

# Designing Forms

## **Important!**

This manual is intended to be used as a reference guide if you plan to design your forms outside of Scannable Office. In that case, you will use Template Maker to define the scannable parts of the form. Use this guide to ensure all scannable fields are formatted properly.

To simplify form design, Scannable Office includes Form Publisher, which uses Microsoft Word, and automatically formats the scannable fields on the form to meet the specifications laid out in this reference guide. The Form Publisher User Guide is included in the main Scannable Office User Guide.

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# Introduction to AutoData Designing Forms

This manual is intended for AutoData customers using page layout, drawing programs, or word processing programs other than Microsoft Word in AutoData Form Publisher. It also contains handy information to aid you in the proper design of forms using special AutoData fonts and guidelines. After creating a form, you will use AutoData Template Maker to create a template file that is used by other AutoData Scannable Office modules to process the form's data.

Your forms can be created using page layout software such as Adobe PageMaker or QuarkXPress. You can also use drawing programs such as Macromedia Freehand or CorelDraw. Word processing programs such as WordPerfect may also be used to create simple forms. Keep in mind, however, that word processing programs generally do not permit precise placement of the elements on your form. When creating more complex scannable forms, we recommend that you use a page layout or drawing program rather than a word processing program.

## About This Manual

This manual has four parts:

- **Designing Your Forms** presents you with three questions to ask yourself before you begin designing your forms. Answering these questions can help you collect better information.
- **Creating Your Forms** explains how to design your forms so they can be effectively used with other AutoData processing software. It describes how to add Locator marks and Fields to your form, and provides specific instructions on their formatting requirements.
- **Using Your Form Design Tool** gives specific instructions on using page layout, drawing, and word processing software to create your forms.
- **Printing Your Form** provides guidelines to follow for printing your form using a laser printer or a professional printing facility.



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# Designing Your Forms

Discussion of the specific content of your form is beyond the scope of this manual. However, answering the following three questions can help bring the elements of your form into focus:

**1. What information do you want from the person filling out the form?**

Carefully defining your form's purpose will allow you to obtain meaningful information.

**2. What types of specific questions will elicit the most meaningful responses?**

The questions used will depend on the desired response. Some of the possible response options include multiple choice responses, handwritten answers, scale ratings, and so on. The various formats required by AutoData processing software for each of these response options are described later in this manual.

**3. What information about the form itself should be included on the form?**

Depending on how the processed data is to be used, you may want to include information which identifies specific aspects of the form. For example, you may want to display the form's name, page numbers, job number, etc. Additionally, the AutoData processing engine requires that specific information (described later in this manual) appear on each form for processing purposes. Be sure to leave room on your form for these required elements.

Once you have decided on your form's content, you are ready to create the form using a page layout, drawing, or word processing program.



# Creating Your Forms

## Overview

Your forms must follow specific formatting guidelines in order to be accurately processed. This section of the manual describes these guidelines and other formatting requirements that you should follow when creating your forms.

Creating a form involves following these steps:

- **Step 1: Enter the form's text into a page layout, drawing, or word processing program.**
- **Step 2: Add Locator marks to the form.**
- **Step 3: Add fields to the form for user responses.**
- **Step 4: Add other necessary fields or bar codes to the form (for form identification).**
- **Step 5: Print the form.**

We assume you are already familiar with the features of your page layout, drawing, or word processing program. Therefore, we will not discuss specifically how to enter text or create graphic elements on your form. Refer to the User Guide for your software program, or contact the company's customer service department if you need assistance in these areas.

## Locator Marks

The areas containing data on your forms are defined as *Fields*. These Fields are read by the AutoData software so the information they contain can be processed. To help the software locate the exact position of your fields, each of your forms must display at least four registration marks called *Locators*. Locators also help the software correct for distortion and de-skew the scanned image.

You can create the Locator marks using your page layout or drawing program, or you can use the ADS Normal font or the ADS Locator font. Both of these are installed on your system when you load AutoData Scannable Office software.

There are two types of Locators: Fixed Locators and Floating Locators. Fixed Hexadecimal Locators are a subset of Fixed Locators and will be discussed later on.

## Fixed and Floating Locators

Fixed Locators (non-hexadecimal) are strongly recommended to assist with page de-skewing and should be used whenever possible.

Floating Locators (which cannot be hexadecimal) must be used when your form's design prevents the Locators from being placed in the outer corners of your page. Using Floating Locators limits skew correction to only ¼" in any direction.

Fixed and Floating Locators consist of ¼" squares.

## Creating Fixed and Floating Locators

Fixed and Floating Locators can be created using the rectangle drawing feature of your page layout or drawing software. They can also be added to your form by using the ADS Normal font. Hexadecimal Locators—which must be Fixed Locators—use the ADS Locator font.

➤ **To create non-hexadecimal Fixed or Floating Locators using the ADS Normal font:**

1. Set your active font to the ADS Normal font, point size 18.
2. To create the Locator marks, press the [ or ] key on your keyboard.

## Placement of Fixed and Floating Locators

Fixed Locators must be placed in the outer corners of your form. Place a Locator mark exactly ½" from the edges of the paper in all four corners of your form, as shown on the next page.

Floating Locators do not need to be placed as precisely as Fixed Locators. You can place them anywhere on your form, as long as they bracket your form's fields. The top left Locator mark must be above and to the left of your bottom right Locator mark. The top right Locator mark must be above and to the right of your bottom left Locator mark.

**Demonstration Form**

Please Print as shown below. Stay within the boxes. Use CAPITAL letters only.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

NAME

COMPANY NAME

AREA CODE	TELEPHONE NUMBER	DATE OF VISIT	MONTH	DAY	YEAR
<input style="width: 100%;" type="text"/>					

AREA CODE	FAX NUMBER	LUNCH TAB	
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	

SAMPLE 0-9

---

Which of the following hardware do you use? <input type="checkbox"/> IBM PS2 <input type="checkbox"/> DEC <input type="checkbox"/> 386 based PC <input type="checkbox"/> NEXT <input type="checkbox"/> 486 based PC <input type="checkbox"/> Sun Sparcstation <input type="checkbox"/> Macintosh <input type="checkbox"/> Other	Your Gender? <input type="checkbox"/> Male <input type="checkbox"/> Female	Which color do you prefer? (choose 1) <input type="checkbox"/> Yellow <input type="checkbox"/> Blue <input type="checkbox"/> Red <input type="checkbox"/> Green
---	--	--

Signature \_\_\_\_\_ Date \_\_\_\_\_

*Placement of Fixed Locators*

## Fixed Hexadecimal Locators

Fixed Hexadecimal Locators are used to embed your Form ID and page numbers into the Locators. Fixed Hexadecimal Locators act both as a means for AutoData form processing software to identify your form and as Locators for processing. They are especially useful when you intend to fax your document, since bar codes do not fax well. We discuss bar codes and Fixed Hexadecimal Locators in more detail later in this manual.

There are 16 different hexadecimal characters, each representing a number or a letter. The ADS Locator font containing all of the hexadecimal characters is included with your AutoData software.

### Creating Fixed Hexadecimal Locators

Each of the Hexadecimal Locator marks represents a different number or letter. When placed on your page, the top two and bottom left marks comprise the three-character Form ID for your form. Form IDs, which are described fully in the *Form ID* section later in this manual, are used by AutoData software to identify which template to use during processing. The two bottom right Fixed Hexadecimal Locators denote the page number and page orientation.

You may use any combination of hexadecimal characters as your Form ID. The lower right Fixed Hexadecimal Locator characters used will depend on the page number of the page you are creating. If your document does not have more than one page, use the hexadecimal characters representing the number 01 (shown below) in the lower right corner of your form. A page number chart with the complete hexadecimal symbols appears later in this section.

For further information on this topic, refer to *Adding a Form ID to Your Form*, later in this manual.



*Hexadecimal characters 0 and 1 represent Page 1 of a form*

The Fixed Hexadecimal Locators are created using the ADS Locator font, which installs automatically when you load AutoData software.

#### ➤ To create Fixed Hexadecimal Locators:

1. Set the active font to the ADS Locator font, point size 18.
2. If you are creating hexadecimal characters representing letters, press the Caps Lock key. This step is not necessary if your characters represent numbers only.
3. Type any letter from A to F, or any number from 0 to 9 on the keyboard to create these characters' hexadecimal equivalents.

## Placement of Hexadecimal Locators

Hexadecimal Locators are placed in the outer corners of your form, 1/2" from the corners, as shown below.

**Demonstration Form**

Please Print as shown below. Stay within the boxes. Use CAPITAL letters only.

ABCDEFGHIJKLMN OPQRSTUVWXYZ 0123456789

NAME \_\_\_\_\_

COMPANY NAME \_\_\_\_\_

AREA CODE TELEPHONE NUMBER DATE OF VISIT  
 MONTH DAY YEAR

AREA CODE FAX NUMBER LUNCH TAB

SAMPLE 0-9 \_\_\_\_\_

Which of the following hardware do you use? Your Gender? Which color do you prefer?  
 (choose 1)

<input type="checkbox"/> IBM PS2	<input type="checkbox"/> DEC	<input type="checkbox"/> Male	<input type="checkbox"/> Yellow
<input type="checkbox"/> 386 based PC	<input type="checkbox"/> NEXT	<input type="checkbox"/> Female	<input type="checkbox"/> Blue
<input type="checkbox"/> 486 based PC	<input type="checkbox"/> Sun Sparcstation		<input type="checkbox"/> Red
<input type="checkbox"/> Macintosh	<input type="checkbox"/> Other		<input type="checkbox"/> Green

Signature \_\_\_\_\_ Date \_\_\_\_\_

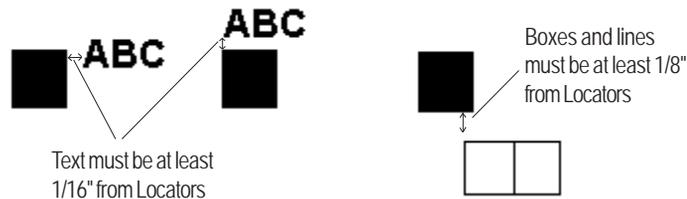
*Placement of Hexadecimal Locators*

This Locator should be 1/8" to the left of the lower right Locator. The two Locators are used to create a page number 01 hex to FF hex

## Other Rules for Placement of Locators

In order to process your forms correctly, the AutoData processing engine requires the Locator marks to be placed a specific distance from text, boxes and other graphic elements on your form.

- Any text on your form must be spaced at least 1/16" from the Locators, as illustrated below.
- Boxes, lines and other graphic elements on your form must be spaced at least 1/8" from the Locators, as shown.



*Locator marks placed a specific distance from text and other graphic elements*

## Creating Fields on Your Form

After you have entered the text and the Locators on your form using a page layout program or graphics program, you are ready to create areas on your form for responses. We call these areas *Fields*. Later, you will use AutoData Template Maker to identify the specific location of each field so that responses can be read and processed.

There are six field types recognized by AutoData processing software. Depending upon your needs, you can use one or more of any of these field types on your form:

- Hand Print Fields
- Check Mark Fields
- Bar Code Fields
- OCR Fields
- Image Capture Fields
- Key Entry Fields

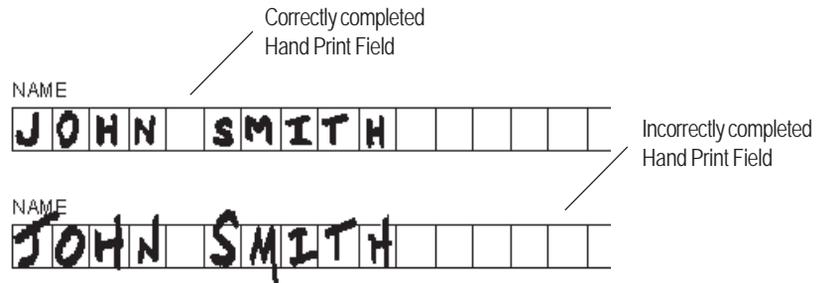
Each field on your form must comply with specific formatting criteria in order for it to be processed correctly. This section of the manual describes the different field types and the formatting rules for each one.

## Hand Print Fields

One of the key benefits of using AutoData software is that it can recognize and read hand printed characters with great accuracy. You will use Hand Print Fields to take advantage of this feature.

A Hand Print Field is a series of connected boxes into which hand printed letters and numbers are entered. In order to maintain accuracy, certain rules govern how the field is completed:

- Letters printed into Hand Print Fields must all be uppercase (capital) letters.



### *Sample of correctly and incorrectly completed Hand Print Fields*

- Only one character can be printed in each box.
- For greater accuracy in processing, letters and numbers written in Hand Print Fields should be contained entirely within the boxes of the field. None of the letters or numbers should touch the lines of the boxes.
- Characters printed in Hand Print Fields *must* be printed neatly. The accuracy with which the field is read depends upon the quality of the handwriting. Straight lines must be clearly distinguishable from curved ones.

Given the above conditions, Hand Print Fields are most appropriate for use in situations in which the respondent is entering a name, telephone number, social security number, etc. For situations in which the respondent gives a longer, free-form response, use of an Image Capture Field or a Key Entry Field is more appropriate. These field types are described later in this manual.

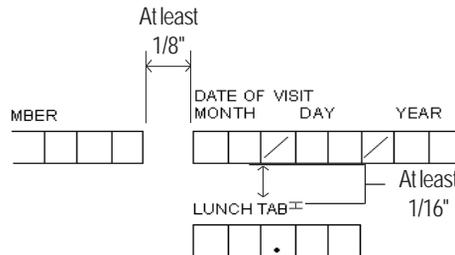
## Rules for creating and formatting Hand Print Fields

- The *standard size* for a Hand Print Field box is 9/32"(h)×1/4"(w).  
The *minimum size* for a Hand Print Field box is 1/4"(h)×3/16"(w).  
The *maximum size* for a Hand Print Field box is 5/16"(h)×3/8"(w).



### *Standard Hand Print Field size*

- The maximum number of Hand Print Field boxes which can be connected to form one field is 28 boxes.
- The line weight of the Hand Print Field boxes should be 3/4 point, or .0104166".
- Hand Print Fields must be separated from each other by at least 1/8", as shown below.



### *Hand Print Field separation distances*

- Hand Print Field boxes must be separated from text on your form by at least 1/16". Note that the descenders of lowercase text (i.e., g, j, p, q and y) must also be positioned at least 1/16" away from the Hand Print Field boxes.

## Using the ADS Normal font to create Hand Print Fields

Because they can be positioned more precisely, we recommend creating Hand Print Fields with the drawing feature of your page layout or drawing software program. However, the Hand Print Fields can also be created using the ADS Normal font. Use of this font is recommended when you are using a word processing program to create your form.

➤ **To create a blank Hand Print Field using the ADS Normal font:**

1. Set your active font to the ADS Normal font, point size 36.
2. Press any lowercase letter key to create an empty box. Continue typing lowercase letters to make a series of connected boxes. Use the space bar to separate different Hand Print Fields.

To make the lower edge of the boxes align with text on the same base line, press the ! key (Shift+1) *or* the = key.

To improve the quality of your processed data, you may want to show an example of a neatly completed Hand Print Field on your form. The ADS Normal font can create completed hand print boxes to use as sample fields.

➤ **To create a completed sample Hand Print Field using the ADS Normal font:**

1. Set your active font to the ADS Normal font, point size 36.
2. Press your keyboard's Caps Lock key (this step is not necessary if you will be typing numbers in your sample field).
3. Type the sample letters. The ADS Normal font completes the Hand Print Fields with a font that resembles hand printing, as shown below.



SAMPLE 123

*Sample Hand Print Field*

---

**NOTE:** For design purposes, the sample can be printed using a smaller font size. Do not create fields, however, using the smaller font size.

---

## Creating Hand Print Fields with special characters

When you define your form in AutoData Template Maker, identify each Hand Print Field as a specific type so it can be recognized and processed more accurately. Some of the Hand Print Field types contain special characters, such as dashes, commas, etc. Special characters like these should be placed into the Hand Print Field boxes during form design, and not added by the respondent while the form is being completed. Although we discuss the different types of Hand Print Fields in greater detail in the **AutoData Template Maker** manual, the illustration below shows you how the fields requiring special characters should look.

DATE OF VISIT  
 MONTH      DAY      YEAR

		/			/		
--	--	---	--	--	---	--	--

AREA CODE      TELEPHONE NUMBER

			-			-			
--	--	--	---	--	--	---	--	--	--

TIME (HH:MM:SS)

		:			:		
--	--	---	--	--	---	--	--

TIME (HH:MM)

		:		
--	--	---	--	--

The time Hand Print Fields can use either 8 or 5 boxes

SOCIAL SECURITY NUMBER

			-			-			
--	--	--	---	--	--	---	--	--	--

DECIMAL (Minimum 4 boxes)

	.		
--	---	--	--

## User Defined Hand Print Fields

A User Defined Hand Print Field can contain any combination of up to 28 numbers, letters, or special characters. The contents and format of this field are up to you. Examples of uses for this type of field include passwords, inventory product numbers and so on. When you create this type of Hand Print Field, be sure to create any special characters in the form design, rather than having the respondent hand print the character. For example, a User Defined Field for a 7-digit password with a hyphen after the third digit, would look like this:

PASSWORD

			-				
--	--	--	---	--	--	--	--

*Example of a User Defined Field*

---

**IMPORTANT!** If you are creating a User Defined Hand Print Field that combines letters and numbers, the numbers and letters must always occupy the same position in the field every time it is completed. When you define the field in AutoData Template Maker, specify whether each box in the User Defined Hand Print Field contains a letter or a number.

---

## Check Mark Fields

Use Check Mark Fields for questions on your form which require the choice of one or more options from a selection of possible responses. Check Mark Fields consist of check mark areas which are labeled with text or assigned a value, numeric or otherwise.

Some Check Mark Fields require that one response (Single Mark Only) be given. Others allow more than one response (Multiple Marks Allowed). Examples of single mark and multiple mark Check Mark Fields are shown on the next page.

Examples of single and multiple mark Check Mark Fields.

Your Gender?

- Male
- Female

Which colors do you prefer?  
(mark all that apply)

- Yellow
- Blue
- Red
- Green

*Single Mark Only (left) and Multiple Mark Allowed (right) Check Mark Fields*

## Rules for creating and formatting Check Mark Fields

- A Check Mark Field can consist of up to 30 individual check mark areas.
- Check mark areas can be squares or circles. The sizes allowed for each type are shown below.



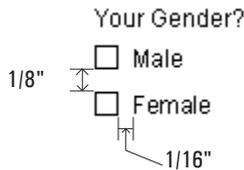
1/8"x1/8"  
(standard)



1/8" diameter  
(standard)

### *Standard check mark area sizes*

- Using your page layout or drawing program, give the check mark areas a line weight of 3/4 point (.0104166"). If you need to use the ADS Normal font, follow the procedure outlined in the next section to create the areas.
- Separate individual Check Mark Field areas with a space of at least 1/8", as illustrated below.

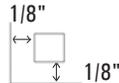


- Check Mark Field areas must be separated from text on your form by at least 1/16". Note that the descenders of lowercase text (i.e., g, j, p, q and y) must also be positioned at least 1/16" away from the Check Mark Field areas.

## Using the ADS Normal font to create Check Mark Fields

Although using a page layout or drawing program allows greater precision in placement, you can also create Check Mark Fields using the ADS Normal font. We recommend using this font when creating your form using a word processing program.

Check mark areas should be positioned at least 1/8" away from corners or from any two lines that create a right angle as shown below:



### *Positioning Check Mark Field areas*

➤ **To create Check Mark Fields using the ADS Normal font:**

1. Set your active font to the ADS Normal font, point size 18.
2. Use the following keys on your keyboard to create the following check mark areas:

To create a...	□	Press this key
1/8"×1/8" square	□	@
1/8" diameter circle	○	\$

## Bar Code Fields

Fixed Hexadecimal Locators can also be used to create the Form ID.

Bar Code Fields do not fax well; the AutoData processing engine may not be able to read bar codes that appear on faxed documents.

Bar Code Fields are typically used to create a form's Form ID. A Form ID, which is described more fully later in this manual, allows a form to be linked with its template file (also known as a Form file), so its fields can be processed. Bar code Form IDs include the form's page number, and allow the software to track pages on multi-page forms. For more information on Form IDs, see *Adding a Form ID to Your Form* later in this manual.

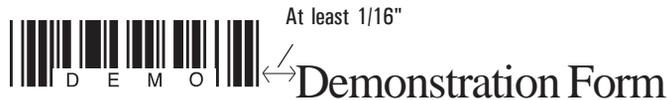
The use of bar codes is not limited to Form IDs. You can place a Bar Code Field anywhere it's needed on your form. Bar codes may be created using the ADS Barcode font included with your AutoData software, or you can affix a bar code label on your form after it has been printed.

## Using the ADS Barcode font to create Bar Code Fields

### ➤ To create a Bar Code Field using the ADS Barcode font:

1. Set your active font to ADS Barcode, point size 36.
2. Type an asterisk (\*) as the first character of your bar code. The asterisk *must* be included because it denotes the first character of a new bar code for the scanner.
3. Type the letters or numbers of your bar code. The letters you use *must* be uppercase (capital) letters.
4. Type another asterisk (\*) to denote the final character of your bar code. Like the first one, this asterisk is mandatory.

Separate the Bar Code Field from any text on your form by at least 1/16", as shown.

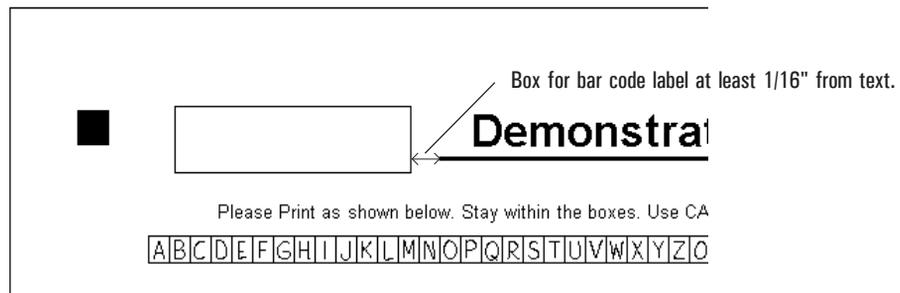


## Using bar code labels for your form's Bar Code Fields

The other method of adding a Bar Code Field to your document is to leave a space on your form for a bar code label which is affixed to the form after printing. Use the ADS Barcode font format on your labels for this purpose.

To improve placement accuracy, you may want to create a box on your form where the label will be placed, as shown in the example below.

Bar code labels must be placed at least 1/16" away from any other text on your form.



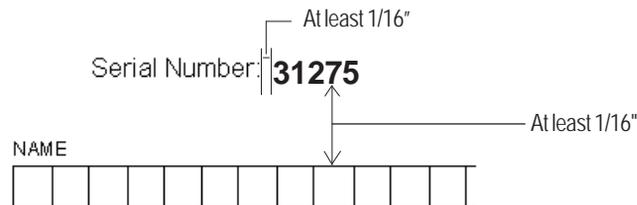
*Bar code label placement*

## OCR Fields

There may be portions of your form's text you want to include in the final database file containing your processed form data. For example, you may want to read a serial number from the form, or information from a preprinted mailing label or a warranty card. AutoData Template Maker allows you to define these areas of your form so that this text can be read by using Optical Character Recognition (OCR) technology. Text which will be read for OCR is considered an OCR Field and must follow specific formatting and placement requirements.

### Formatting and placement rules for OCR Fields

- Use either Arial or Times New Roman font type.
- For greater accuracy, set your font size for the text from between 12 and 18 points. Optimal point size is 18.
- OCR Fields may be placed anywhere on your form, as long as they are inside the Locator marks and are consistent with the page orientation.
- Other text on your form must be separated from OCR Field text by at least 1/16", as shown below. Note that the descenders of lowercase text (i.e., g, j, p, q and y) must also be positioned at least 1/16" away from the OCR Field text.



*Text placement distances from OCR Fields*

## Image Capture Fields

Some AutoData software products can “capture” portions of your form as images, and save them as a .TIF (default), .BMP, or a .PCX file. This feature is especially useful when you want to store an image of the user's signature or a drawing, or retain free-form handwritten comments in their original format.

Generally, you will define Image Capture Fields for your form using AutoData Template Maker. No special formatting requirements exist for designing elements of your form which will be defined later as Image Capture Fields, unless you want to verify that data is present in the field before the Image Capture file is created.

### **Capturing images only when a field contains data**

If you want to verify that an Image Capture Field contains data before an Image Capture file is created for it, you must define the Image Capture area with a box, using a line width of 1 point, as shown below.



*Defining an Image Capture area*

## **Key Entry Fields**

Up to this point, we have discussed two different ways to incorporate handwritten information into your database file: Hand Print Fields and Image Capture Fields. Both are appropriate when the amount of handwritten information is fairly limited in size or content.

AutoData Template Maker can be used to define another kind of field, called a Key Entry Field, in which the respondent can handwrite longer or less specific information or comments. Below are two examples where using a Key Entry Field would be appropriate:

Other (please specify) \_\_\_\_\_

Additional comments, if any \_\_\_\_\_

\_\_\_\_\_

During processing, information in a Key Entry Field is not actually “read,” as it is for a Hand Print Field, nor is the actual image stored in a separate file, as it is in an Image Capture Field. Instead, when a Key Entry Field is reached, processing of the form halts so that someone can type the contents of the Field manually into the system.

You can define Key Entry Fields for your form using AutoData Template Maker. No special formatting or design requirements exist for Key Entry Fields, unless you want to halt processing for the field only when it contains data.

### Key entering only when data is present

If you want to halt processing for Key Entry purposes only when the Key Entry Field actually contains data, you must define the Key Entry Field by surrounding it with a box, using a line width of 1 point, as shown below.

Please enter information:

*Defining a Key Entry Field with a box*

## Using Non-Reproducible Blue Ink

Your commercial or internal printing facility can print elements on your form that are visible to the human eye, but invisible to your scanner. These areas are printed in non-reproducible blue ink. Depending on your form, you may want to use non-reproducible blue ink to shade certain areas of your form, or to include text closer to fields than is normally allowed. Examples of how non-reproducible blue ink can be used are shown below. The shaded areas in the example indicate areas printed in non-reproducible blue ink.

*Examples of different ways to use non-reproducible blue ink*

There are three acceptable non-reproducible inks for use with AutoData products:

- Pantone 304 at 100% screen
- Pantone 305 at 80% screen
- Nonreproducible Blue, available from 3M

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**NOTE:** If you plan to use other types of non-reproducible ink on your form, we strongly recommend that you test them on your scanner before printing multiple copies of your forms.

---

## Adding a Form ID to Your Form

A Form ID is an identifying mark on a form which allows the AutoData processing engine to link the form with the template file (called the Form file) created for it in AutoData Template Maker. The Form ID also identifies the page number of a form so the data from the form's fields can be ordered correctly.

Form IDs are required on multi-page forms, and are strongly recommended on single-page forms. A Form ID is also required if the form's data will be processed directly from a fax modem. The function of the Form ID can be performed either by a Bar Code Field or by Fixed Hexadecimal Locators.

## Bar Code Form IDs

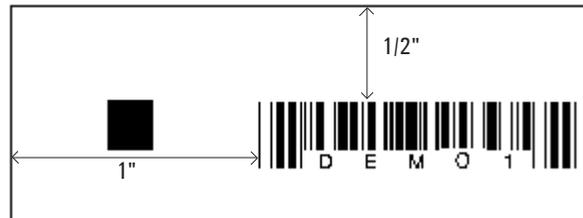
Bar codes used as Form IDs are placed at the top of each page of your form. There is a 25-page limit. On multi-page documents, the characters used in the bar code Form ID describe the name and page number of the form. Form IDs used on single-page forms do not include a page number. You can give your form any name you wish, as long as the length of the name (*not including the page number*) does not exceed 8 characters.

A bar code Form ID may not fax well. If you will be using a fax machine to transmit your document, we recommend using Fixed Hexadecimal Locator marks for your Form ID, rather than a bar code.

### Positioning the bar code Form ID on your page

Bar code Form IDs are placed **ONLY** at the top left of your page, next to your top left Locator, as shown on the next page.

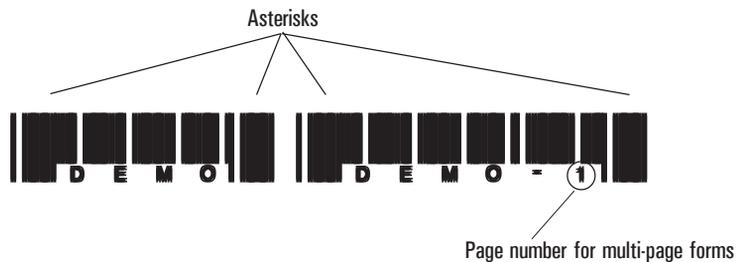
- Align the top edge of the bar code with the horizontal line of the Locator mark, 1/2" from the top of the page.
- Position the Form ID bar code 1" from the left edge of the page, as shown below.



*Position bar code 1" from left edge of page*

### Formatting requirements for bar code Form IDs

- Bar code Form IDs are created using the ADS Barcode font included with your AutoData software. Use a font size of 36 points.
- The letters comprising your bar code Form ID name must be typed in uppercase (capital) letters. Numbers may also be used.
- The first and last characters of your bar code Form ID must always be asterisks (\*). The asterisks define the beginning and end of the field during processing.
- If your document has multiple pages, the page number of the form must be included in the bar code Form ID. The page number will be the last character before the asterisk. The page number must be preceded by a dash or hyphen.



## Fixed Hexadecimal Locator Form IDs

Fixed Hexadecimal Locators can be used as a Form ID for your document.

With five Locator marks to a page, the length of the Form ID name is limited to three characters and a page number. The top two and the bottom left Locator marks represent the three characters of the Form ID. The bottom two right Locators represent the page number and page orientation. During processing, the Form ID is read from top to bottom and left to right, so the top left Locator mark is the first character of the name, the top right Locator mark is the second character, and the bottom left Locator mark is the last character of the name.

**1st character of Form ID** (top-left square)

**2nd character of Form ID** (top-right square)

**3rd character of Form ID** (bottom-left square)

**Page number** (bottom-right square)

**Page orientation** (bottom-right square)

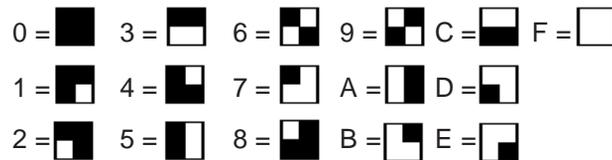
*Fixed Hexadecimal Locator positions*

## Positioning the Fixed Hexadecimal Locator Form ID on your page

The rules for positioning the Fixed Hexadecimal Locator Form ID are the same ones described earlier in the *Creating Fixed Hexadecimal Locators* section. The Locators should be placed in the outer corners of your form, ½" from the edge of the page, as shown in the example on the preceding page. The extra page Locator should be 1/8" to the left of the lower right Locator.

## Formatting requirements for the Fixed Hexadecimal Locator Form ID

Each of the 16 Fixed Hexadecimal Locator symbols represents a number from 0 to 9 or a letter from A to F. The symbols and the letters or numbers they represent are displayed below.



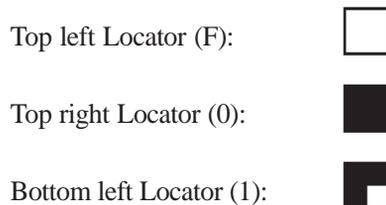

---

**NOTE:** Hexadecimal is a 16-bit numbering system from 0–15. Since there are no one-character numbers with a value greater than 9, the letters A through F are substituted for the numbers 10 through 15.

---

The symbols are combined to create the Form ID name. Your Form ID name must be three hexadecimal characters long. The top left Locator mark is the first character of your form name, the top right Locator is the second character, and the bottom left Locator is the third character of the Form ID name. For example, if you want the Form ID name of your document to be F01, you would place the following hexadecimal symbols on your form:

If you are using hexadecimal characters, you cannot use 0 or 00 to number your form page.



The two bottom right Hexadecimal Locator marks represent the page number of the form. If your document has only one page, you must use the Hexadecimal Locator symbol for the number 01 in the bottom right corner of your page. The chart shown below describes the characters to type to display the hexadecimal characters needed for page numbers on your form.

For instructions on creating and placing Fixed Hexadecimal Locators on your form, see the section *Locator Marks*, earlier in this manual.

For page number	...type this	...to display these Locator marks	For page number	...type this	...to display these Locator marks
01	01		14	0E	
02	02		15	0F	
03	03		16	11	
04	04		17	12	
05	05		18	13	
06	06		19	14	
07	07		20	15	
08	08		21	16	
09	09		22	17	
10	0A		23	18	
11	0B		24	19	
12	0C		25	1A	
13	0D				

*Hexadecimal page number chart showing characters 1–25*

## Using Serial Fields on Multi-Page Forms

A Serial Field is a unique number or word that appears on all pages of your form and links the particular pages to the data on the form. The Serial Field:

- Distinguishes a form that has been filled out by one person from a form filled out by someone else.
- Can be used to distinguish data about one subject from data about another subject, when both sets of data were collected using the same form.
- Allows the pages of multi-page forms to be scanned and processed in any order, without causing damage to the data integrity.

## Conditions for using Serial Fields

- The specific type of data being recorded in a Serial Field must remain constant from page to page of the form. For instance, if you display a social security number in the Serial Field on the first page, the same social security number must appear in the Serial Fields on the remaining pages.
- The Serial Field can be positioned anywhere on your page, as long as it prints within your Locator marks and is consistent with the page orientation.

## Types of Serial Fields

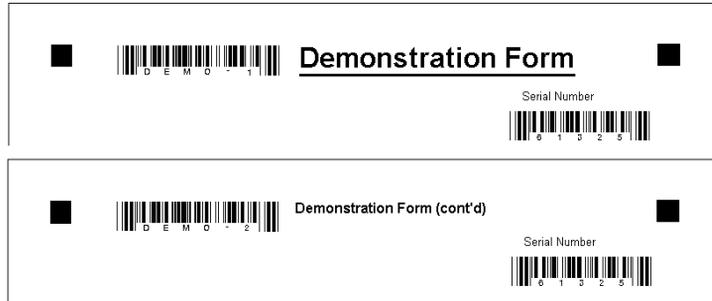
Any of the field types described earlier in this chapter, *except check box and image capture*, may be used as a Serial Field. The following are the requirements for each field type.

- **Hand Print Serial Fields:** Use a Hand Print Serial Field when the field contains a unique number or word, such as a Social Security number, a student ID number, a person's name, or a product name. The hand printed data in the Serial Field must be the same on each page and must be unique to each particular form.

The image shows two pages of a form. The top page is titled "Demonstration Form" and the bottom page is titled "Demonstration Form (cont'd)". Both pages have a barcode on the left and a "Serial Number" field on the right. The serial number field contains the handwritten number "61325".

*Hand Print Serial Fields*

- **Bar Code Serial Fields:** Use the ADS Barcode font or bar code labels printed with the Barcode 3 of 9 font when you want to use a bar code in the Serial Field. The bar code characters you use must be the same on each page of an individual form and must vary from form to form.



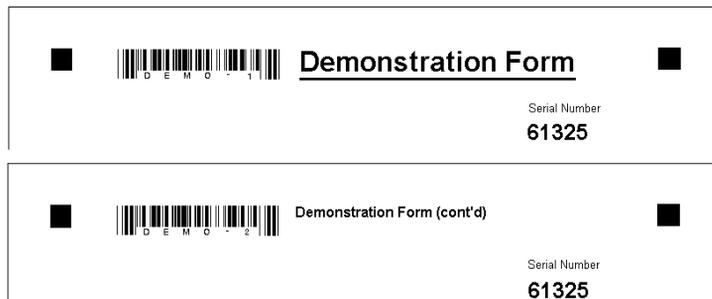
*Bar Code Serial Fields*

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**IMPORTANT!** Keep in mind that your Form ID changes from page to page of your form because it lists the page number. A Serial Field *must* remain constant from page to page. *Do not use a bar code Form ID as a Serial Field.*

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- **OCR Serial Fields:** OCR Serial Fields are preprinted serial numbers on your form. The number used as a Serial Field must be the same on each page of an individual form, and must change from form to form.



*OCR Serial Fields*

- **Key Entry Serial Fields:** Use a Key Entry Serial Field when the number or letters used in the Serial Field will be hand printed by the person completing the form and then typed manually during processing.

The diagram illustrates two form sections, each enclosed in a rectangular border. The top section is titled "Demonstration Form" and features a barcode on the left. To the right of the barcode is a "Serial Number" field containing the handwritten number "61325". The bottom section is titled "Demonstration Form (cont'd)" and also features a barcode on the left. To the right of the barcode is another "Serial Number" field containing the handwritten number "61325".

*Key Entry Serial Fields*

## Creating Two-Sided Forms

If your form is printed on both sides of the page (duplex), it is important to use a heavier paper stock than is normally used for photocopying or laser printing. Paper that is too thin will allow printed and hand printed text to show through from the back side of the page, making it difficult to obtain a clear scanned image. For two-sided forms, use at least 60# paper.



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# Using Your Form Design Tool

This section of the manual provides general guidelines for creating your forms using page layout, drawing and word processing programs. Following these suggestions will help ensure greater success when your form is processed.

## Design Tips for Page Layout and Drawing Programs

- **Set your margins.** Set your left and right margins at ½" to make positioning your Locator marks easier.
- **Add Locator marks.** We recommend placing the Locator marks on your pages before you add any text or other fields. Be sure to maintain a distance of at least 1/16" around the marks so they can be found easily.
- **Add a Form ID.** It is highly recommended that you add Form IDs to all your form pages. When adding the bar code Form ID, we recommend using the ADS Barcode font included with your software. The name you use as a Form ID is the name you will save your Form file under when creating its template in AutoData Template Maker.
- **Give your form a title.** Place a title on your form and give it a form revision number which will be used for your reference only. The form revision number is typically a very small number that appears in a consistent location on your form. Each time you change the content or format of the form, increase the form revision number so you know which version of the form you are using.
- **Add instructions to your form.** Ensure greater processing accuracy by providing clear instructions on how to fill out your form. Place these instructions under your Form ID and form title. Sample instructions to use are: *Use a black pen. Print neatly using all capital letters. Stay within and do not touch the box lines.* Use the ADS Normal font to create sample boxes with letters and numbers already neatly printed in them. To do so, set your active font to ADS Normal, press the Caps Lock key on your keyboard and type. Your example does not have to be printed at actual size (36 points) to be effective.

- **Include special characters in Hand Print Fields.** Make sure that any special characters, such as dashes, lines and colons, are already printed or drawn into your Hand Print Field boxes before they are completed by users. *Make sure that none of the special characters used touch the sides of your Hand Print Field boxes.* The ADS Normal font provides examples of boxes properly completed with special characters.
- **Add lines for ease of use.** Your form will be easier to complete if navigational lines are included for the user. They will also enhance your document aesthetically. Be sure not to violate any of the spacing rules, however. Keep all lines at least 1/8" from all boxes and Locators.
- **Zoom in for greater accuracy.** Most drawing and page layout programs allow you to zoom in on your page or increase the view size. Doing so allows for greater precision when positioning boxes and their associated text. We recommend using the 4X or 400% view or larger whenever possible.
- **Use rulers and guides.** Use rulers and guides if they are available in your drawing and page layout program. With rulers and guides, you can create a template which allows you to position your boxes and associated text more precisely. We also recommend that you turn on the “Snap to Rulers” and “Snap to Guides” functions of your drawing or page layout program.
- **Draw your own boxes, circles and lines.** We recommend using the line and draw functions of your program to draw your own boxes, circles and lines, rather than using the ADS Normal font. This allows you to place them more precisely on your page, especially when the “Snap to” functions are turned on. Make sure all check boxes conform to the size and thickness requirements described earlier in this manual.

If you use the ADS Normal font to make your boxes, you must use a font size of 36 points in order for the line weight and box size to be acceptable. Additionally, the ADS Normal font contains a built-in leading which enforces the amount of space between boxes and text. This makes precise placement of the boxes difficult, because the top of the leading—not the top of the box—snaps to the guide.

- **Clone and Duplicate.** Whenever possible, make use of the Clone and Duplicate functions of your software program. These functions are especially useful when precisely placed elements on your form repeat themselves, such as columns of Check Mark Field boxes, or Hand Print Field boxes.
- **Use Copy and Paste.** After positioning text 1/16" from your boxes, use the Copy and Paste commands to duplicate the spacing. Select the text and the number of boxes you need for your next field. Copy and paste them into their new positions. Edit the text as needed for the new field.

## Design Tips for Word Processing Programs

Using tabs, Times Roman font, point size 10, will line up perfectly with boxes created using the ADS Normal font, point size 36.

- **Set your margins.** Set all of your margins to .5" to more accurately position your Locator marks.
- **Use the ADS Normal font.** When making Hand Print Field and Check Mark Field areas, use the ADS Normal font, point size 36.
- **Use your tabs.** The amount of space occupied by each character in a font varies considerably. This makes it difficult to align text and graphic elements precisely using the space bar. For greater processing accuracy, use the Tab settings and alignment for positioning text and fields.
- **Work from top to bottom.** Add the text and Fields starting at the top of the page, moving line by line down the page. Some tips for working with text:
  1. Use tab stops to line up vertical columns.
  2. Make small vertical spaces by setting the font to a small size and pressing the Return key to create a blank empty line. For example, if you want a narrow space (6 points) between rows of a column, move your cursor to a new line, set your font size to 6 points and press the Return key. Return the font to the original point size and resume entering text.

The following instructions describe how to place the upper Locator marks, Form ID and the title of your form.

### ➤ To set Fixed and Hexadecimal Locator marks:

1. Set your left, right, top and bottom margins at .5" and the left indent at .5".
2. Set your tab stops.

Use the tab stops shown in the table on the next page when you are using regular Fixed Locators.

Form Element	Tab Alignment	Position
Left Locators	Flush left	.5" from left edge of page (on left margin setting)
Form ID	Flush left	1" from left edge of page, (.5" from left margin setting)
Form Title	Centered	4.25" from left edge of page (6" from left margin setting)
Right Locators	Flush right	.5" from right edge of page (on right margin setting)

Use the following tab stops when you are using Fixed Hexadecimal Locators:

<b>Form Element</b>	<b>Tab Alignment</b>	<b>Position</b>
Left Locators	Flush left	.5" from left edge of page (on left margin setting)
Form Title	Centered	5.5" from left edge of page (5" from left margin setting)
Right Locators	Flush right	.5" from right edge of page (on right margin setting)

3. Add the upper left Locator marks.

For regular Fixed Locators, set your font to ADS Normal font, point size 18. Position the cursor in the upper left corner of your form. Press the [ key to create the upper left Locator mark.

For Fixed Hexadecimal Locators, set your active font to ADS Locator font, point size 18. Position the cursor in the upper left corner of your form and type the first character of your Form ID.

4. Add the bar code Form ID if you are using regular Fixed Locators.

Set your active font to ADS Barcode font, point size 36. Tab to the first tab stop (1" from the edge of the page). Type an asterisk, then the characters of your Form ID, then the page number of the form, and then another asterisk to finish the Form ID.

5. Add the title to your form.

Tab forward to the centered tab stop at either 4.25" or 6" from the left edge of the page. Type the name of your form.

*Optional step:* Move the centered tab stop location so the text is positioned evenly between the Form ID bar code and the upper right Locator mark.

6. Add the upper right Locator mark.

For regular Fixed Locators, tab to the far right margin setting and press the ] key to create the upper right Locator mark.

For Fixed Hexadecimal Locators, tab to the far right margin setting and type the second character of your Form ID.

You can place your title anywhere on your form, as long as you follow the spacing requirements.

## Example

To create the following figure using a basic word processing program, follow these steps:

1. Set the left, right, top and bottom margins for your page to .5".
2. On the first line, set these tab stops.

Tab	Position
Flush left	1" from left margin (1.5" from left edge of page)
Centered	4.5" from left margin (5" from left edge of page)
Flush right	7.5" from left margin (8" from left edge of page)

The screenshot shows a word processing window with a form titled "Example Form". The form includes a barcode at the top left, followed by a "NAME" field with a grid of input boxes. Below that is a "COMPANY NAME" field with another grid of input boxes. The form then asks "Do you own a pet?" with "Yes" and "No" checkboxes. To the right, it asks "Which kind of computers have you used?" with a note "(select all that apply)" and checkboxes for "386-based PC", "486-based PC", "Macintosh", "IBM Main", "DEC", and "Oxy". The window's status bar at the bottom shows "Page 1 Sec 1 1/1 | At 3.9" Ln 11 Col 22" and a menu bar with "FILE MARK EDIT VIEW HELP".

*Example form*

3. Create the upper left Locator mark.

To do so, set the active font to ADS Normal font, point size 18. Press the [ key to create the upper left Locator mark.

4. Create the bar code Form ID.

Set the active font to ADS Barcode font, point size 36. Tab to the first tab stop (1" from the left margin) and type **\*EXAMPLE\***

5. Add the title to the form.

Set the active font to Times Roman font, point size 12. Tab to the second centered tab stop (4.5" from the left margin) and type: **Example Form**

6. Create the upper right Locator mark.

Tab to the far right tab stop (7.5" from the left margin). Press the ] key to create the upper right Locator mark.

7. Set the active font to Times Roman font, point size 12. Press Return twice to create the proper space between the form's elements.

8. Add the text for the first Hand Print Field.

Set the active font to Times Roman font, point size 12. Create a flush left tab stop at .75" from the left margin (1.25" from the left edge of the page). Tab to the new tab stop and type: **NAME** and then press Return.

9. Create the Hand Print Field boxes.

Set the active font to ADS Normal font, point size 36. Tab to the flush left tab stop at .75" from the left margin. Press any lowercase letter key on your keyboard 28 times to create 28 boxes.

Change the font and size back to Times Roman, point size 12, and press Return.

10. Add the text for the second Hand Print Field.

Tab to the flush left tab stop at .75" from the left margin. Type: **COMPANY NAME** Then press Return.

11. Create the Hand Print Field boxes.

Set the active font to ADS Normal font, point size 36. Tab to the flush left tab stop at .75" from the left margin. Press any lowercase letter key on your keyboard 28 times to create 28 boxes.

Change the font and size to Times Roman, point size 12, and press Return.

12. Add the text for the Check Mark Fields.

Tab to the flush left tab stop at .75" from the left margin. With the active font still set at Times Roman, point size 12, type: **Do you own a pet?**

Set a new flush left tab stop at 4" from the left margin. Tab to the new tab stop and type: **Which kind of computers have you used?**

Press Return.

13. Create the first row of Check Mark Field areas.

Set your active font to ADS Normal font, point size 18. Tab to the .75" tab stop, then type @ (Shift+2) to create a Check Mark Field area.

Tab to the flush left tab stop at 1" from the left margin. Set the active font to Times Roman, point size 12, and type: **Yes**

Tab to the flush left tab stop at 4" from the left margin and type: **(Select all that apply)**. Press Return.

14. Create the next row of text and Check Mark Field areas:

Set the active font to ADS Normal font, point size 18. Type @ to create a Check Mark Field area.

Tab to the flush left tab stop at 1" from the left margin. Set the active font to Times Roman, point size 12, and type: **No**

Change the active font back to ADS Normal font, point size 18. Tab to the flush left tab stop at 4" from the left margin and type @ to create a Check Mark Field box.

Set a new flush left tab stop at 4.5" from the left margin. Tab to the new stop. Change the active font back to Times Roman, point size 12, and type: **386-based IBM PC**

Set the active font back to ADS Normal font, point size 18. Add a new flush left tab stop at 5.75" from the left margin. Tab to the new stop and type @ to create another Check Mark Field box.

Add a new flush left tab stop at 6" from the left margin. Tab to the new stop. Set the active font back to Times Roman, point size 12, and type: **IBM Mini**

Press Return.

15. Create the next line of text and Check Mark Field areas:

Set the active font to ADS Normal font, point size 18. Tab to the flush left tab stop at 4" from the left margin and type @ to create a Check Mark Field box.

Change the font back to Times Roman, point size 12. Tab forward to the flush left tab stop at 4.25" from the left margin and type: **Pentium PC**

Set the active font back to ADS Normal font, point size 18. Tab forward to the flush left tab stop at 5.75" from the left margin and type @ to create a Check Mark Field area.

Change the font back to Times Roman, point size 12. Tab forward to the flush left tab stop at 6" from the left margin and type: **IMac**

Press Return.

16. Create the next line of text and Check Mark Field areas:

Set the active font to ADS Normal font, point size 18. Tab to the flush left tab stop at 4" from the left margin and type @ to create a Check Mark Field area.

Change the font back to Times Roman, point size 12. Tab forward to the flush left tab stop at 4.25" from the left margin and type: **Power Macintosh**

Set the active font back to ADS Normal font, point size 18. Tab forward to the flush left tab stop at 5.75" from the left margin and type @ to create a Check Mark Field area.

Change the font back to Times Roman, point size 12. Tab forward to the flush left tab stop at 6" from the left margin and type: **Sun Workstation**

Press Return.

## Taking It Further

You have now finished designing a scannable form using your word processing program. The form is now ready to be defined using AutoData Template Maker. This Scannable Office module will create a form template containing each scannable object's properties, so Form Reader can correctly scan and process the form. Please refer to the **AutoData Template Maker** manual for further instructions.

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**NOTE:** The tutorial in this section walks you through the form design process using a simple word processing program. Using a more advanced page layout or drawing program will simplify or eliminate some of the steps outlined in this tutorial.

Keep in mind, the easiest way to design a scannable form is with AutoData Form Publisher's built-in tools and design macros. However, when it is more convenient to design forms outside of Form Publisher (and Microsoft Word), then Scannable Office does support forms created in third-party programs. Using this latter method, your form will have to be defined using AutoData Template Maker before it is ready to be scanned. Refer to the **AutoData Template Maker** manual for further instructions.

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# Printing Your Form

This section provides general guidelines for printing your form. Following these guidelines will ensure that your form is processed more accurately.

- Test print your form using a laser printer.
- For best results, we recommend that you have the copies of your forms printed at a commercial print shop. If your forms will not be printed commercially, use either a laser printer to produce them or use a high quality copier like those found in a copy center. Use an office copier *only* if it produces copies that are free of blemishes and spots.
- If your forms are reproduced on a copy machine, use one of these reproduced forms to create a template in AutoData Template Maker and not the laser-printed original. Copy machines often slightly reduce image size, which could result in scanned images that do not match the template created using the original form.
- Locator marks *must* be printed on your form in black ink. Remind your print shop that the Locator marks are part of the form, and should be printed exactly as they appear.
- Use non-reproducible blue ink to create areas on your field that are invisible to your scanner. You may want to use the non-reproducible blue ink to distinguish rows or columns with shading, for text placed closer than the allowable distance from your form's fields, or to create Check Mark Field boxes that you want to drop out when the form is scanned.

There are three acceptable non-reproducible inks: Pantone 304 at 100% screen, Pantone 305 at 80% screen and 3M's Nonreproducible Blue. Be sure to request one of these three inks from your printer.



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