SAP Crystal Solutions
SAP Crystal Reports and SAP Crystal Server

Step by Step guide: Replicating a Pre-Printed Form
With SAP Crystal Reports 2020

REPLICATING A PRE-PRINTED FORM

One of the many benefits of a "pixel perfect" reporting tool, such as SAP Crystal Reports, is the ability to exactly match the layout and format of a desired pre-printed form. Examples of this requirement are as varied as pre-printed forms themselves, such as tax forms, government submissions, bank certificates, company check stock for accounts payable or payroll, and so forth.

If it can appear on a printed page or in a PDF file, SAP Crystal Reports can probably replicate it exactly with data populated from your data source. And, with SAP Crystal Server, exporting or printing custom pre-printed forms via schedules and publications provides almost unlimited flexibility.

There are two general requirements, both easily accomplished by SAP Crystal Reports:
• Printing or exporting an exact replication of a pre-printed form on plain paper, including all form graphics, images, barcodes, and so forth.

• Printing to existing blank forms that you load into a printer or exporting to a PDF file that will eventually be printed to a blank form. The data must appear in the specific required location. This can be used, for example, to prepare pre-printed tax forms or print on company check stock.

Steps to create the report are almost identical.

IMPORTING THE FORM AS AN IMAGE

Even if your form won't be printed on plain paper, you'll need to exactly match report fields to specific required locations on the form. So, regardless of whether you'll ultimately include the pre-printed form itself in the final report output, you'll want to import an image of the form to design the report.

To import an image for report design:

1. Obtain the best possible quality bitmap image of the form as possible. For example, if a government-designed pre-printed form used for reporting new hires is available from a government website in PDF format, convert the PDF form into a bitmap image format (such as TIF or JPG) with an image editing program. If you must take a picture of a form with a camera phone, take steps to capture the best possible quality. SAP Crystal Reports will import .BMP, .TIF, .JPG, and .PNG formats.

2. Create a new report using the Blank Report option. Use File | Page Setup from the drop-down menus to specify the output size that you will print or export to (this, typically, will be the exact same size as the pre-printed form image you will import).

3. Set all margins to zero to fully accommodate the full width and height of the pre-printed form image you will be importing.
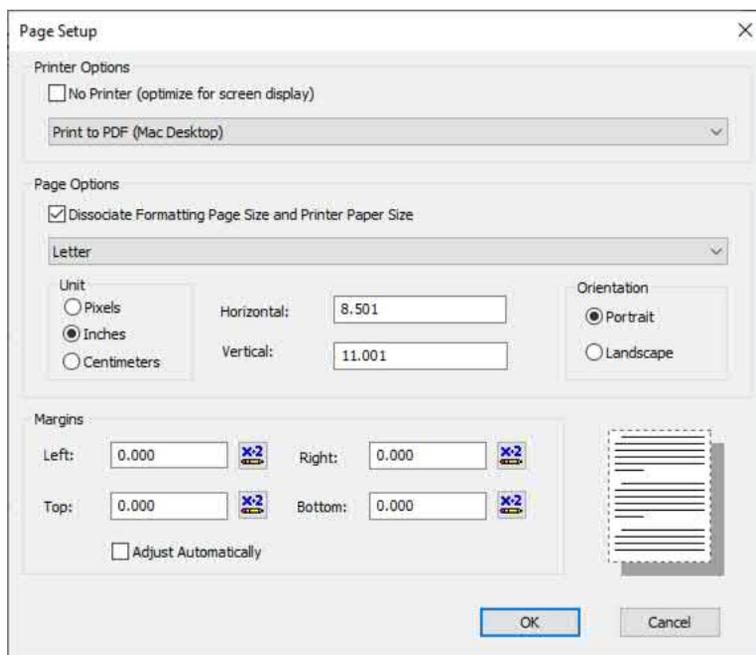
CAUTION: If the ultimate requirement is to print the replicated pre-printed form on plain paper, remember that many entry-level business and personal printers aren't capable of "full bleed" printing. In other words, they have a certain unprintable area on all sides. If the pre-printed form you are importing is expected to print to the exact edge of the paper, you will need to use a printer capable of full bleed printing, or consider other options, such as printing on blank pre-printed forms provided by the agency that the form will be submitted to.

4. Consider how often the form image will need to appear on a physical page. If, for example, the image is a full 8 ½ x 11 inch image, it will only print once per page of output. In this case, you'll place the image in the page header. If, however, the image may appear several times on a single 8 ½ x 11 inch page (perhaps for a "three-checks-per-page" company check stock requirement), then you may need to place the image in a group header, or perhaps even in the details section. You may need to create multiple "instances" of the desired section. RIGHT-CLICK on the section name in the left of the design tab and select Insert Section Below from the context menu. "a" and "b" sections will result.
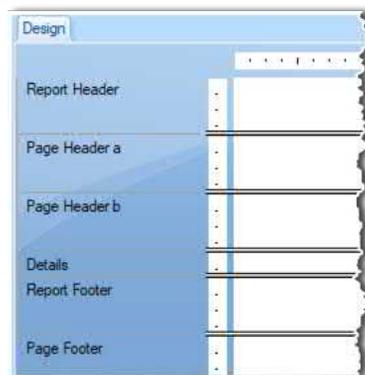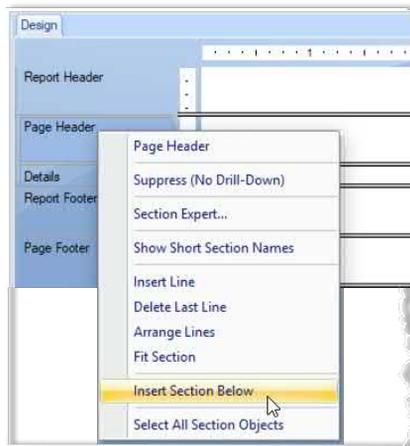
5. Select Insert | Picture from the drop-down menus, or click the Insert Picture toolbar button. Navigate to the desired image file and click OK.

6. An outline will appear on the mouse cursor. Drop the outline in the upper left of the "a" section that was just created.

7. RIGHT-CLICK on the image and choose Format Graphic from the context menu. The Format Editor will appear. Click the Picture tab. Type in exact width and height values to match the page size you will print to.
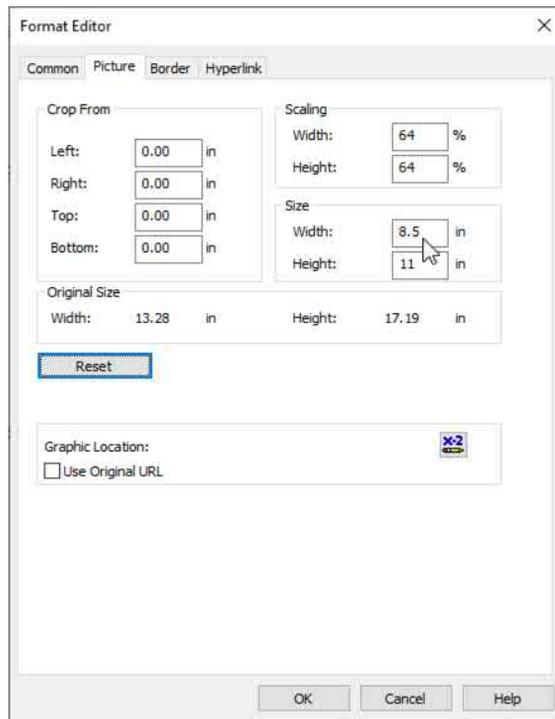
8. RIGHT-CLICK on the section name where the image was placed. Choose Fit Section from the context menu. This will move the bottom of the report section to the exact bottom of the image, leaving no blank space.

9. RIGHT-CLICK on the section name where the image was placed. Choose Section Expert from the context menu.

10. In the Section Expert dialog box, check Underlay Following Sections. This will allow sections that follow the section containing the image to "spill over" the image, allowing report objects to appear on top of the image.
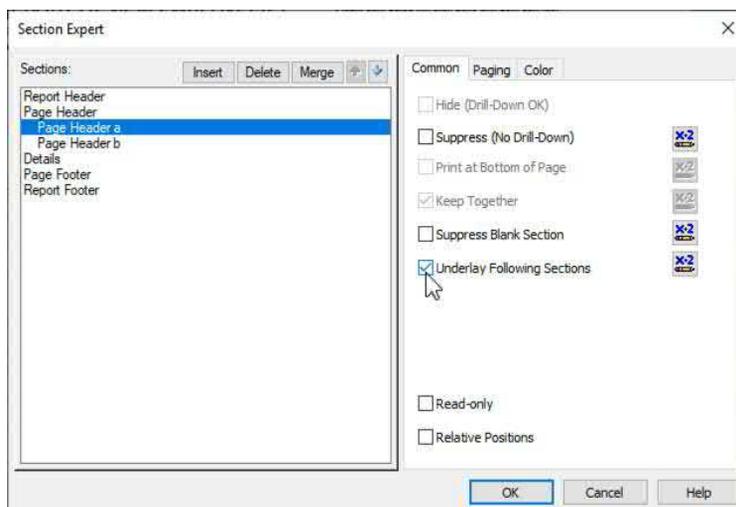
ADDING STATIC OBJECTS

Depending on the requirements of your particular form, you may need to place static, non-database objects on the report. These might include your company name and address, contact name, phone number, and so forth. You may also need to use system-generated static items, such as the current date or a value supplied from a parameter field.

Because items in sections that follow the image will appear on top of the image (remember the Underlay Following Sections option you chose earlier), you'll typically have several report sections that you may consider using. The section you place any static objects in will depend on the form requirement.

For example, if the static information needs to appear at the top of the form and only appears once per page, you may place it in the additional page header immediately following the page header where the image resides. However, static items need to appear alongside database objects and multiple records will appear on a single page (for example, multiple employee names on a single form page), you may need to place the static items in a group header or footer, or the detail section.

Begin by adding some sample text objects or system-generated fields (such as Print Date from the Special Fields section of the Field Explorer) to a report section. Then, preview the report to check results. Format objects as needed, changing font, font size, and so forth, depending on the needs of the particular form. For example, if the Print Date needs to appear in MMDDYY format without separator characters, use the Format Editor to customize the field.
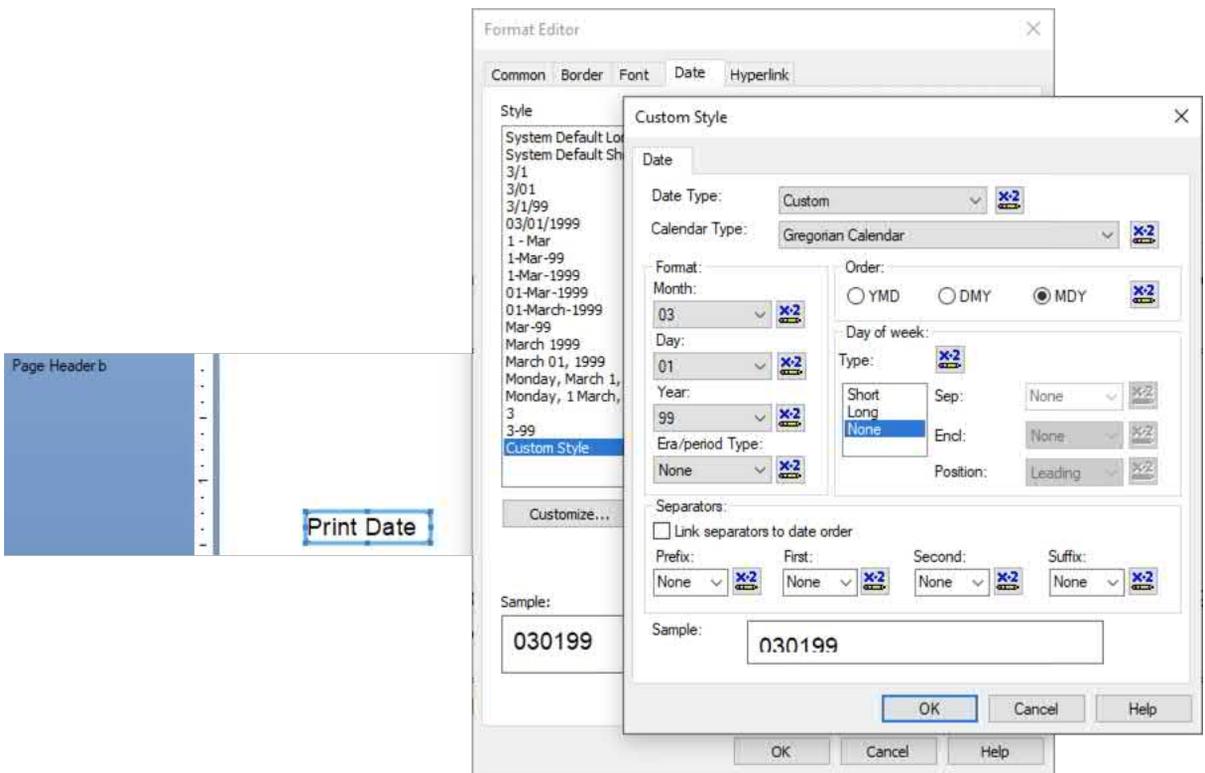
ADDING DATABASE AND FORMULA FIELDS

Before you begin adding database or formula fields to the report, you'll need to determine the proper section to place them in, as well as whether or not report groups will be required. This is dependent upon the structure of your data source, as well as the form requirement. For example, if the entire form page will be filled from a single database record, you may choose the details section to place objects. However, if you will need to eliminate duplicate records, or present summarized information on the form, you may need to create one or more report groups and include summarized fields in group header or footer sections.

You may also need to include multiple records or groups on a single form (for example, multiple employees on a single "new hire" form, or multiple AP checks on a single "3 checks per page" form. In this case, multiple detail or group sections will need to appear on a single page. And, if more than one page will be filled, the custom form image will appear on multiple pages with details or group sections appearing on multiple pages.

The height of report sections will be critical in determining where objects appear, if they're perfectly lined up to the underlying form, and how many records or groups will appear before a page break occurs. The best way to determine exact requirements is to experiment. Trial and error is often the best way to create a perfect form.

No matter what type of object you're adding to the form, there are some tips that will help you make quick work of the project:
• Edit in the Preview tab. You may drag and drop fields from the Field Explorer, or insert text objects, while displaying results in the preview tab. This lets you interactively see how and where objects on the form will appear.
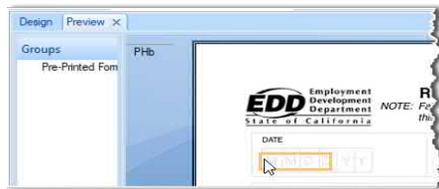
Select any object on the form in Preview, right-click, and Format Field. You'll be able to immediately see the resulting changes.
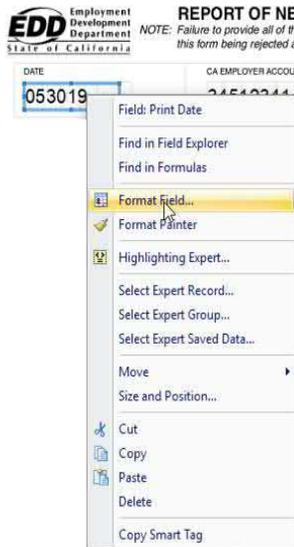
• Select objects, not the form. When displaying the preview tab, you may find that you select the underlying image and not the desired object, when you click on the page.

Simply click on the blue area to the right of the preview tab canvas to deselect the image. Then, try selecting the desired object again.

• Remember CTRL-Z. If you inadvertently move, resize, or format the wrong object, Undo is your friend.

• Adjust grid size, or turn off Snap to Grid. Because matching object location to the required place on the pre-printed form may require very exact object placement, the default Crystal Reports grid may prove problematic. You may wish to specify a smaller grid size, or turn off Snap to Grid, in the Layout tab of the File | Options dialog box.
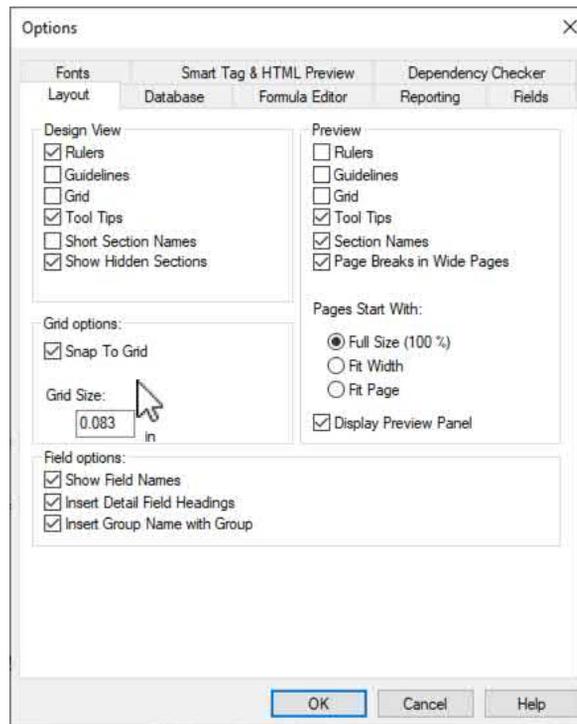
You may also turn off the Snap to Grid feature by RIGHT-CLICKING on the report canvas in the Design tab.
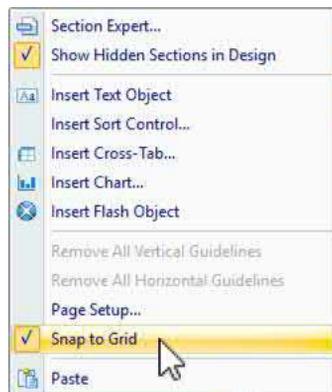
• CTRL-DRAG to copy text objects and fields. If you need to add multiple objects of a similar type (for example, multiple text objects) you can save time by copying and pasting an existing object to a new location. While CTRL-C/CTRL-V keyboard combinations will copy and paste, don't forget the Crystal Reports CTRL-DRAG feature. Just select an object you wish to copy and CTRL-DRAG to a new location. The duplicate object can then be adjusted or formatted as desired.

• Multi-select objects and size and/or align. Especially if you've turned Snap to Grid off, it's common to have objects placed in slightly misaligned locations, or with slightly different horizontal or vertical object sizes. You may align or size multiple objects for consistency. Select the objects you wish to size or align by CTRL-CLICKing them. The last object you select will appear with small blocks appearing at center points – this identifies the "main" object that will control size or alignment for the others. Then, RIGHT-CLICK. Choose desired Align or Size options from the context menu.
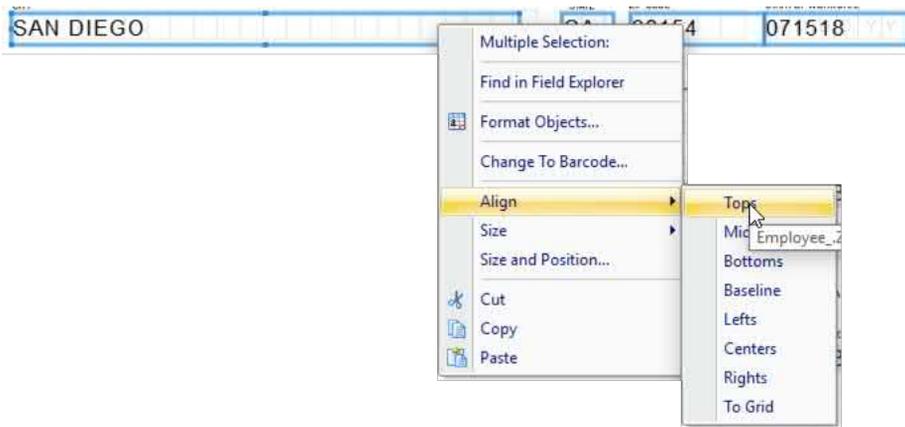
Design and preview tabs may look like this when you are finished:

TIP: If the ultimate desire is to print on an existing pre-printed form (for example, your own check stock), the section containing the background image you used to design the report may simply be suppressed (you may show the section later if you need to do further design). If you are certain you won't need the image in the future, you may delete the object or the section that contains it.

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