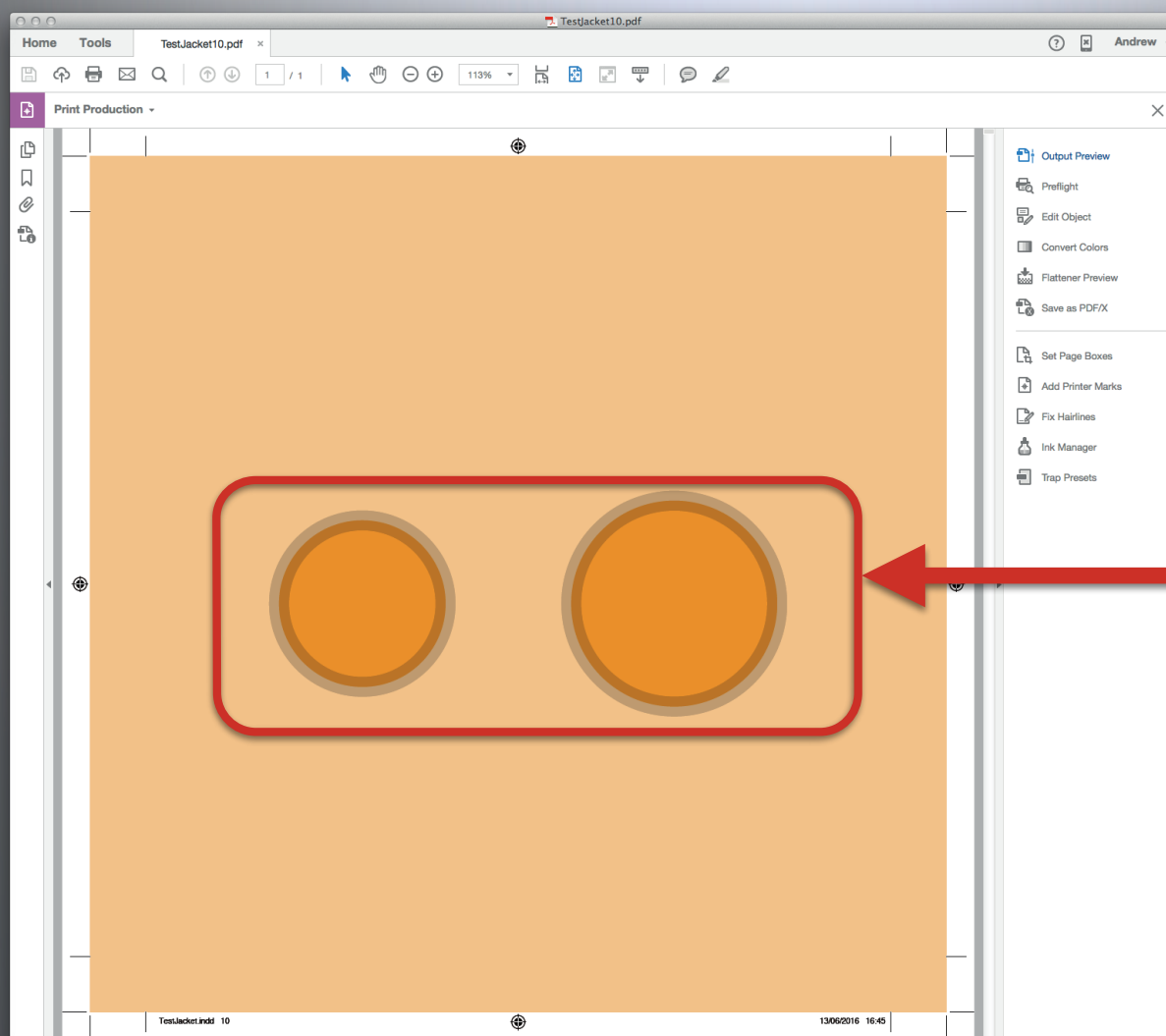


- Adjust the CMYK edges so the foil overlaps them

## Alignment

This example here has circles with strokes applied in InDesign. They have 3 alignment options : Inner, Outer and Centre. The centre alignment should be used for foil strokes on CMYK objects. This would also be the same if they were created in Illustrator.

This same principle would be applied to a Photoshop image. The only difference being you may need to clone in extra pixels to expand the CMYK edge or mask off pixels to decrease the CMYK edge.

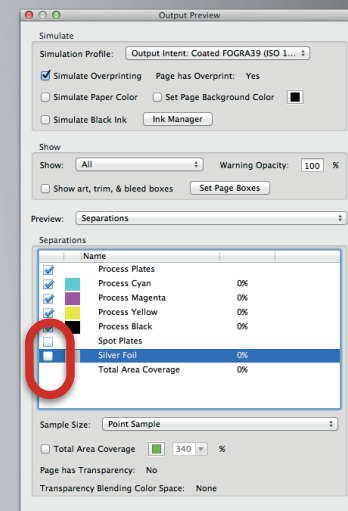
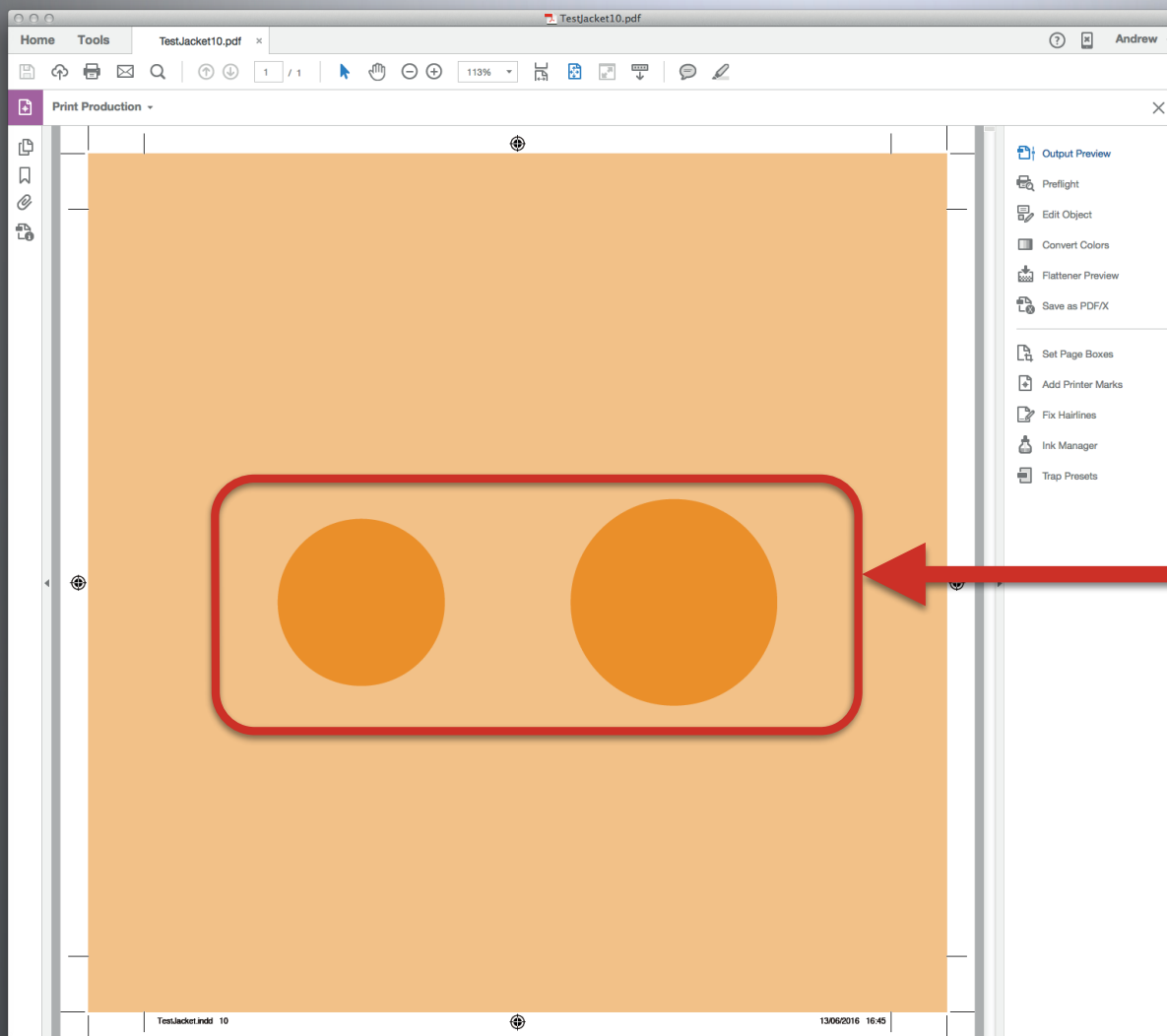


- Adjust the CMYK edges so the foil overlaps them

## Alignment

Using the centre stroke alignment option means that the fill colour (dark orange) will extend passed the inner foil edge and stop short of the outer foil edge.

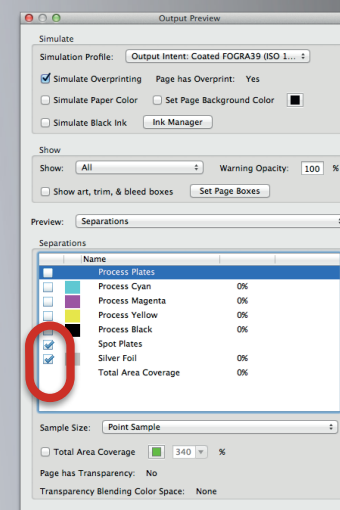
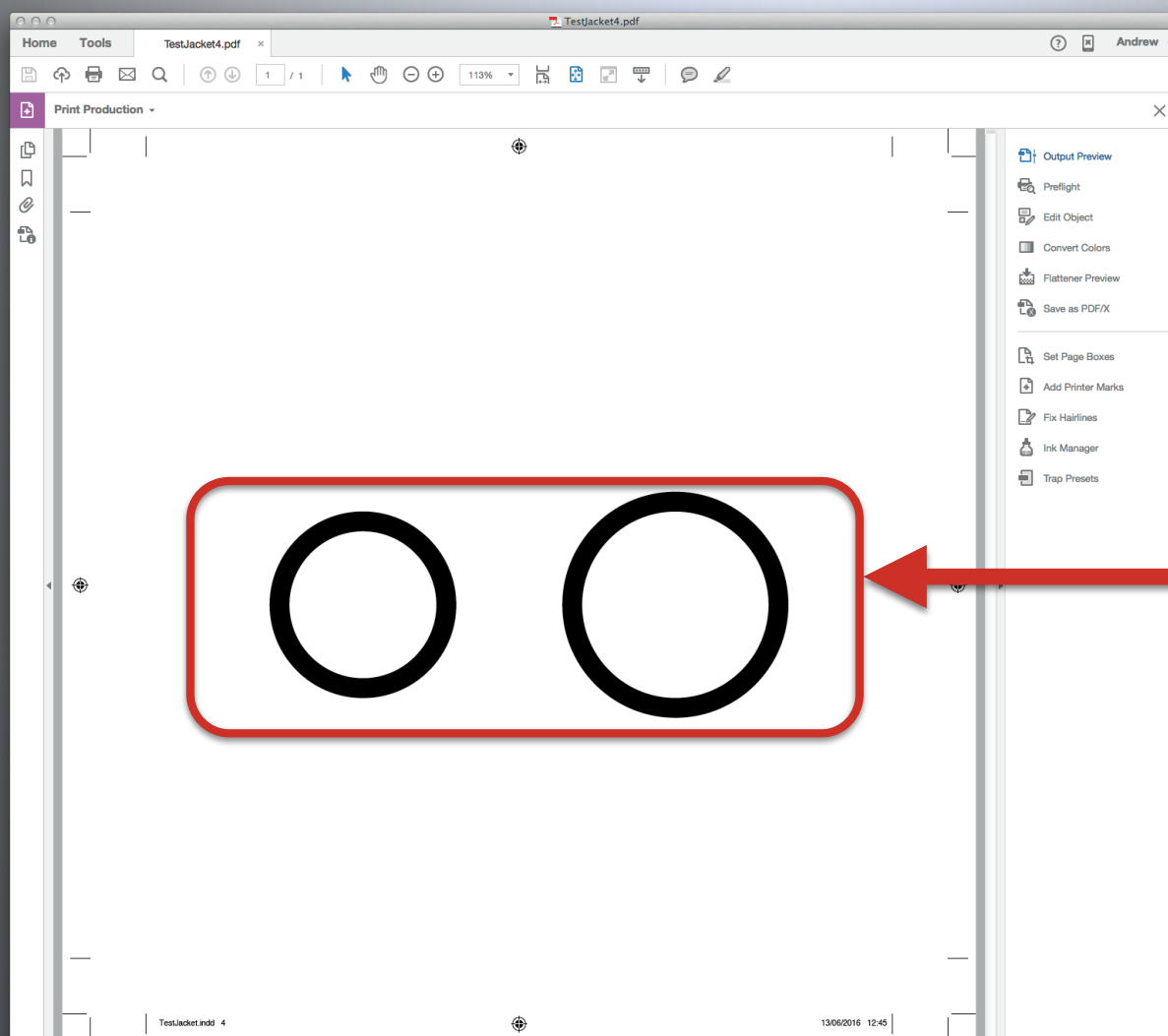
If the foil stroke and orange fill were separate elements you would then just increase or decrease the size of the dark orange fill colour to produce the same resulting centre alignment.



- Adjust the CMYK edges so the foil overlaps them

## Alignment

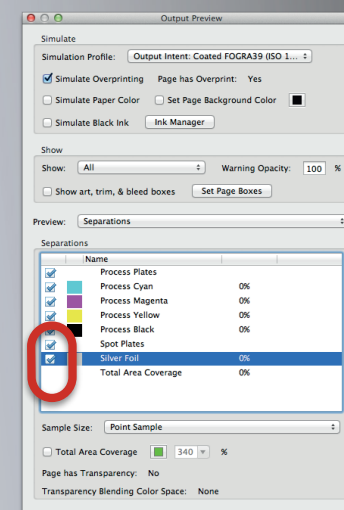
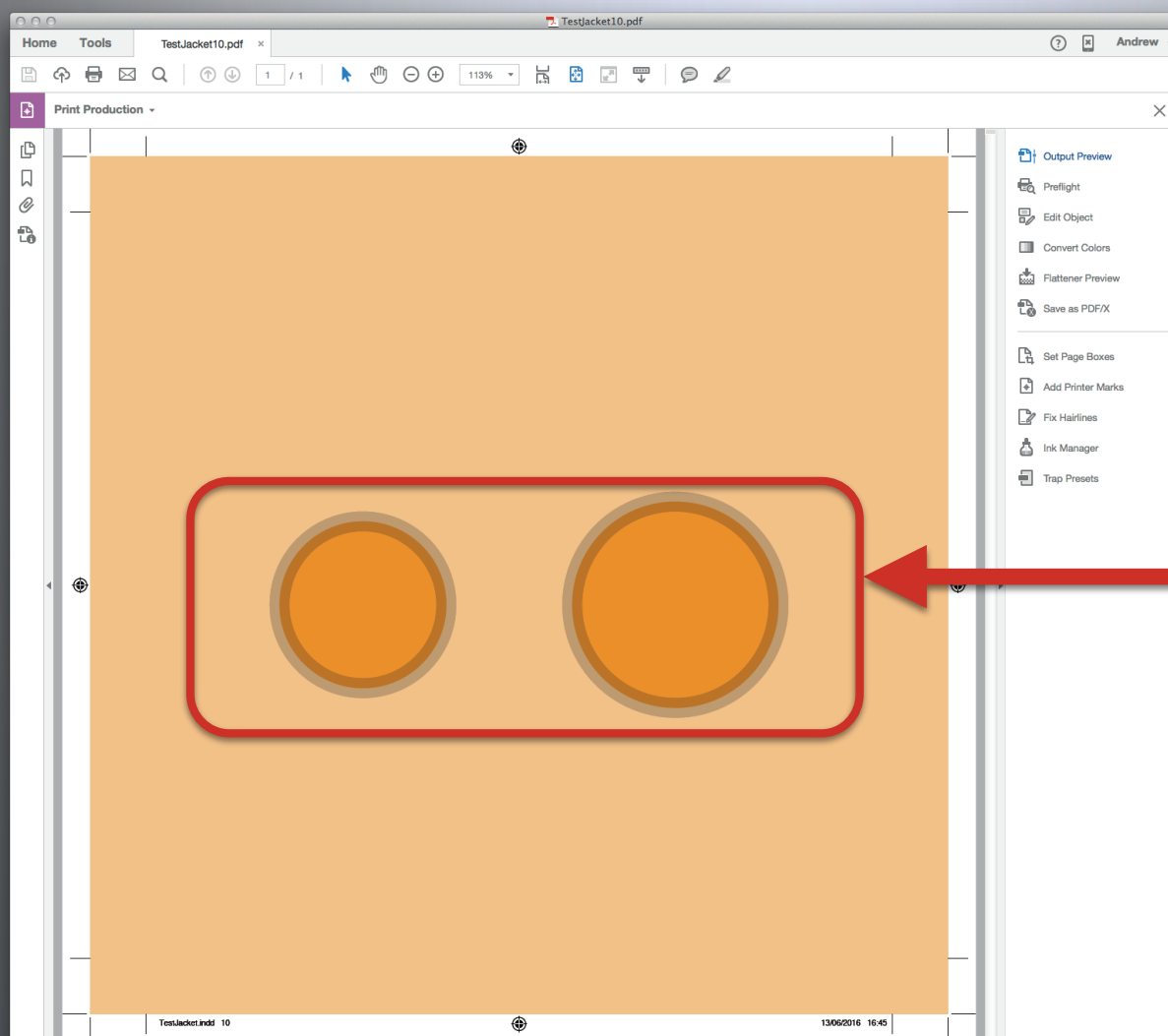
The dark orange fill will change size in order to centrally align the foil.



- Adjust the CMYK edges so the foil overlaps them

## Alignment

The foil will again remain the same.

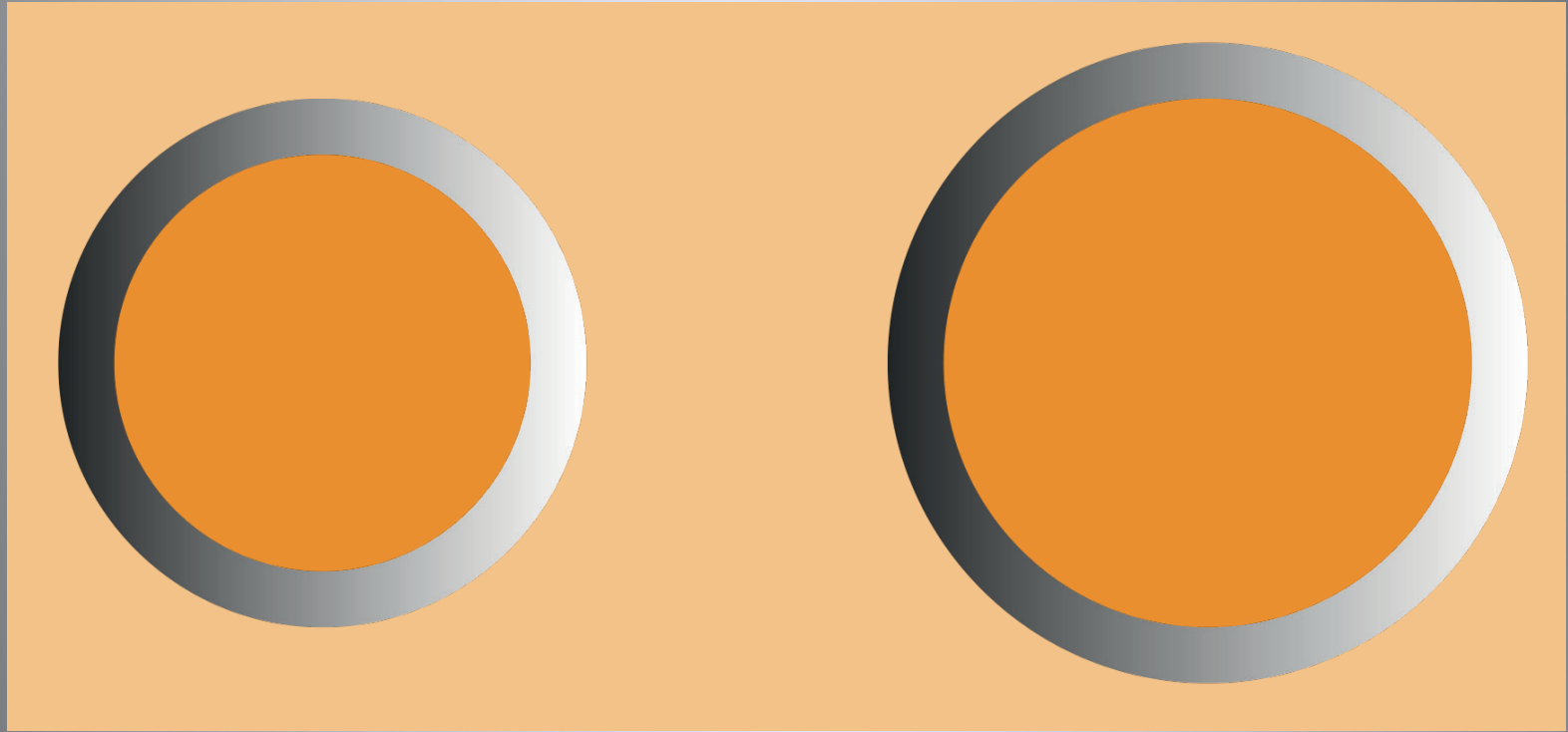


- Adjust the CMYK edges so the foil overlaps them

## Alignment

The dark orange size change has only occurred in the areas that are obscured by the foil.

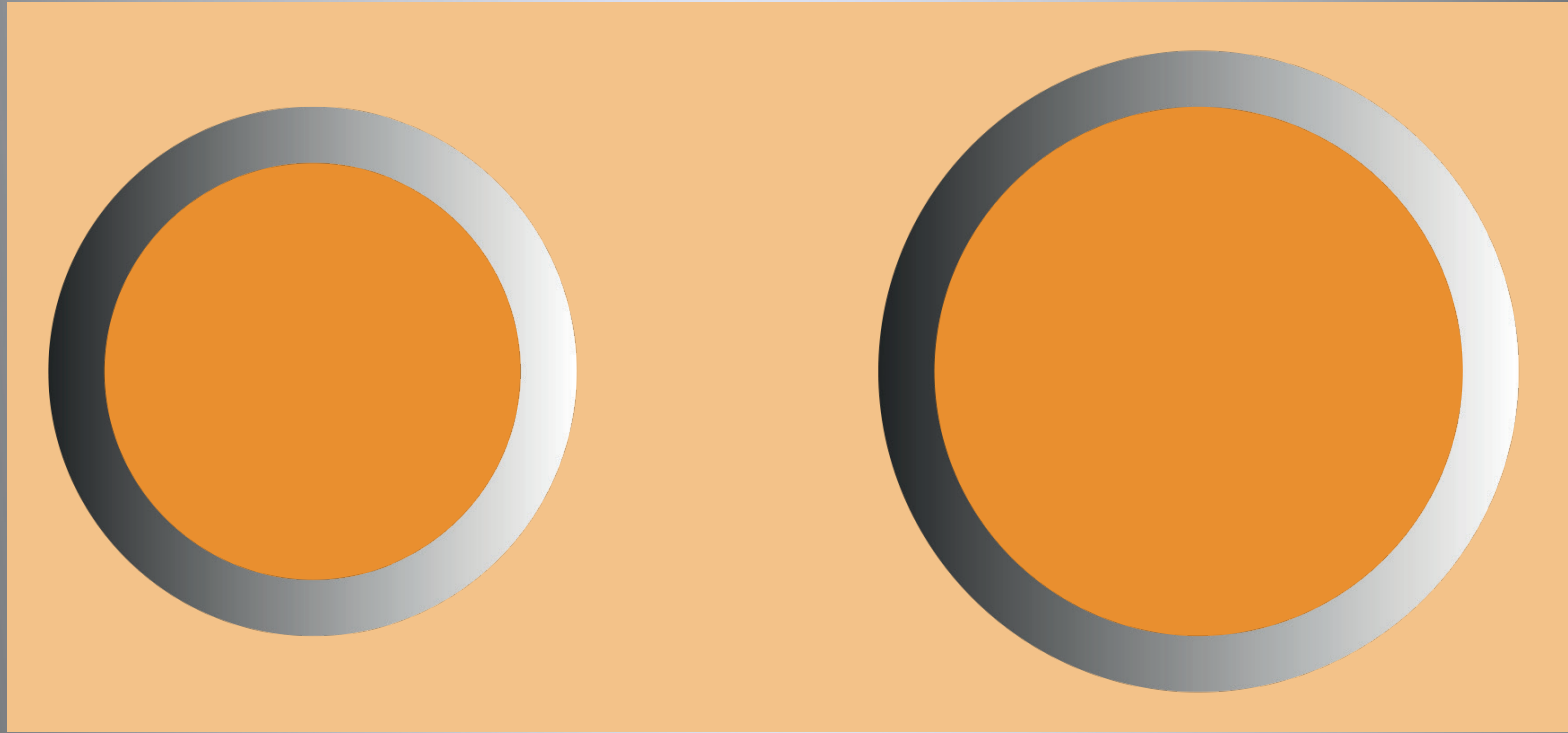




Overlapping foil edges to CMYK edges

**Alignment**

The intended look is exactly the same as before this alteration.

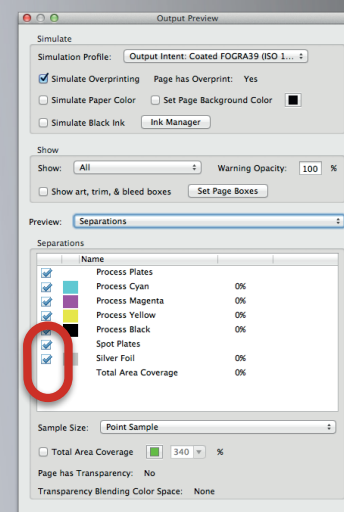
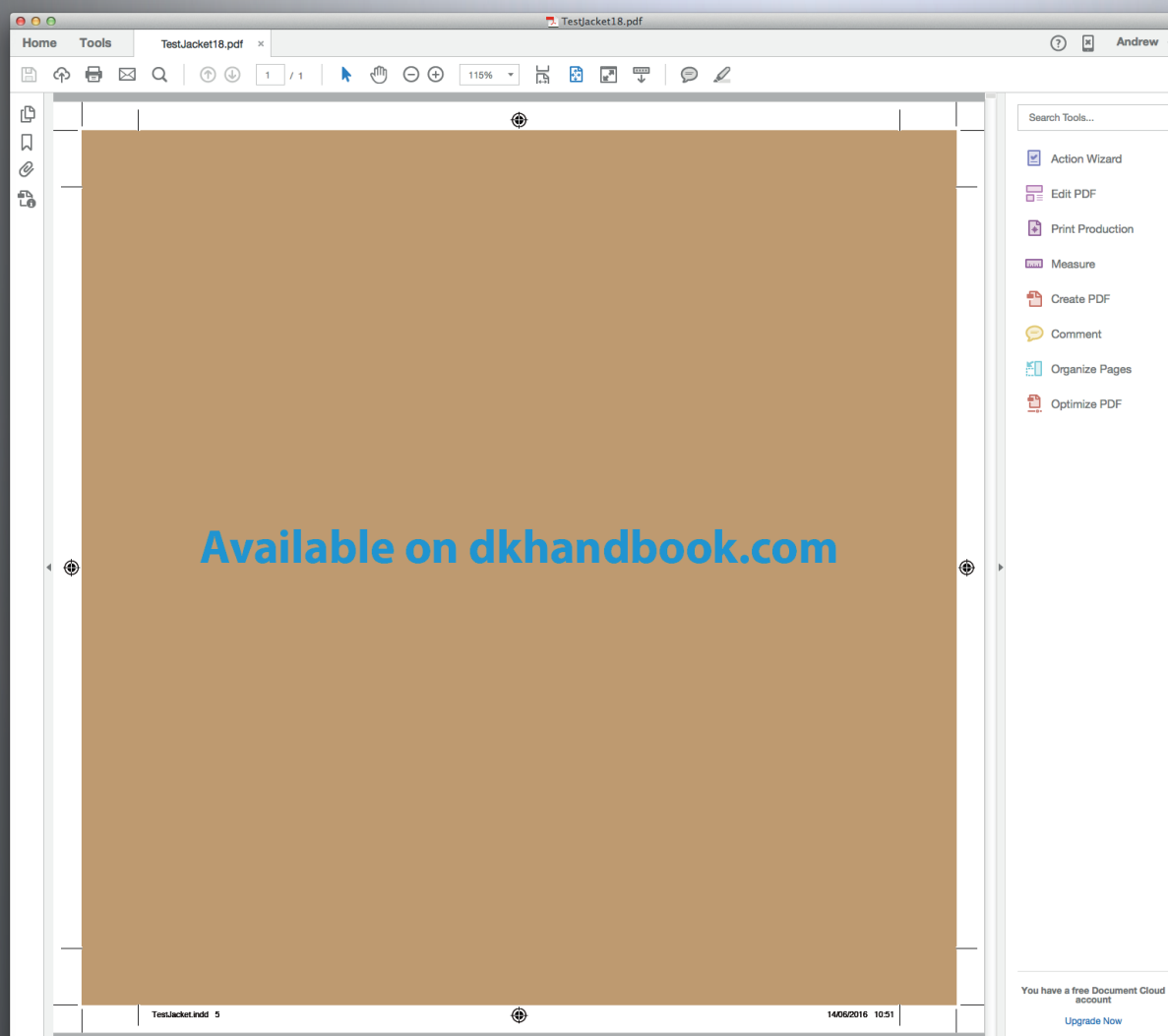


will eliminate the registration issues on press

### **Alignment**

Here is another simulation of the foil movement you will get on press.

By adjusting elements that were behind the foil and not meant to be seen we have created a file which will print to look exactly the same, but will not have any noticeable registration issues.

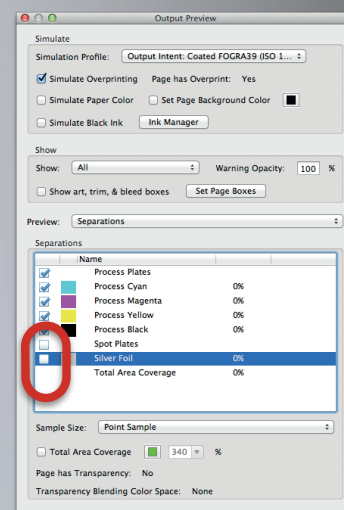
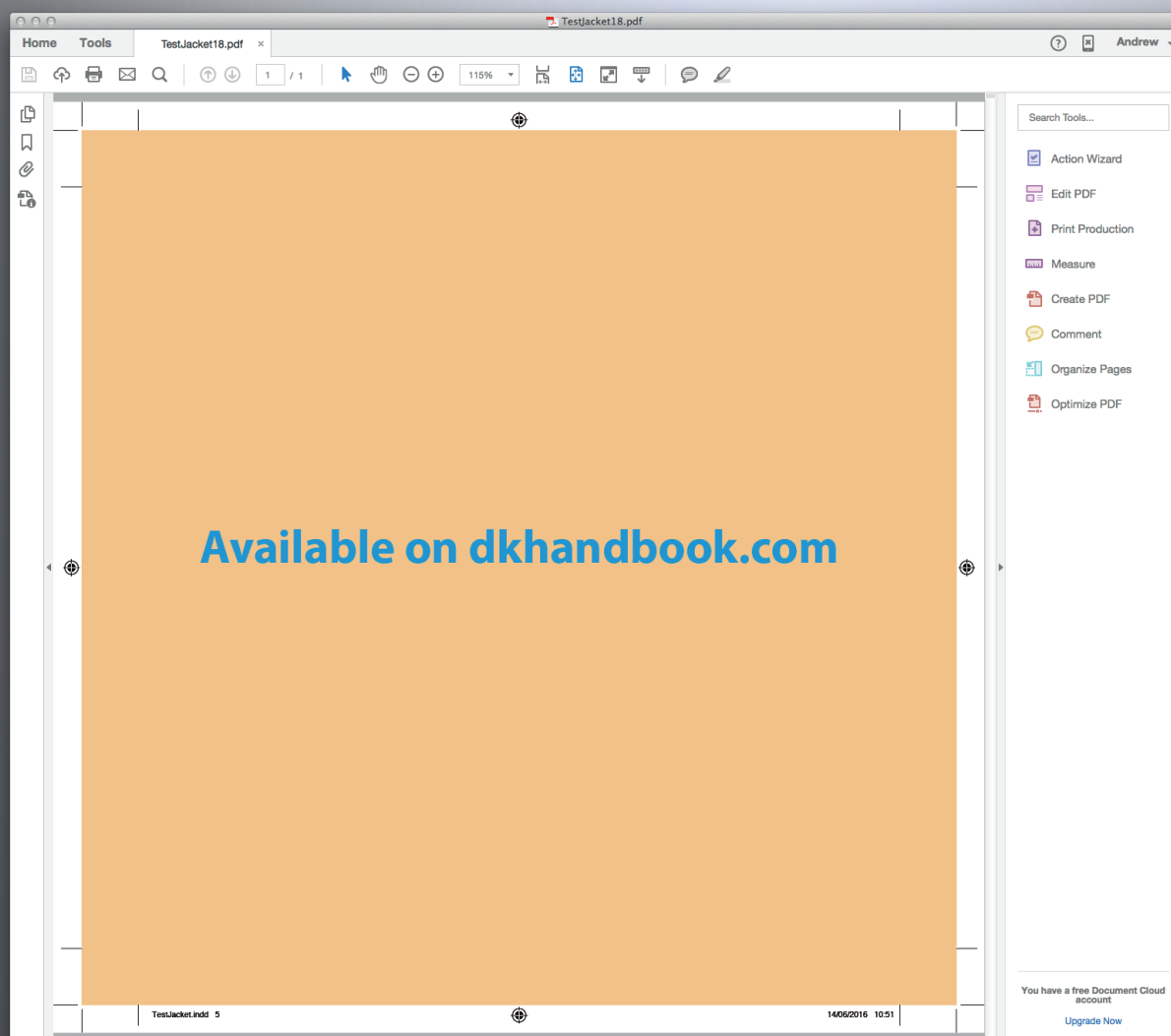


- Toggle foil and CMYK to check for registration issues

### CMYK knockout

This is when a CMYK element has been used to knock out an area of foil.

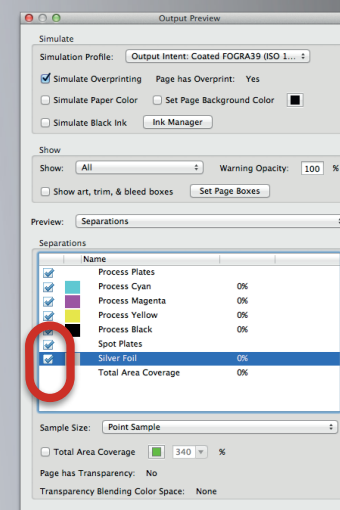
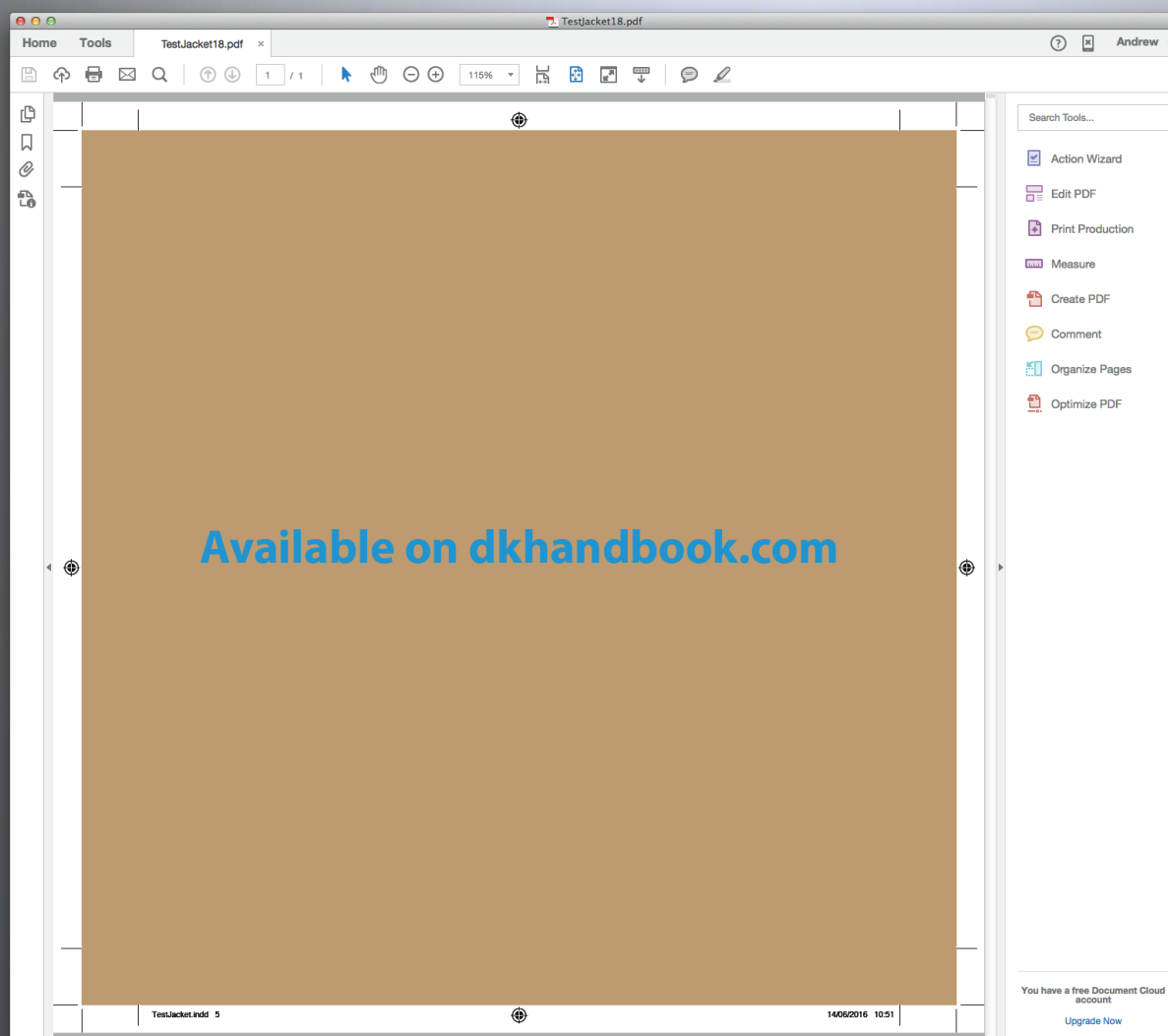
This means that the CMYK and foil are exactly the opposite shape and size (positive and negatives of one another).



- Toggle foil and CMYK to check for registration issues

### CMYK knockout

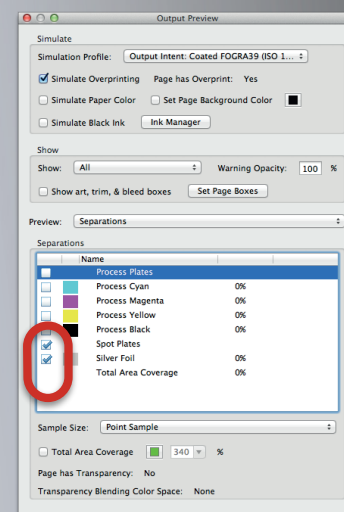
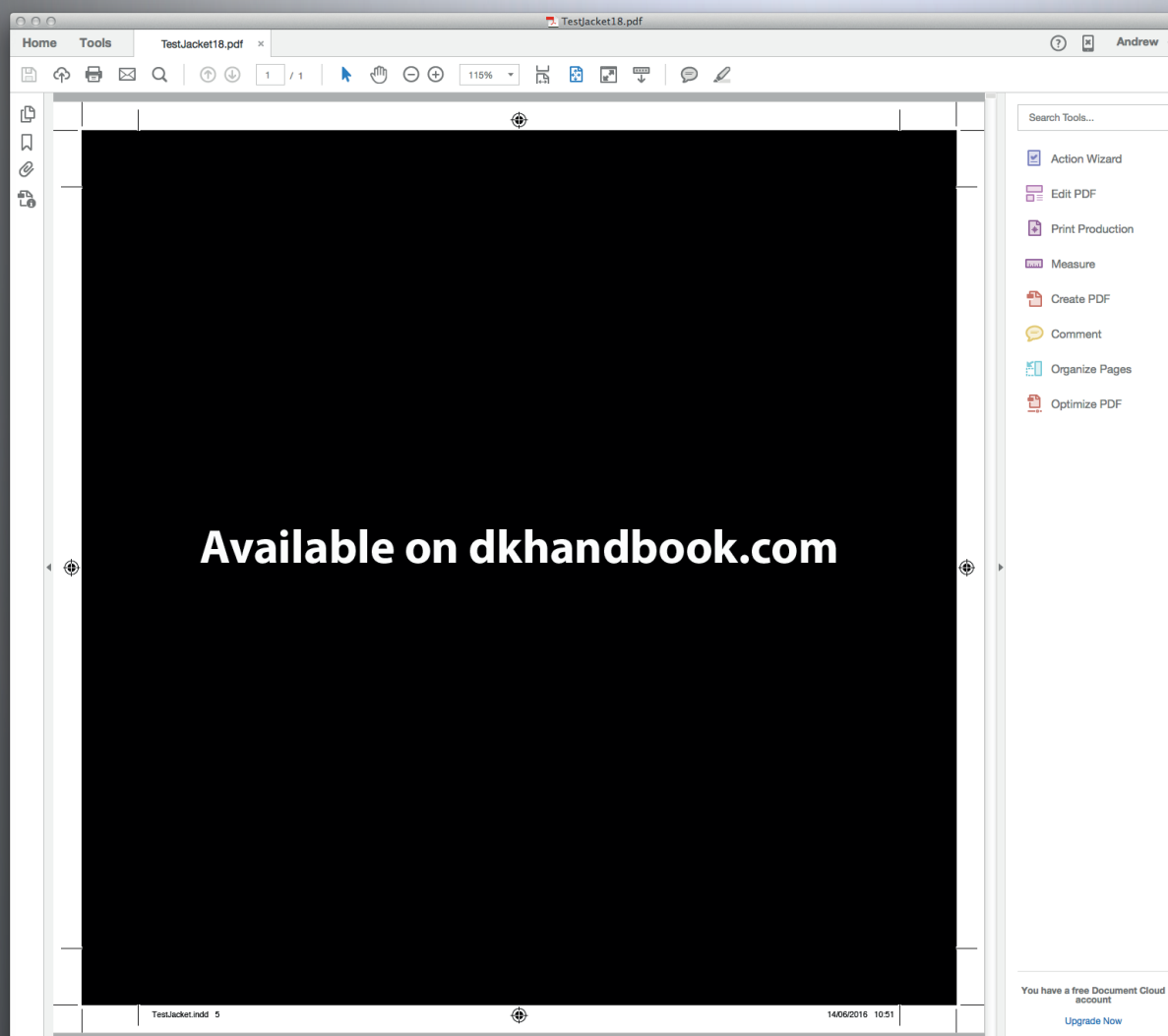
Here are the CMYK separations.



- Toggle foil and CMYK to check for registration issues

## CMYK knockout

Here are the CMYK and foil separations.

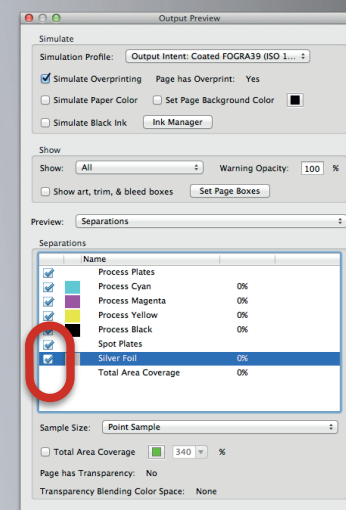
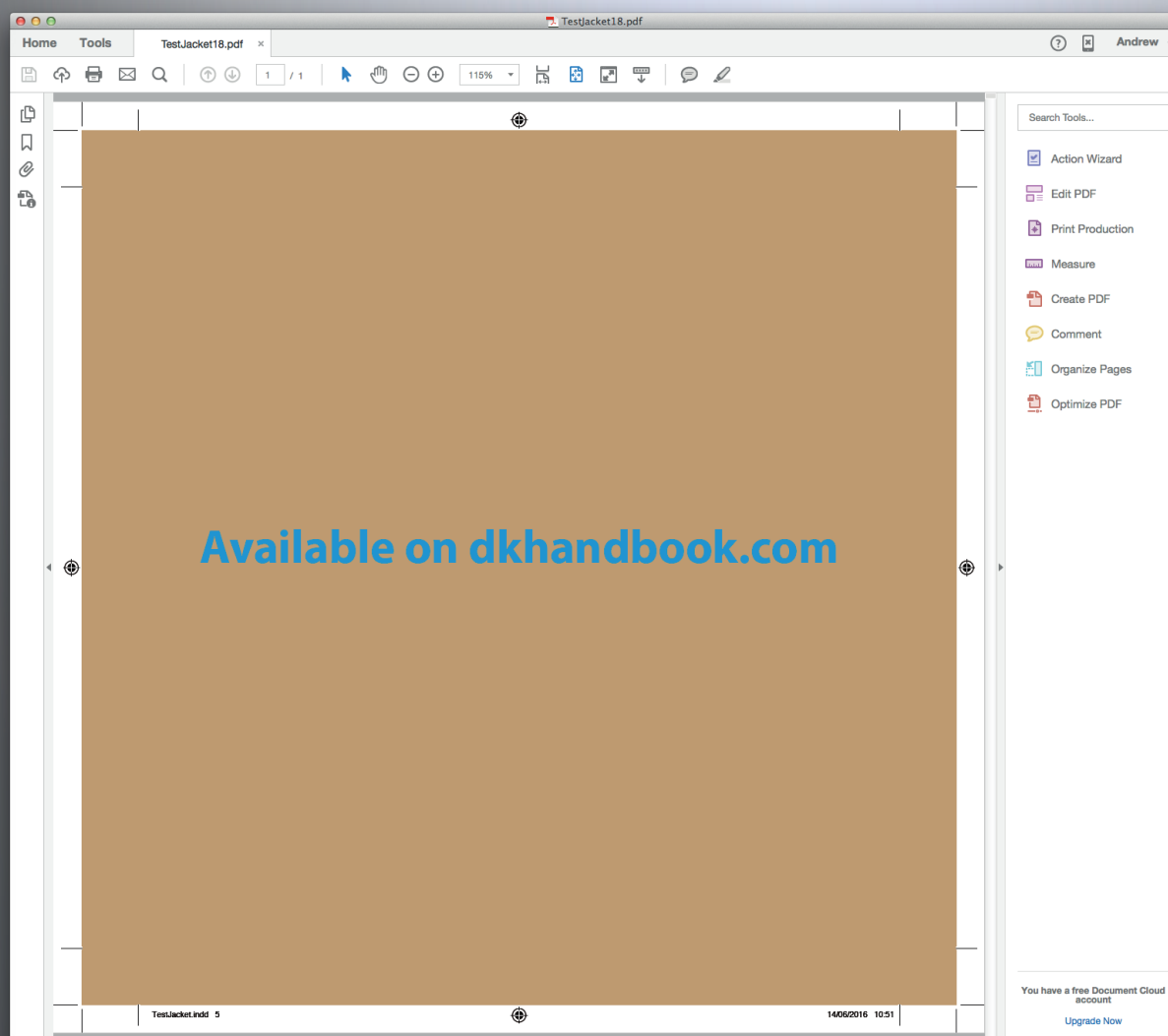


- Toggle foil and CMYK to check for registration issues

### CMYK knockout

Here is the foil separation.

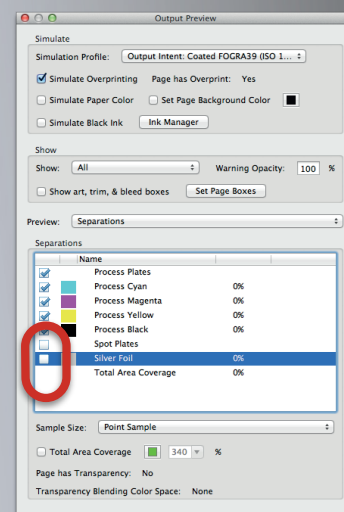
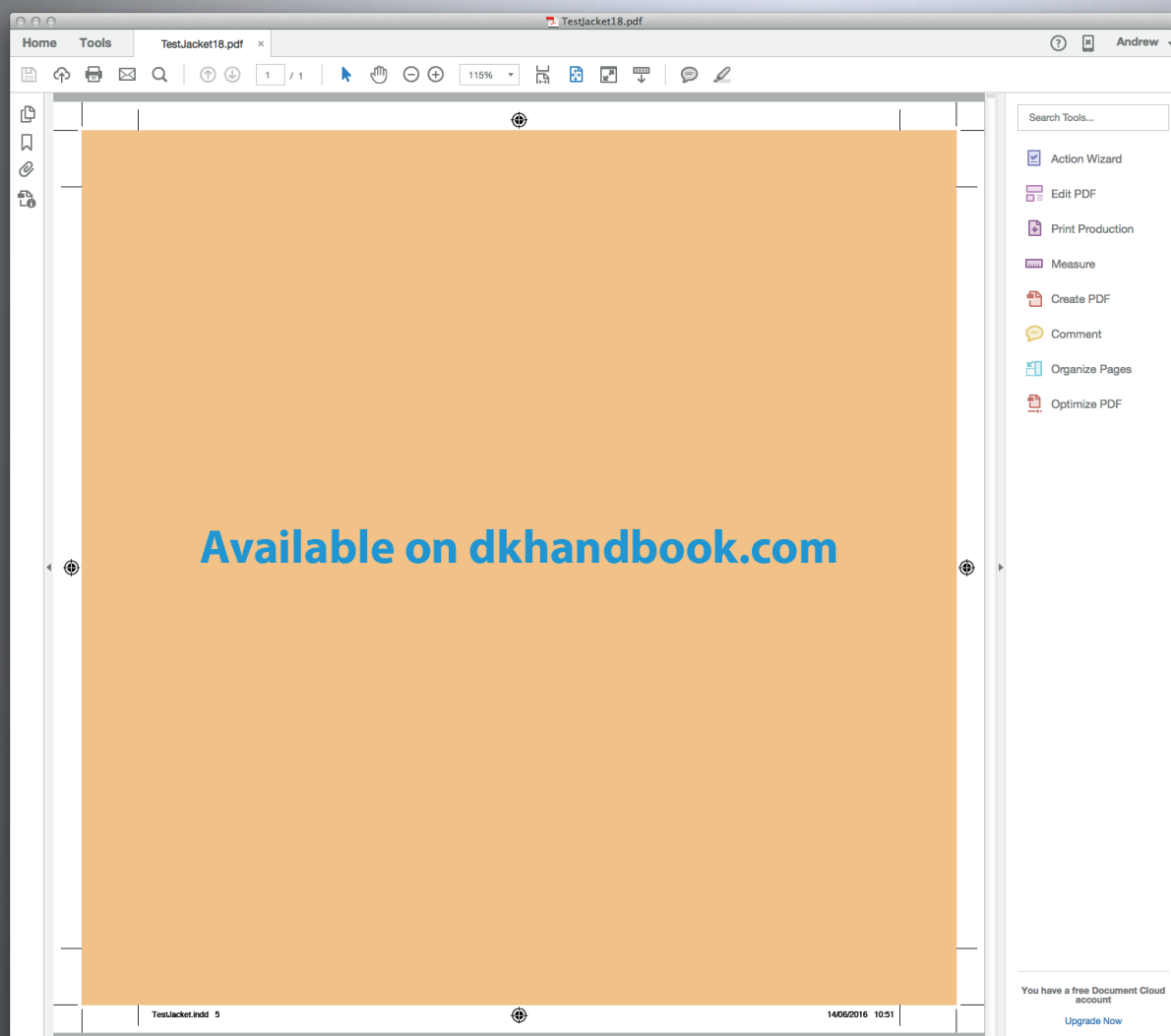




- Toggle foil and CMYK to check for registration issues

### CMYK knockout

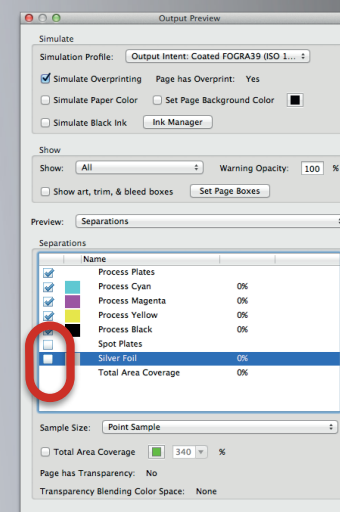
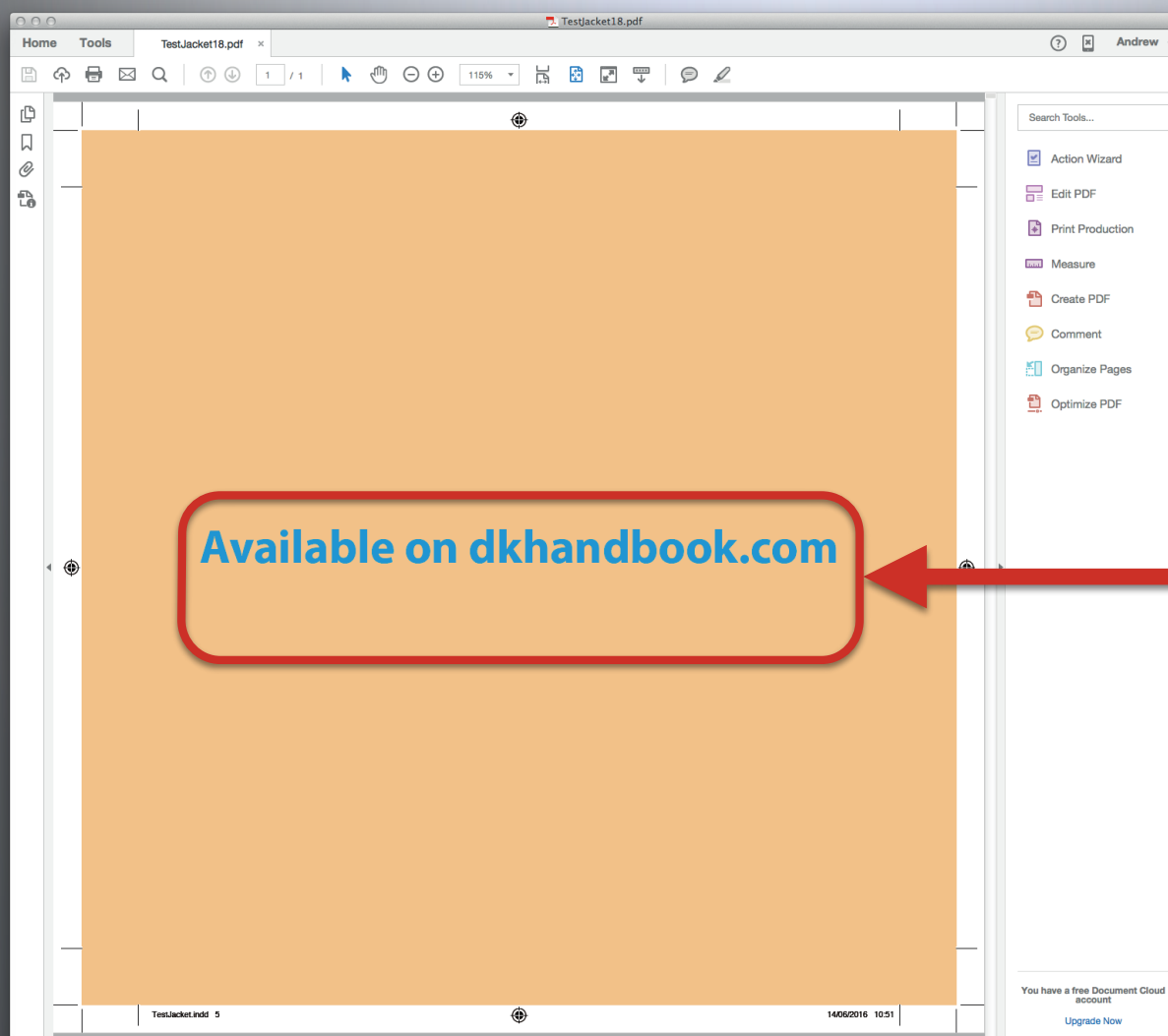
It can be helpful to toggle through these combinations a few times in order to zero in on what is actually happening within the set up.



- Toggle foil and CMYK to check for registration issues

### CMYK knockout

It can be helpful to toggle through these combinations a few times in order to zero in on what is actually happening within the set up.



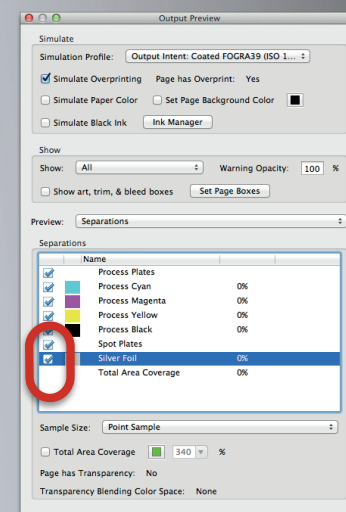
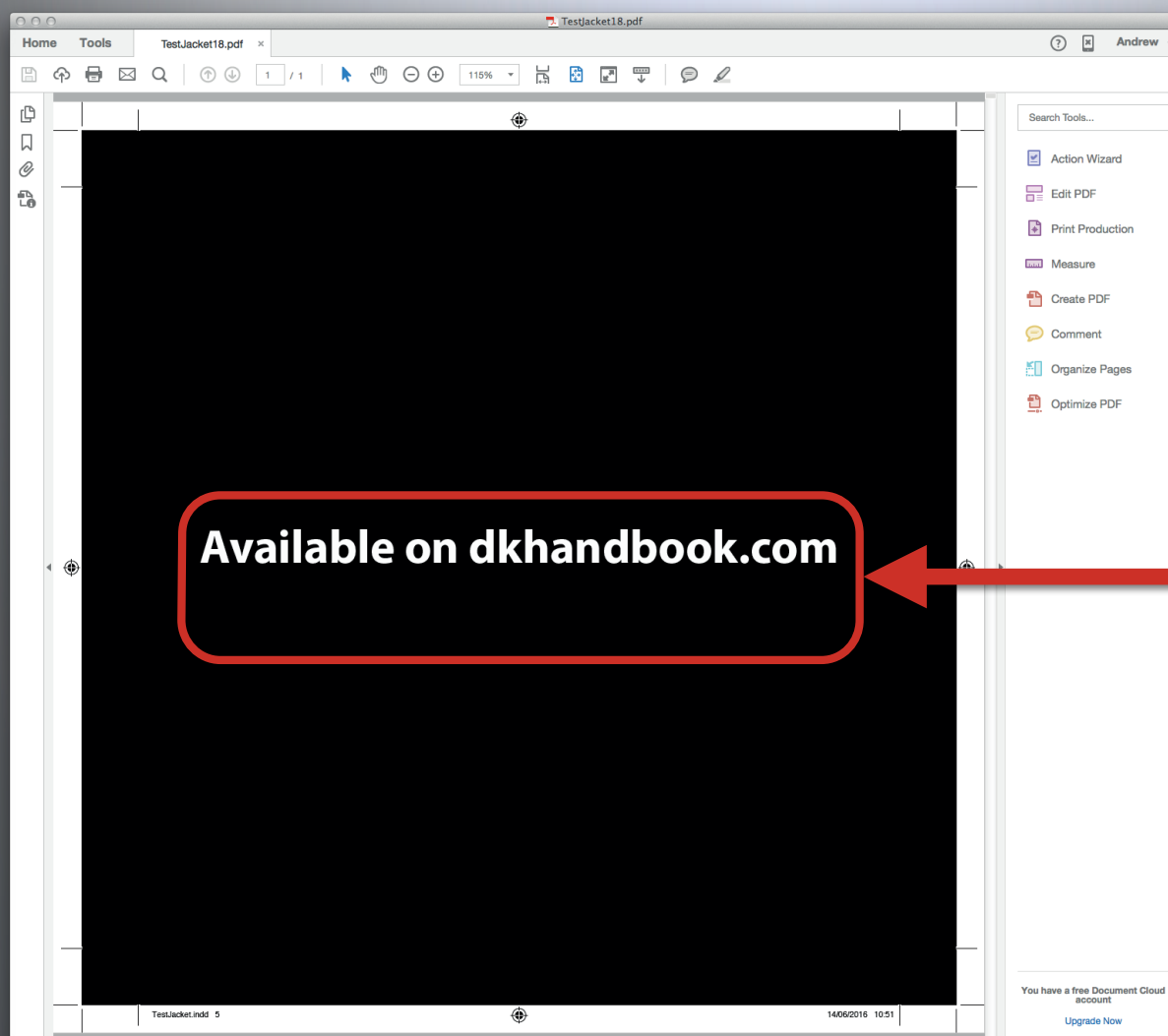
- The CMYK text has been used to knock out the foil

### CMYK knockout

The Cyan text and foil are exactly the opposite shape and size (positive and negatives of one another).

This is normally because there has been a CMYK object (Cyan text in this case) placed above the foil within InDesign.

Inside the InDesign file the CMYK layer has the orange background, the foil layer has a large area of foil which is set to overprint and the Cyan text has been placed on another layer above that.



- The CMYK text has been used to knock out the foil

### CMYK knockout

As the Cyan text is not set to overprint, it knocks out of the foil. This means that the hole in the foil is the exact same shape and size as the Cyan text.

**Available on [dkhandbook.com](http://dkhandbook.com)**

Using CMYK elements to knock out foil

**CMYK knockout**

Although the foil perfectly covers the orange background around the Cyan text, the final printed copy won't due to the physical process involved in applying foil.

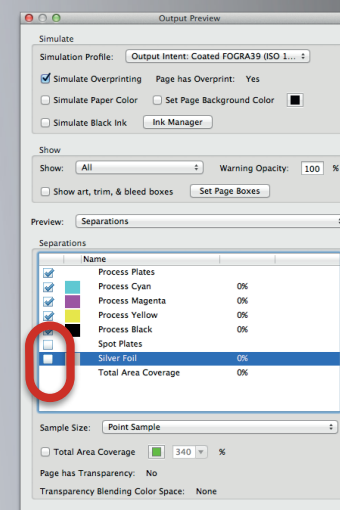
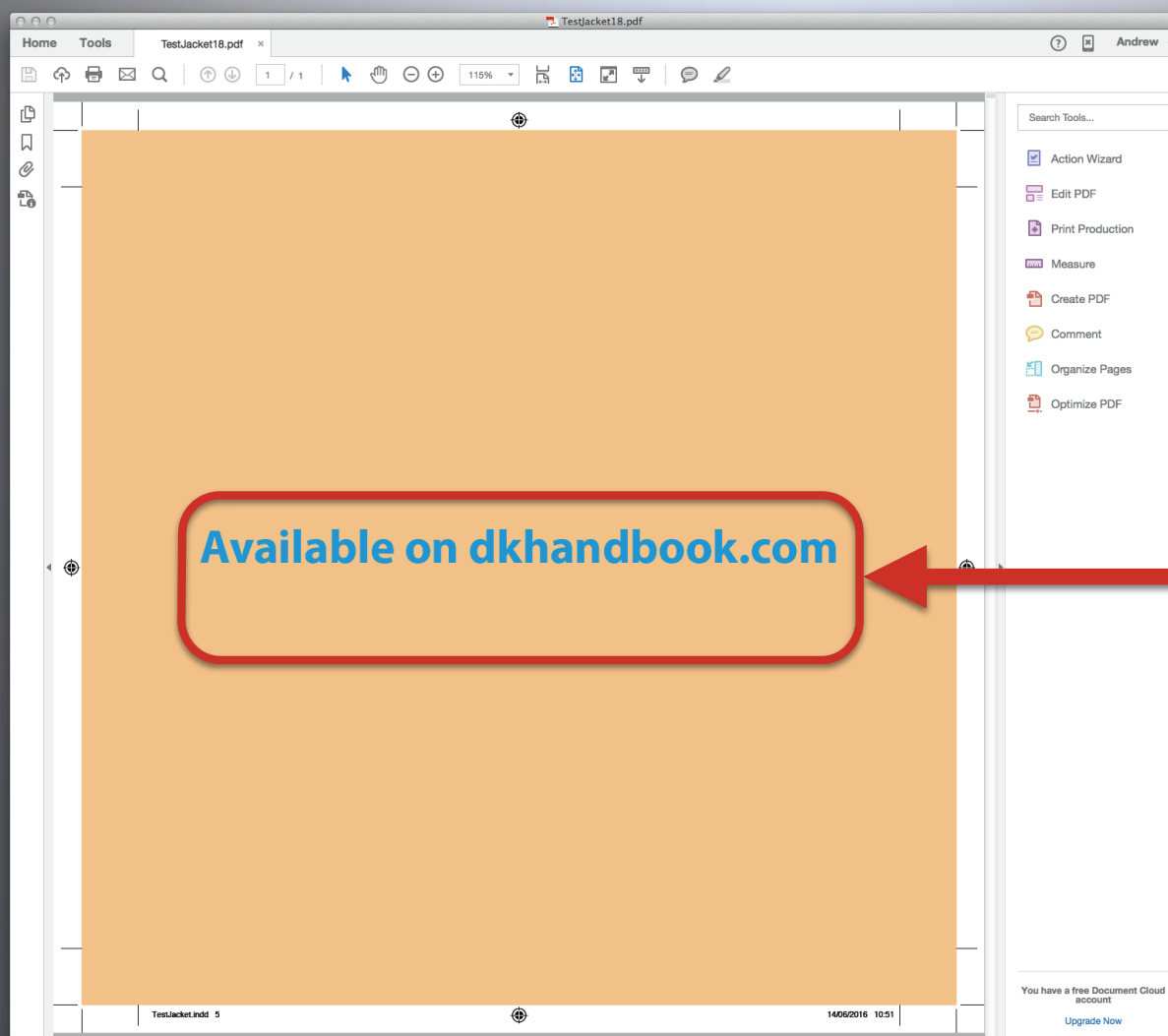
**Available on [dkhandbook.com](http://dkhandbook.com)**

will result in registration issues on press

**CMYK knockout**

Here is another simulation of the foil movement you will get on press.

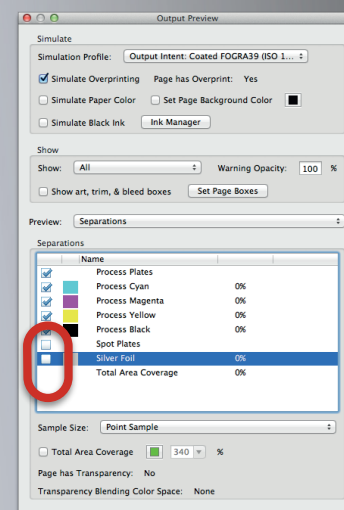
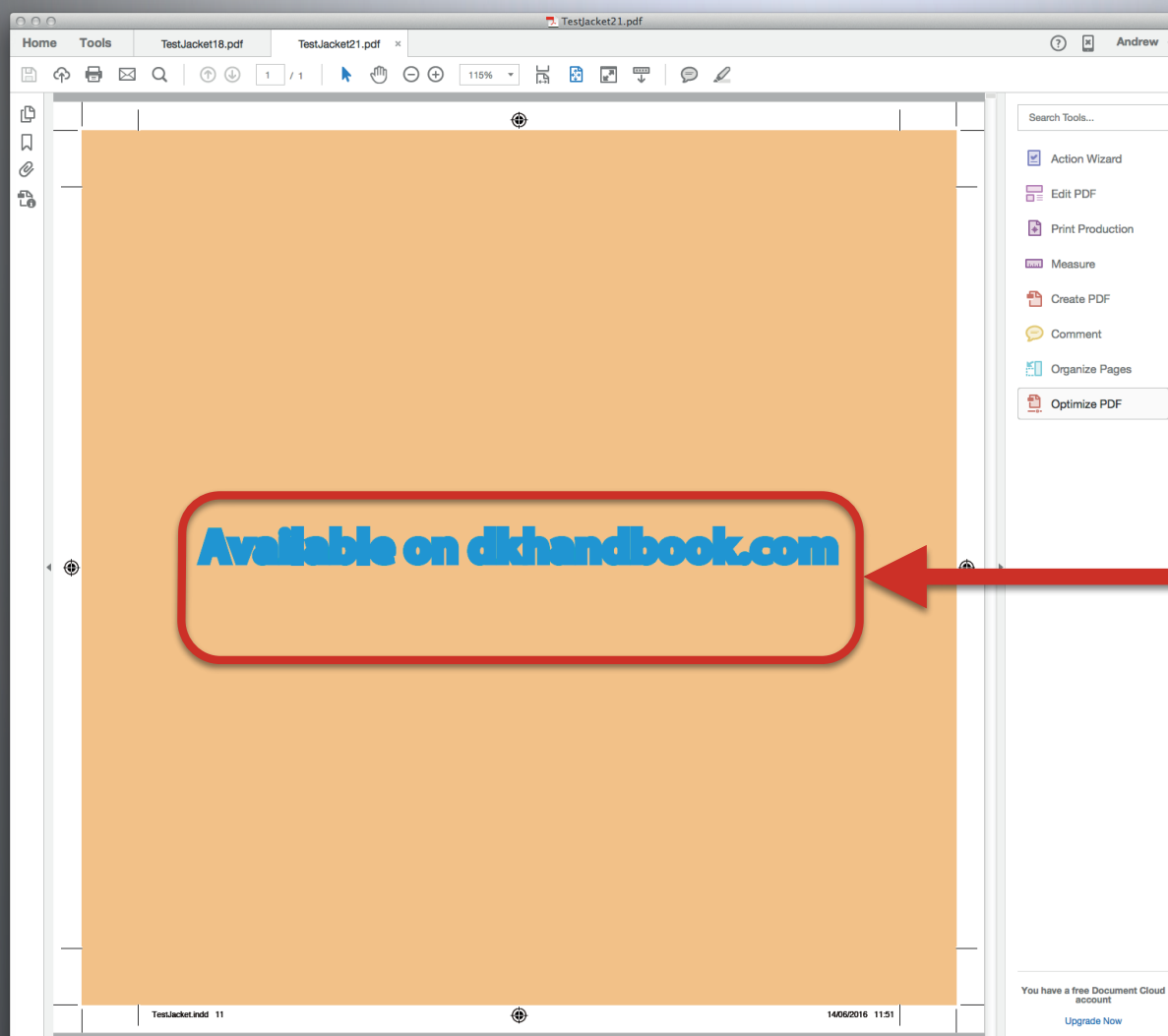




- Spread the CMYK text underneath the foil

### CMYK knockout

In order to remedy this issue, the CMYK object (in this case Cyan text) will need to be spread (thicken up) beneath the hole in the foil by at least 1.5pt. Then when the foil moves slightly on press there will be extra amounts of Cyan to fill the hole in the foil.



- Spread the CMYK text underneath the foil

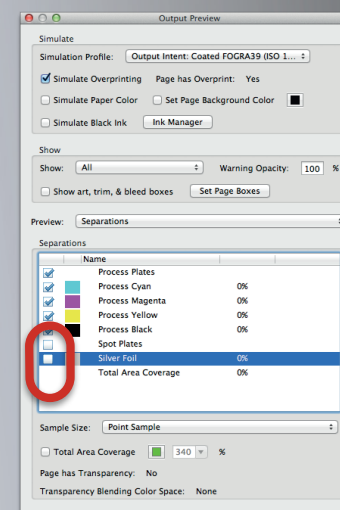
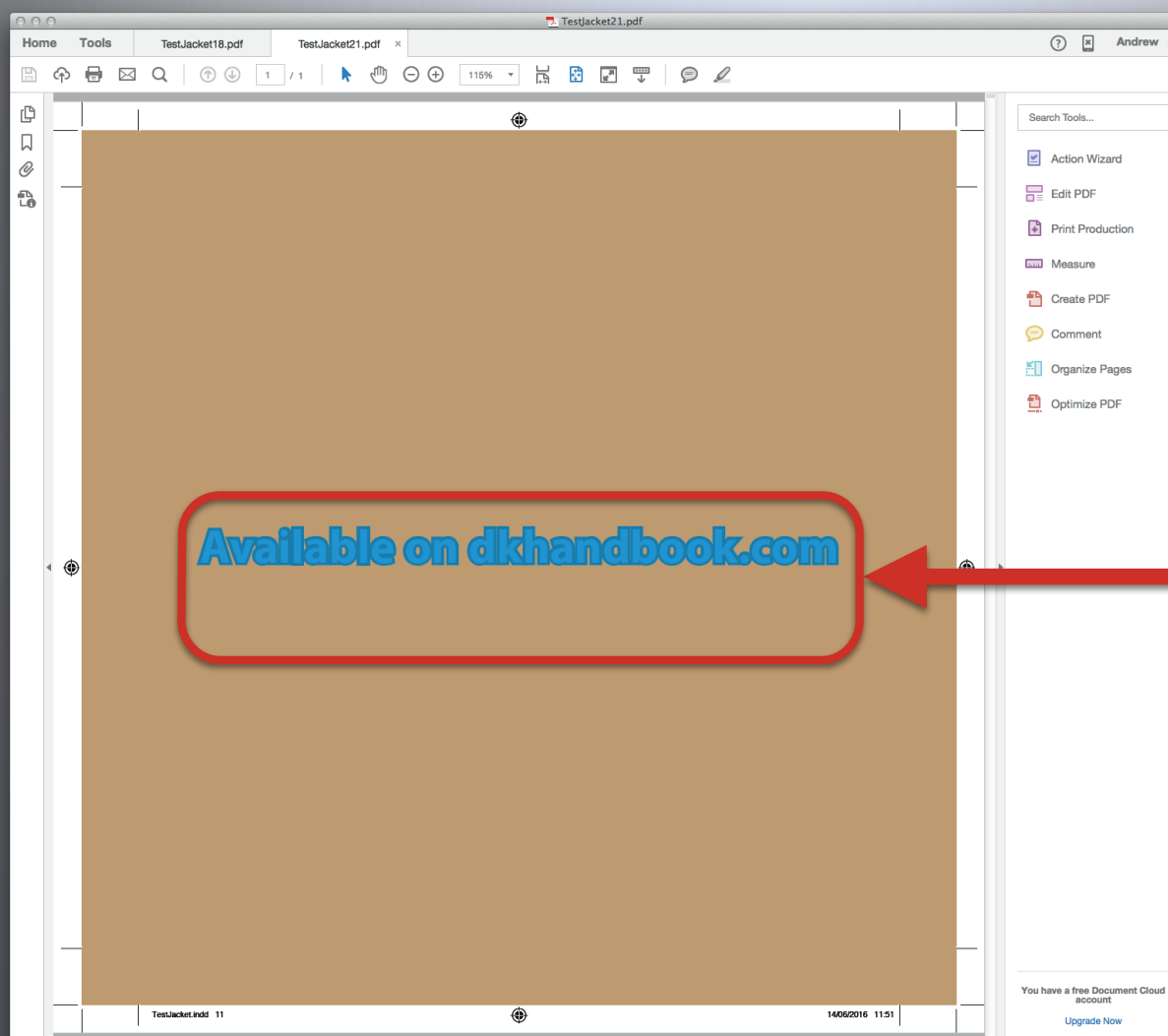
## CMYK knockout

In this example the Cyan text is set to knockout and has been placed above the foil within InDesign. This is what creates the hole in the foil.

The idea is to have the hole in the foil stay the same and the Cyan text to spread underneath. To achieve this, the Cyan text must be duplicated, then the duplicate should be placed below the foil (on the CMYK layer) and then spread.

Text and vector shapes in InDesign and Illustrator can be spread by adding a stroke of the same colour as the fill.

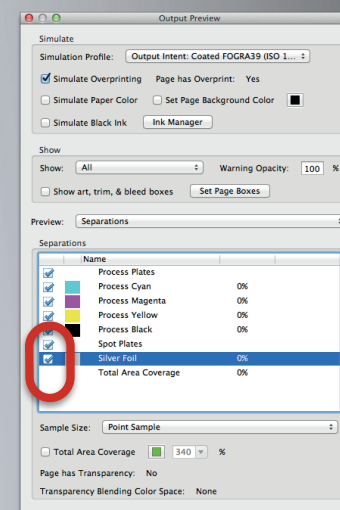
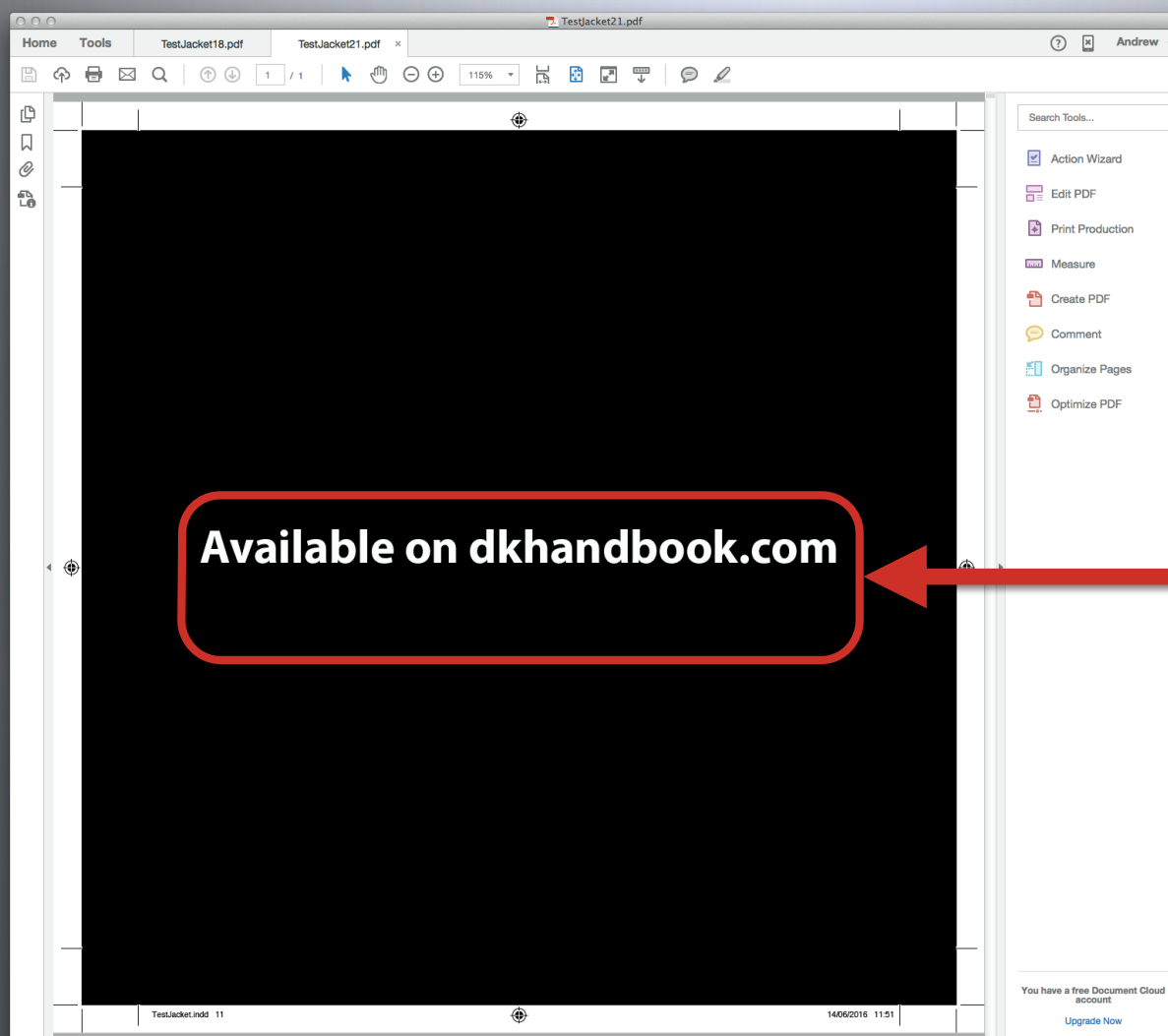
Photoshop images can only be spread by cloning or drawing in extra pixels.



- Spread the CMYK text underneath the foil

### CMYK knockout

With the CMYK and foil separations showing, you can see that although the Cyan text looks thicker, its edges appear darker. This is the foil overlapping the spread areas of the Cyan text.



- Spread the CMYK text underneath the foil

### CMYK knockout

You can see that the hole in the foil separation is the same as before. This is because the original un-spread Cyan text still remains above the foil and this is what is creating the hole (knocking out) in the foil.

**Available on [dkhandbook.com](http://dkhandbook.com)**

Spreading the CMYK under foil

**CMYK knockout**

The intended look is exactly the same as before this alteration.

**Available on [dkhandbook.com](http://dkhandbook.com)**

will eliminate the registration issues on press

#### **CMYK knockout**

Here is another simulation of the foil movement you will get on press.

By making adjustments in areas that sit behind the foil and are not meant to be seen, we have created a file which will print to look exactly the same, but will not have any noticeable registration issues.



# EMBOSSING and DEBOSSING

## **Embossing and debossing**

Embossing involves pressing a metal tool to the underside of paper in order to create raised areas and debossing involves pressing the tool on the top of paper to create recessed areas.

# EMBOSSING and DEBOSSING

## Unique rules

- No very fine details (1 pt minimum)
- Cracking or flattening can occur close to trim or pinch

### **Embossing and debossing**

Fine details that are less than 1pt thick can either not hold (won't get embossed) or can produce sharp elements within the embossing tool which could puncture the paper.

A lot of DK designs have embossing or debossing close to the trim and/or pinch. People find it to be generally acceptable.

The image shows the words "3D EMBOSSING" rendered in a highly three-dimensional, embossed style. The letters are thick and have a metallic, reflective finish. They are set against a dark, metallic background that has a subtle gradient and a faint grid pattern. The lighting creates strong highlights and shadows, emphasizing the depth and texture of the embossed characters. The text is centered horizontally and vertically within the frame.

### **3D embossing**

3D embossing involves pressing a multi-layered metal tool to the underside of paper in order to create raised areas of varying height.

# 3D EMBOSSING

## Unique rules

- Each layer must be a separate spot colour

### **3D embossing**

The same rules for regular embossing and debossing also apply to 3D embossing.

Each layer of the 3D embossing should be separate spot colours (e.g. High Emboss, Mid Emboss, Low Emboss or 0.25mm, 0.5mm, 0.75m). They should not be set up as varying tints of the same spot colour.

# SPOT VARNISH

## **Spot varnish**

Spot varnishes are liquids that are applied to a portion of a printed sheet and then cured with Ultra Violet (UV) light to create contrast to the surrounding texture. Gloss varnish is normally used in conjunction with matte lamination and matte varnish in conjunction with gloss lamination. It is common for people to mean gloss when they say, 'Spot UV' even though it also comes in matte and satin finishes.



# SPOT VARNISH

## Unique rules

- No very fine details (0.5pt minimum)
- Can crack when placed over folded areas
- Absorbed by uncoated paper (substitute with clear foil)

### **Spot varnish**

Very fine spot varnish details can break up and very fine detail holes in spot varnish can fill in.

A lot of DK designs have spot varnish running over folded areas. People find it to be generally acceptable.

It can take up to 3 applications of spot varnish on uncoated paper to match the look of the varnish on coated paper. Clear foil has a very similar look and would normally be a cheaper option.



# DIECUTTING

## **Die cutting**

Die cutting involves sharp metal being bent into a specific shape, then mounted onto a strong backing. The resulting 'die' is then pressed down on top of the paper to create consistently cut shapes. The process is not as accurate as laser cutting but it's better suited for large print runs.

# DIECUTTING

## Unique rules

- Must be created as paths in InDesign or Illustrator
- Recommended stroke weight is 1 pt (0.3pt minimum)
- No sharp angles or intricate shapes (3mm corner radius)

### **Die cutting**

Sharp angles and intricate shapes cannot be maintained due to the method in which the metal is bent into shape. A 3mm corner radius can be applied to a path in both InDesign and Illustrator.

# DIECUTTING

- Die cut areas need 3mm minimum bleed
- Allow 3mm between die cut shapes
- 3mm of movement can occur on press (1.5mm in any direction)
- Using printer supplied guides video on [dkhandbook.com](http://dkhandbook.com)

## **Die cutting**

Die cut areas require bleed just like the trim of a page. It's to avoid white paper showing on the edges due to cutting inaccuracies.

Having only 3mm between die cut shapes can cause breakage or cutter jams.

Printers should supply a guide for any instances involving construction (e.g. slipcuses).

# SPECIAL INKS

## **Special inks**

Special inks can be used to create colours that are unobtainable from mixing conventional process colours (Cyan, Magenta, Yellow and Black). They can also be used as a means to reduce the number of inks used in a job. For example, you could have an entirely green book cover and create it from Cyan and Yellow which would make it a 2 colour job or simply pick a green Pantone to make it 1 colour.

# SPECIAL INKS

## Pantone inks

- Selected from the built in Pantone libraries
- Can be tinted, graduated and feathered
- Can overprint or knockout

### **Pantone inks**

Pantone inks have a number reference and could easily be typed incorrectly if the spot colour was created manually (not selected from a built in Pantone library). This could lead to the job printing the wrong colour as the plates created for printing are not coloured, they simply have the name of the separation on them to instruct the printer as to what ink to use.

# SPECIAL INKS

## Metallic inks

- Have a reduced effect on uncoated paper
- Have a reduced effect if tinted, graduated or feathered
- Non metallic inks look weaker when printed on top

### **Metallic inks**

The sheen on metallic inks repels ink, so CMYK overprinting on top can look weak (e.g. 100% black looks grey).



# SPECIAL INKS

## White inks


- Can be used to mask foil
- Don't need to be selected from a Pantone library
- Does not need to look white in the file

### **White ink**

Inks have better registration than foil. You will get more accurate results by printing white ink over foil and then CMYK over the white ink areas rather than printing CMYK over holes in the foil.

Can be used for instances where very fine details or objects with soft/feathered edges are to be knocking out of foil.

Can be used for designs where the CMYK ink prints on top of foil but also has CMYK filling holes in the foil too. Trapping methods won't work because any spreading of inked elements will not be covered by the foil.



# Overprinting

## **Overprinting**

Overprinting is a method of layering separations. An object that is not overprinting/knocking out will mask off the separations of any element beneath it whereas an overprinted object will allow other separations beneath it to remain intact.

All special finishes must be set to overprint. Special inks can be set to knock out or overprint, it just depends on the desired effect. Always check with Overprint Preview switched on.



# Overprinting

- Can be applied to any object created in InDesign
- Illustrator files can only be set to overprint from within Illustrator
- Spot colour Photoshop files do not support overprint (apply the Darken blend mode in InDesign)
- Never mix blend modes with overprint

## **Overprinting**

Overprinting should always be used instead of blend modes wherever possible. This is because blend modes use a much more complex process which will create larger files, slower files and have a higher potential for unwanted results.



# 1% Masks

## **1% Masks**

1% tints of special finishes are used to create masks and it is the only time it's okay to have special finishes that are not 100%.

These can be used to mask off elements of a special finish or ink in non-destructive ways. This allows for greater flexibility.





- InDesign created elements
- Illustrator .ai files
- bitmaps

### **1% Masks**

Colouring an element with a 1% tint of a colour and setting it to overprint will create a masking shape through any element of the same colour that it sits on top of whilst leaving all other colours intact.

InDesign elements, Illustrator .ai files and bitmaps can all be used to create 1% masks.

Colour images can contain feathering and soft edges so it is not recommended to use them as a means to knock out an area coloured with a special finish (e.g. using a soft edge image to knock out a special finish element creates a soft edge on the special finish element). Using 1% masks means your special finishes will remain hard edged as the supported file types are hard edged only.

## Special finishes course on [dkhandbook.com](http://dkhandbook.com)

- Over 20 interlinked posts including screenshots, diagrams, downloads and videos

**dkhandbook.com** now contains a Special finishes course which can be used as a source for continual reference for Pre-Production and creatives.



Special inks

Foils

Embossing and debossing

3D embossing

Spot varnish

Die cutting

Layers

Creating spot colours

Indesign elements

Image file types

Illustrator files

Bitmap files

Grayscale files

Spot colour Photoshop files

Overprinting

Trapping

1% masks

Separations

Troubleshooting

All these subjects (including extra info) and more are included in the posts.