
FLEETMATE®

Report Designer

CUSTOMER GUIDE

Microsoft® and Excel® are registered trademarks of Microsoft Corporation.
All other product names found in this document are trademarks or registered trademarks of their respective holders.

Copyright ©2005 by SCB Consulting, LLC. All rights reserved.
FLEETMATE™ is a registered trademark of SCB Consulting, LLC.

Introduction

The **FLEETMATE Report Designer** (the “Designer”) is a tool used for creating and editing FLEETMATE report definition files. The Designer allows you to create, edit, load, and save report definition files as a standalone tool for reporting against your FLEETMATE database. You may conduct ad-hoc reporting for specialized one-time reporting needs, as well as create more formalized reports that you can reuse on a regular basis.

You can also use the Designer to create new reports for use within the FLEETMATE Maintenance Management Software. You can then simply point and click on your custom reports just as you do with the standard reports that are included with FLEETMATE. The details involved in creating new reports for use within FLEETMATE are discussed later in this document.

REQUIREMENTS:

The following are the **minimum recommended** hardware specifications in order to effectively use the Report Designer.

- Pentium/4® 1.5 GHz CPU with 256 Mb of Random Access Memory (RAM)
- Laser or Ink Jet Printer

The following are **required** in order to use the Report Designer on your PC.

- Microsoft® Windows™ 2000, XP Home, or XP Professional
- Microsoft® .NET Framework version 1.1

If your PC does not have the **.NET Framework v1.1** product installed, you can download it free of charge from <http://www.microsoft.com>. Additional information on this download is also available on the FLEETMATE Website at <http://www.fleetmate.com>. Please contact us if you need assistance.

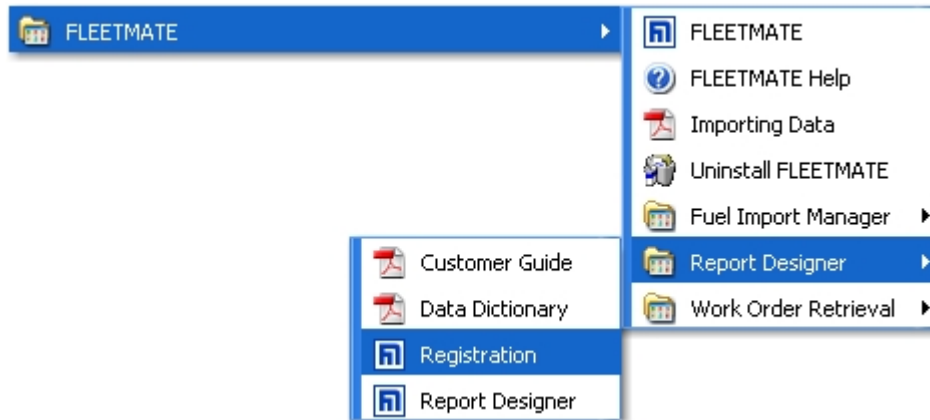
IMPORTANT NOTE:

If you are currently evaluating FLEETMATE Report Designer, all **save features are disabled** in the unlicensed product. The unlicensed evaluation copy is offered to enable you to explore the various product features prior to purchase, to determine if it is a product that you would find beneficial.

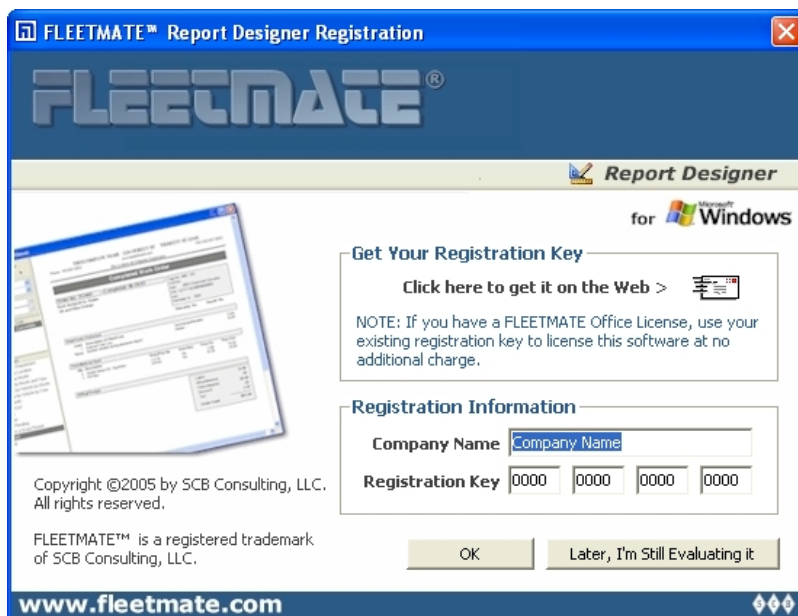
Once a registration key is purchased and entered using the FLEETMATE Report Designer Registration program, you will be able to save your reports and report definition files.

Registration

To register your **FLEETMATE Report Designer** you will need to use the **FLEETMATE Report Designer Registration** shortcut under the FLEETMATE program group.



Once the registration window appears (pictured below), enter your company name and registration key in the fields provided, and then click the **OK** button.



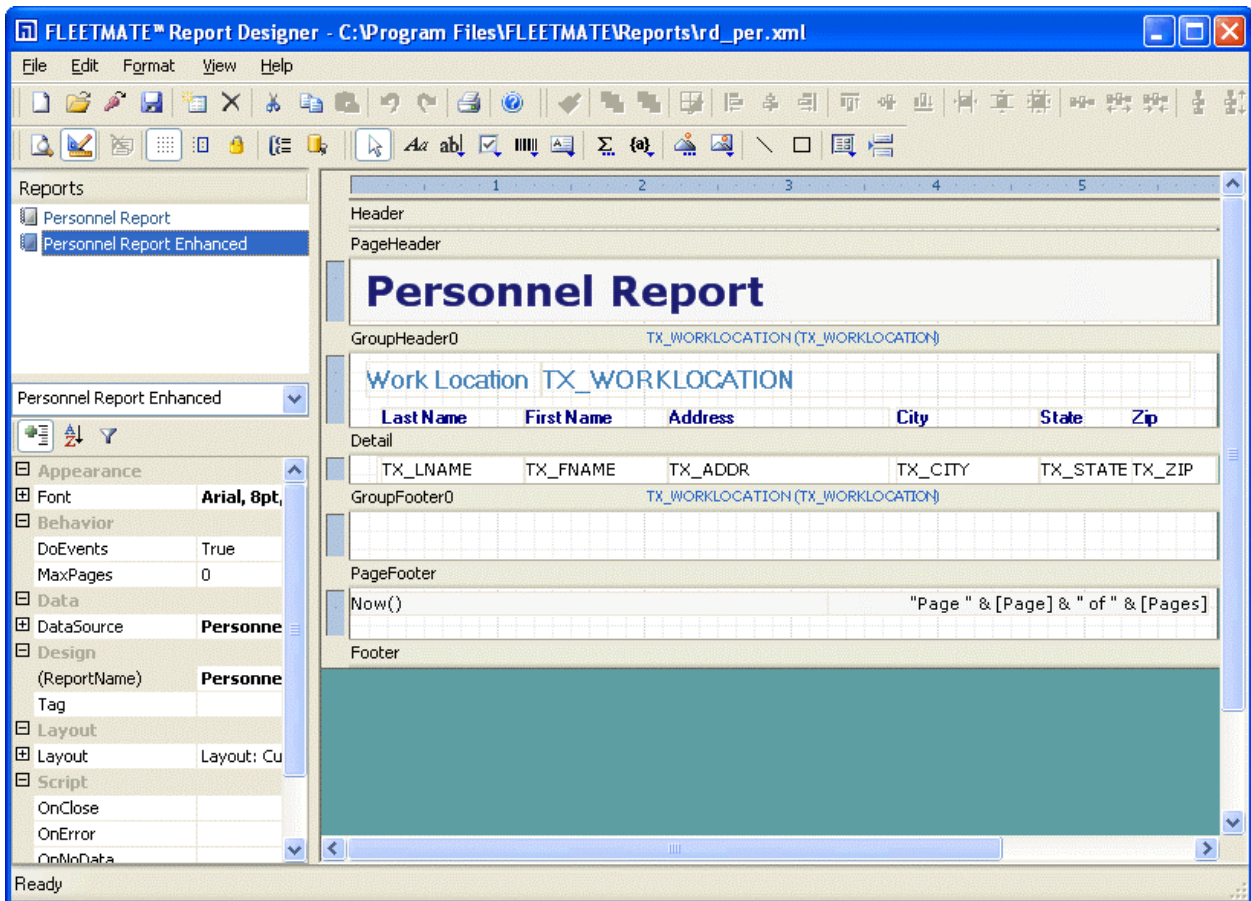
Program Modes

To start the Designer, use the shortcut within the FLEETMATE folder under your Programs menu on your PC. The Designer features two (2) modes: **design** and **preview**.



Design Mode

Design mode is used to craft your reports. You can add and remove fields and labels within your reports. You can move items around, and you can change the attributes of each object on the report such as size, font, color, bordering, and alignment.

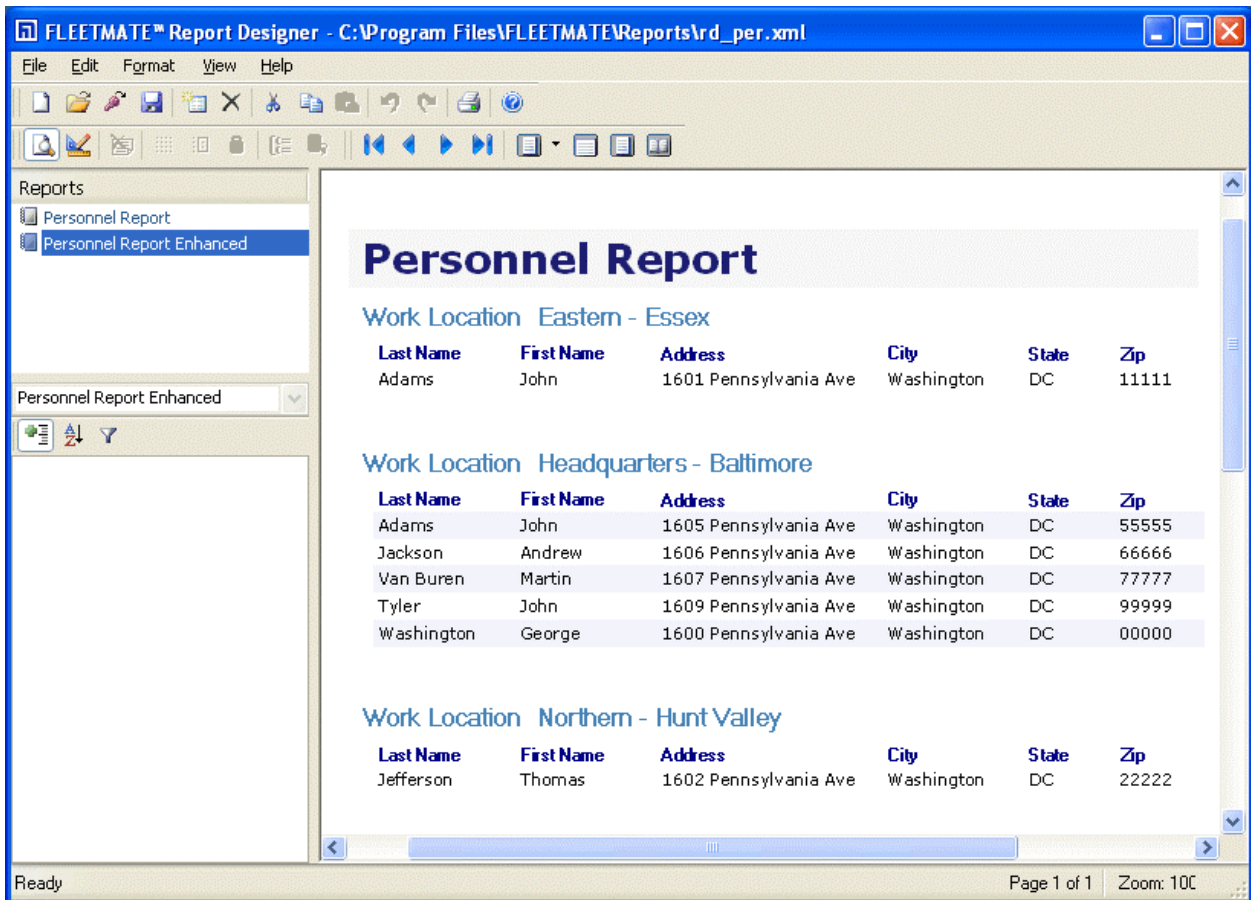


The Designer in "Design" Mode



Preview Mode

Preview causes your report to render on-screen so that you can immediately see the results. Your reports will appear just as they will print on your printer.




The Designer in "Preview" Mode


Program Features

The Designer window has the following components:


Menu bar:

 Provides access to the main Designer functions. As an example, you will use the File menu to load and save report definition files, to import report definitions, and to print reports.

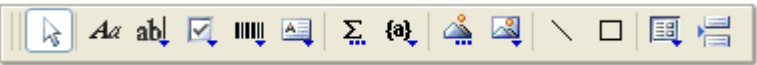
Main toolbar:

 Provides shortcuts to the most common menu functions: new file, open, import, save, print, undo/redo, cut/copy/paste, create/delete report, and help.

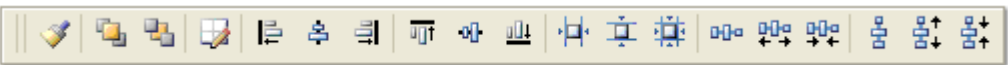
View toolbar:

 Switches between preview and design modes, activates the design grid, and displays the property and grouping dialogs, and the data source dialog.

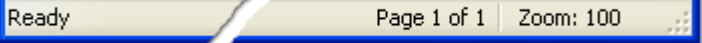
Toolbox toolbar:

 Provides tools for creating report fields and other elements. Only enabled in **design** mode.

Format toolbar:

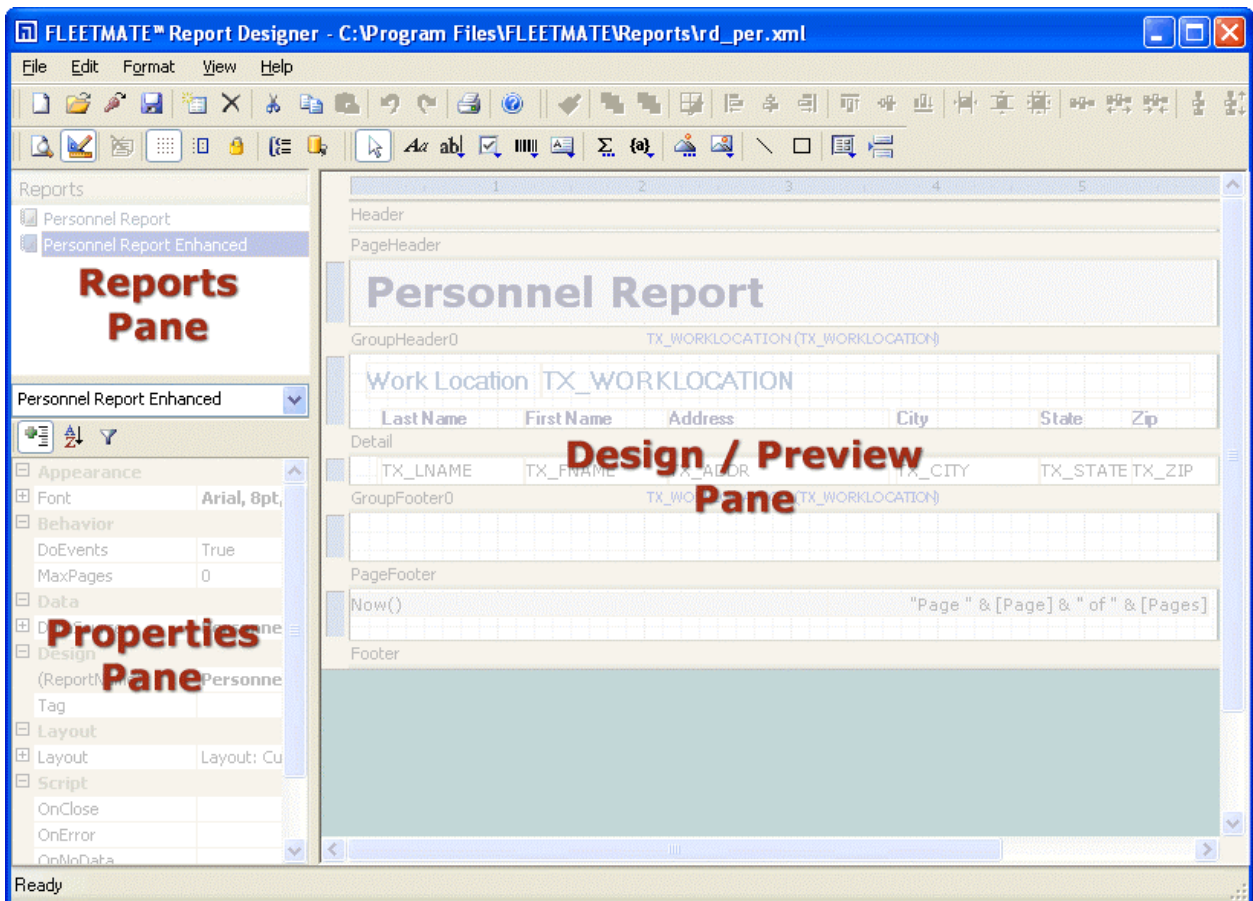
 Provides tools for aligning, sizing, and spacing report fields. This toolbar is enabled only in **design** mode, and only when two (2) or more elements are selected.

Status bar:

 The status bar at the bottom displays information about what the Designer is working on (e.g. loading, saving, printing, rendering, importing, etc).

Main Window Panes

Report Designer is arranged into three (3) resizable panes as pictured below.



Report Pane:

Lists all reports contained in the current report definition file. You can double-click a report name to preview or edit the report. You can also use the list to rename, copy and delete reports.

Properties Pane:

Enables you to edit properties for the objects that are selected in the designer. There are many different properties that determine how report fields/objects appear and behave.

Design/Preview Pane:

This is the main working area of the Designer. In preview mode, it displays the current report. In design mode, it shows the report's sections and fields and allows you to change any aspect of the report definition.

Creating a New Report Definition

Overview

You can design your report to display your data in a variety of ways on the printed page. Using the FLEETMATE Report Designer, you can design comprehensive lists, summaries, or special report formats of reports, like a work order or a check-list.



New Report

The easiest way to start a new report is to use the Report Wizard. Click the **New Report** button on the main toolbar, or select the **File | New Report** menu option.

The Report Wizard will appear, and will guide you through five steps.

1. Select the **Data Source** for the new report.
2. Select the **Fields** you want to include in the report
3. Select the **Layout** for the new report
4. Select the **Style** for the new report or the type of label you need
5. Select a **Title** for the new report.

Select the Data Source for the New Report

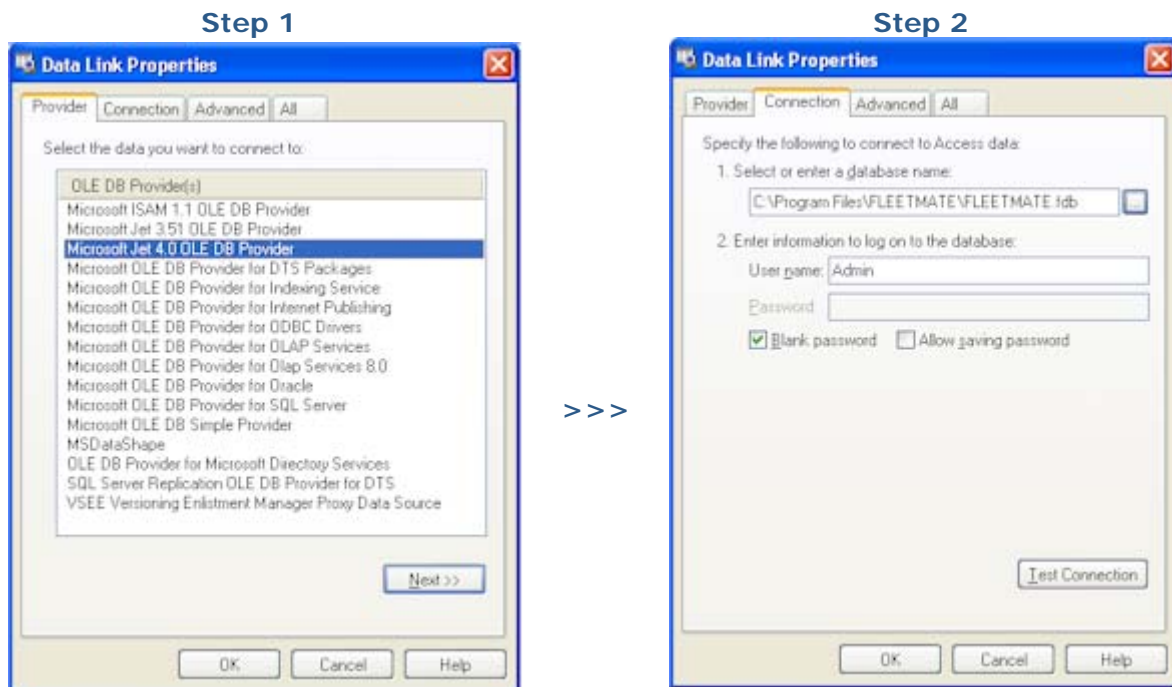
Two items comprise a **Data Source**: the **ConnectionString** and the **RecordSource**. Use this page of the Report Wizard to select the **ConnectionString** and **RecordSource** that will be used to supply the data for your report.

You can specify the **ConnectionString** in three ways:

1. Use the droplist to select a recently used connection string (the Designer keeps a record of the last eight connection strings). A *default* connection string that points to `C:\Program Files\FLEETMATE\FLEETMATE.fdb` is provided.
2. Type the string directly into the editor.
3. Click the button with the ellipsis (...) to bring up the standard Windows® **Data Link Properties** dialog that will help you build your connection string (see below).

Using the Data Link Properties Dialog to Build a Connection String

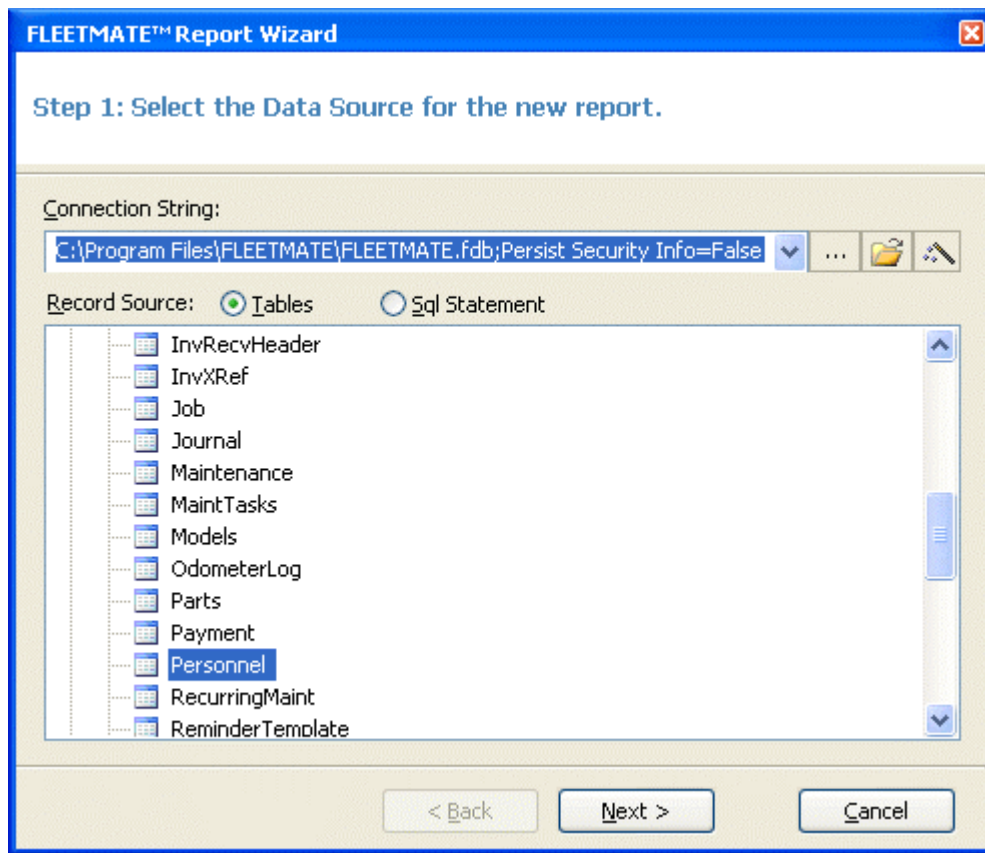
Click the ellipsis (...) button to request the **Data Link Properties** dialog. Click the **Provider** tab at the top of the dialog and choose **Microsoft Jet 4.0 OLE DB Provider** from the list of options. Next, click the **Connection** tab, click the ellipsis (...) button to navigate to and select your database file, and then click **OK**. A common setting for the **database name** value will be: `C:\Program Files\FLEETMATE\FLEETMATE.fdb`.



Specifying a Record Source

You can specify the **RecordSource** in three different ways:

1. Click the **Tables** option and select a single table from the list.
2. Click the **SQL Statement** option and type an SQL statement into the editor.
3. Click the **SQL Builder** button for help assembling your SQL statement.

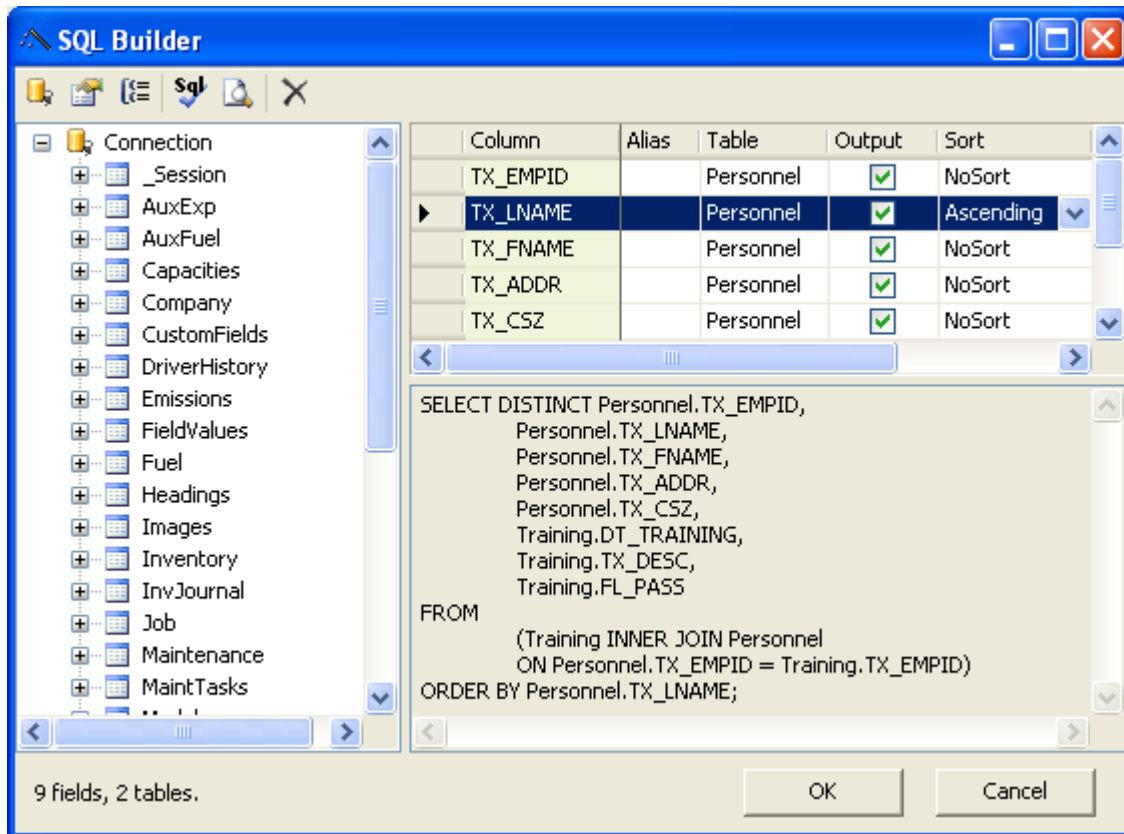


New Report Wizard Step 1 – Data Source Selection

The **SQL Statement** determines the data that will be made available to your report. As an example, if you need the “VIN” field from a vehicle record to appear on your report, you will need to be certain that your SQL statement selects the **TX_VIN** field.

Using the SQL Builder

The **SQL Builder** dialog will save you time creating routine SQL Statements. It will also assist you in creating **JOINS** between two or more tables for more complex queries.



SQL Builder Dialog

The **Tables** from your database are listed in the left pane. When you click the (+) next to a table name, the fields within that table will be listed. To add fields to your SQL, click and drag the field to the upper list area, or just double-click the field name. You can click and drag fields in the list to modify the order in which they appear.

As you add fields, you will see the resulting SQL Statement take shape in the lower-right pane. If you add matching fields from more than one table, a **JOIN** clause will appear. Joins work by looking for equality in the values between two named fields. In the example above, the Personnel and Training tables *share* a common field: **TX_EMPID**.

This establishes the link between the two tables. In this example, training data will be listed for each employee when the value of the **TX_EMPID** field matches in both tables.

SQL Builder Dialog Options



Properties

The properties dialog will enable you to optionally specify 'x' number of top records to be returned, to limit the output in an otherwise lengthy return set.

You can also check the box labeled **DISTINCT**, to cause your SQL statement to look for and return **only unique values** in the field following the DISTINCT clause.

The **Group By Extension** setting for **CUBE** and **ROLLUP** is only available in SQL Server and Oracle® databases. These options are for aggregating/summarizing data by specific fields. Leave this option set to **None** for Jet databases such as those used by the FLEETMATE software, unless you have purchased the FLEETMATE SQL Server option. Refer to your database documentation or a SQL reference manual for more information on group by extensions.



Grouping

This toggle will turn on/off grouping in your SQL statement. Grouping is used to perform math (sum, count, min, max, avg, etc.) operations by specified fields in your SQL statement. As an example, you may want to summarize numeric values based on each employee record. With Grouping activated, locate the field in the list that you wish to group by, then select the math operation from the droplist beneath the **Group By** column.



Check SQL Statement

This option will quickly check your SQL statement to determine if it is valid.



View Result Set

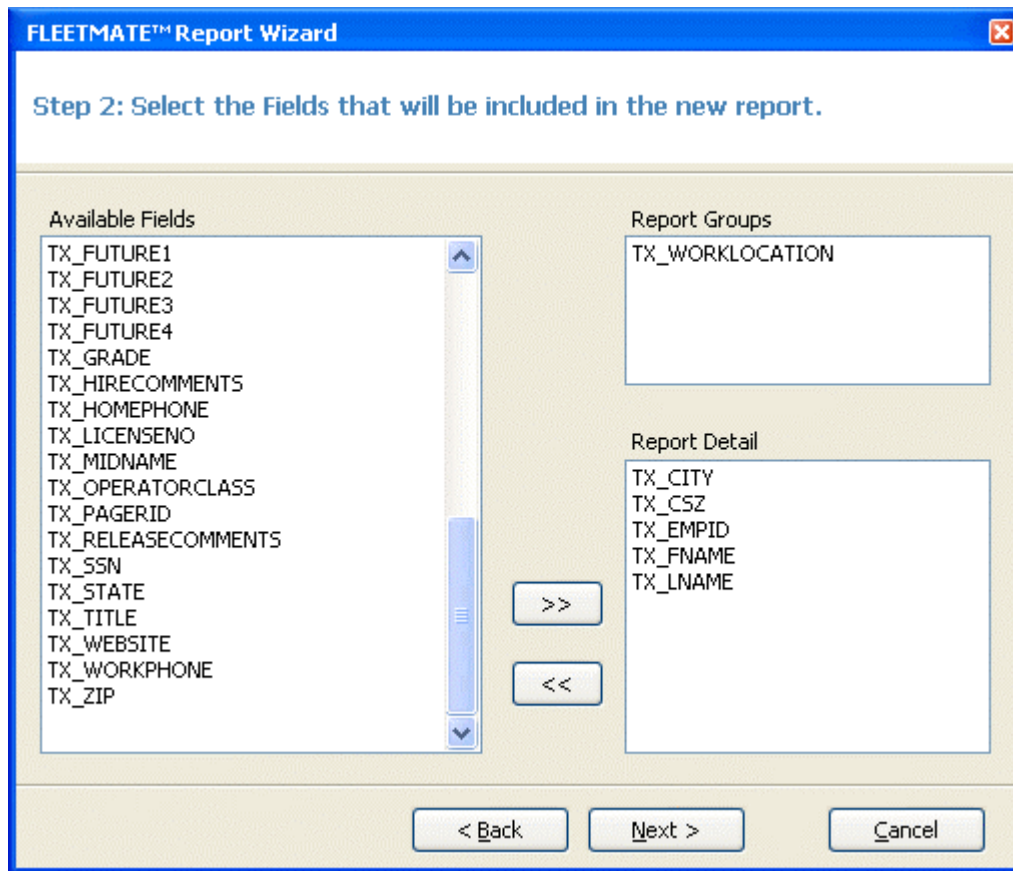
This function will enable you to quickly view the result set that is returned by your SQL statement as it currently exists. This is handy to check your results before moving on to the next step in the Report Wizard.

Once your SQL statement is complete and returning the desired data, click the **OK** button on the **SQL Builder** dialog to return to the **Report Wizard** so that you can continue designing and completing your report.

Select the Fields to include on the New Report

This page of the Report Wizard contains a list of the fields available from the **RecordSource** you selected in Step 1, and provides two lists that define the group and detail fields for the report. Group fields define how the data will be sorted and summarized, and detail fields define what information you want to appear within each group in the report.

You can move fields from one list to another by clicking and dragging them. Drag fields into the Detail list to include them in the Detail portion of the report. You can also drag within the list to change their order. Drag fields back into the Available list to remove them from the report.



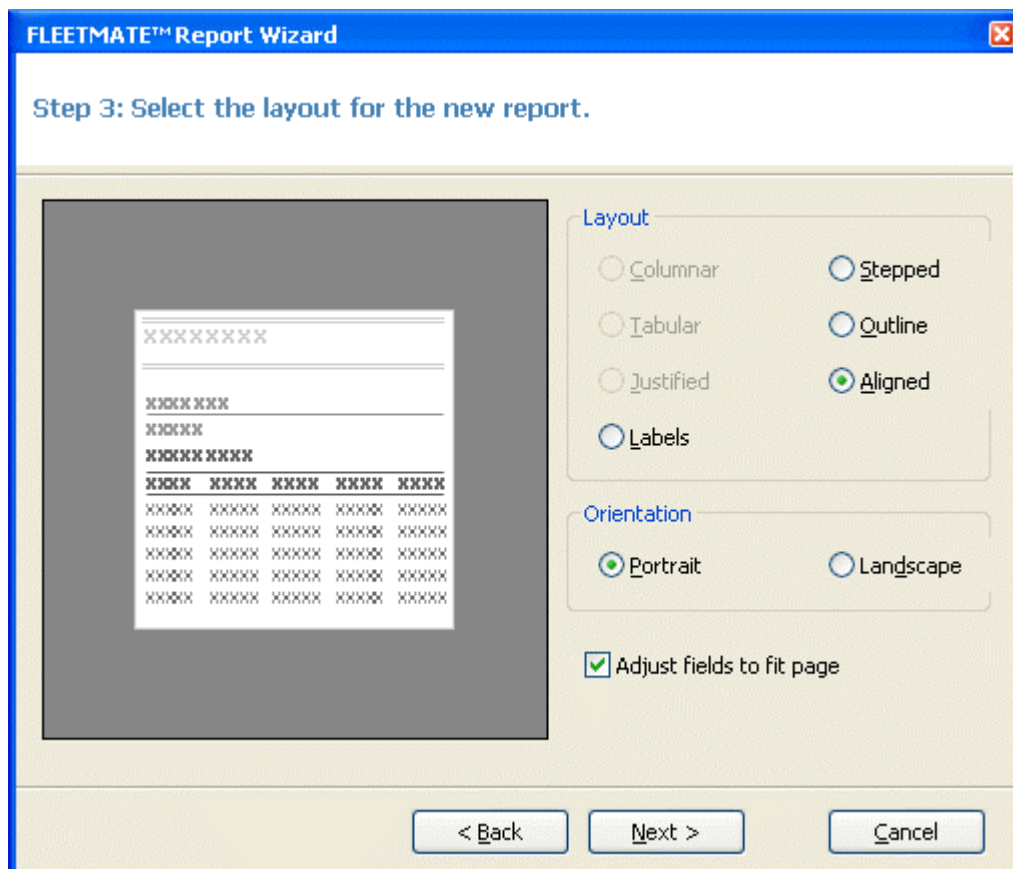
New Report Wizard Step 2 – Field and Group Selection

Select the Layout for the New Report

This page offers you several options to define how the data will be organized on the page. When you select a layout, a thumbnail preview appears on the left to give you an idea of what the layout will look like on the page. There are sets of default layouts, one for reports that have no groups and one for reports that contain one or more groups. Select the layout that best approximates what you want the final report to look like. You can always refine your report later.

This page also allows you to select the page orientation and whether fields should be adjusted to fit the page width. Again, you can always refine and adjust these settings at a later time using the designer.

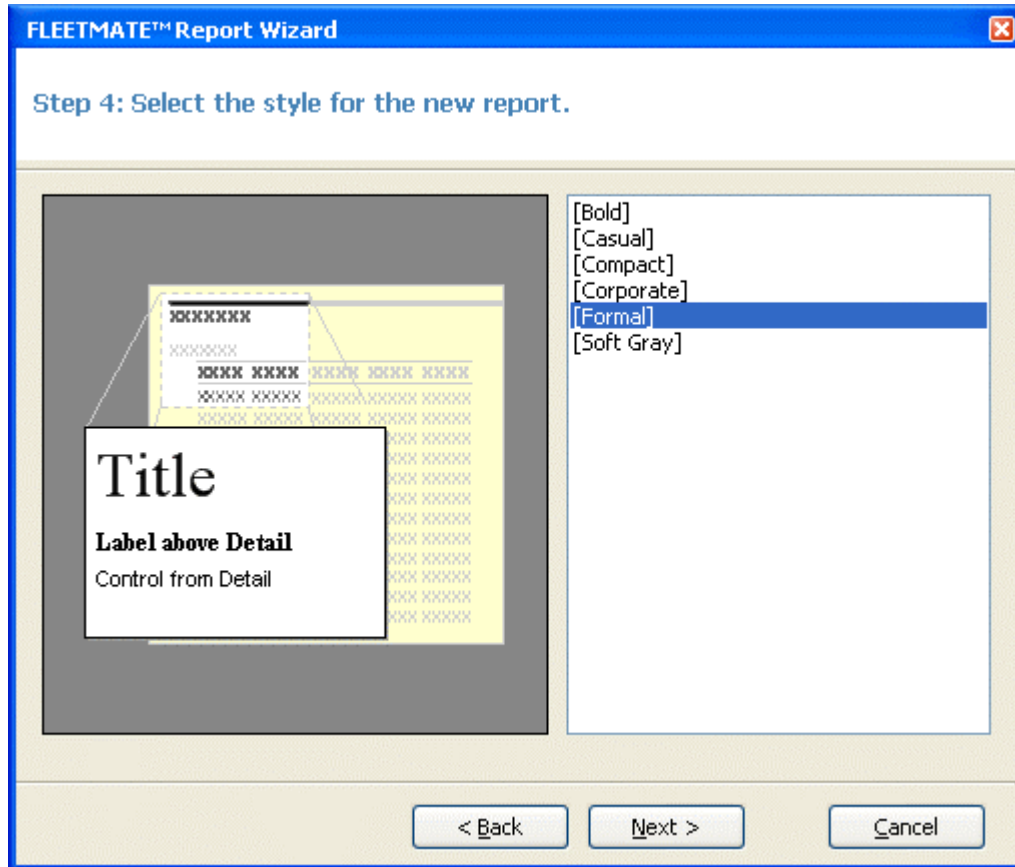
The "Labels" layout option is used to print Avery™ style labels. If you select this option, you will see a page that prompts you for the type of label you want to print.



New Report Wizard Step 3 – Layout Selection

Select the Style for the New Report

This page allows you to select the default fonts and colors that will be used in the new report. Like the previous page, it shows a preview to give you a basic idea of what each style looks like. Select the style that best meets your needs.



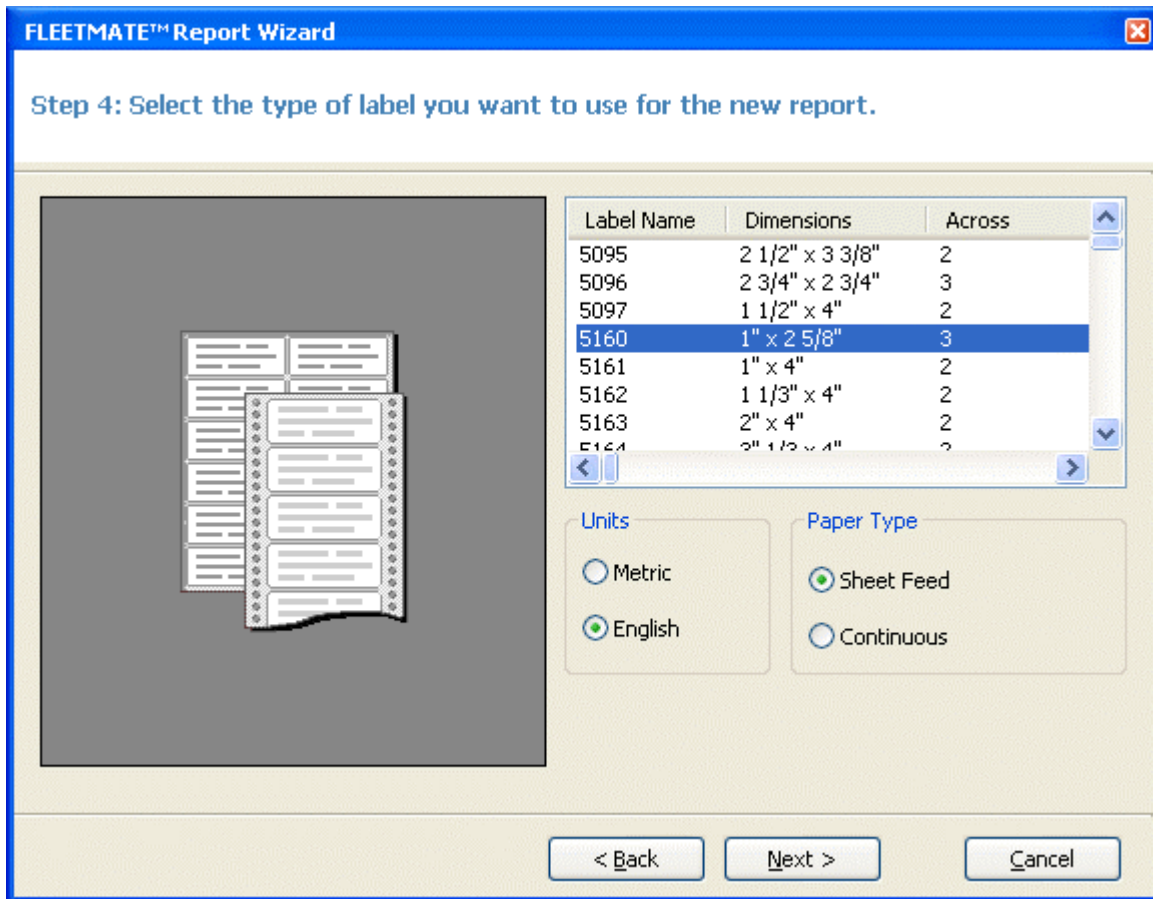
New Report Wizard Step 4 – Style Selection – Standard Report

You can refine the report and adjust any of these items later.

Select the Label Type You Need (label option only)

This page allows you to select the type of label you want to create.

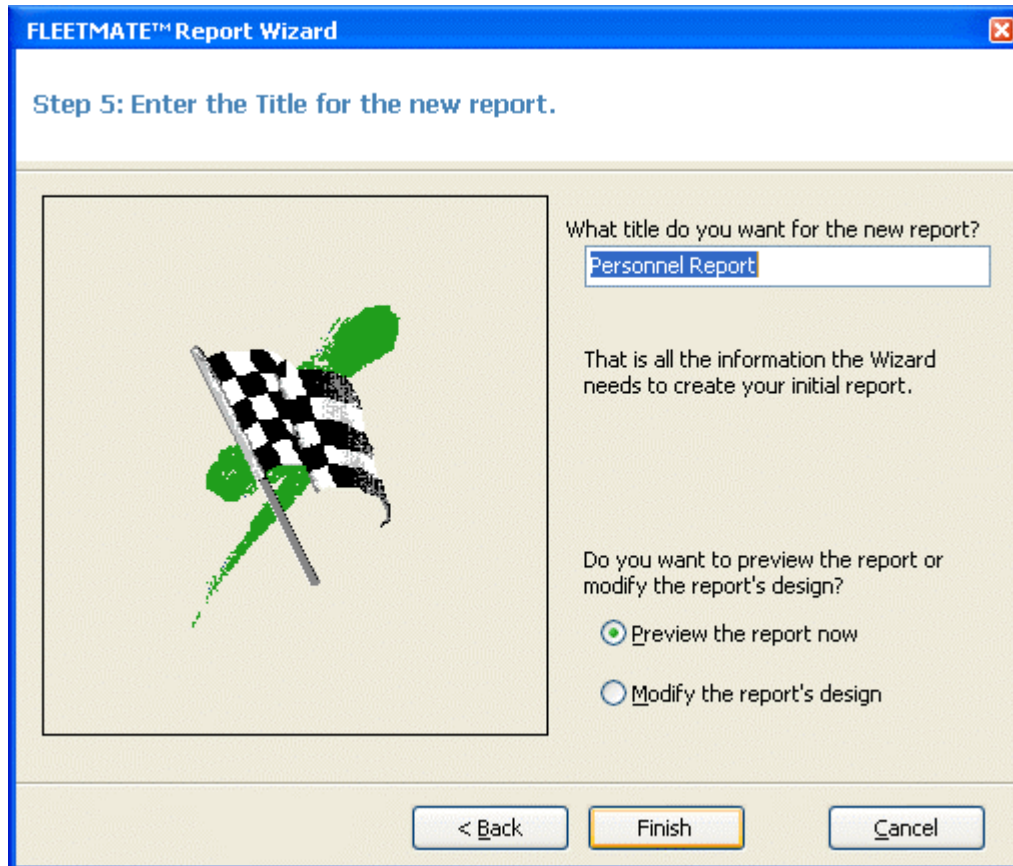
The Designer contains over 170 pre-defined Avery™ label types for you to choose from. The labels are divided into four groups, depending on whether they use metric or English measurements, and on the type of paper they use (sheet-feed or continuous forms).



New Report Wizard Step 4 – Label Selection

Specify a Title for your New Report

This last page of the wizard enables you to define a title for your new report and to decide whether you would like to preview the new report right away, or whether you would like to go into edit mode and start improving and refining the design before previewing it.



New Report Wizard Step 5 – Title Selection

If you choose to preview the report and click finish, you will immediately see the report in the preview pane of the Designer.

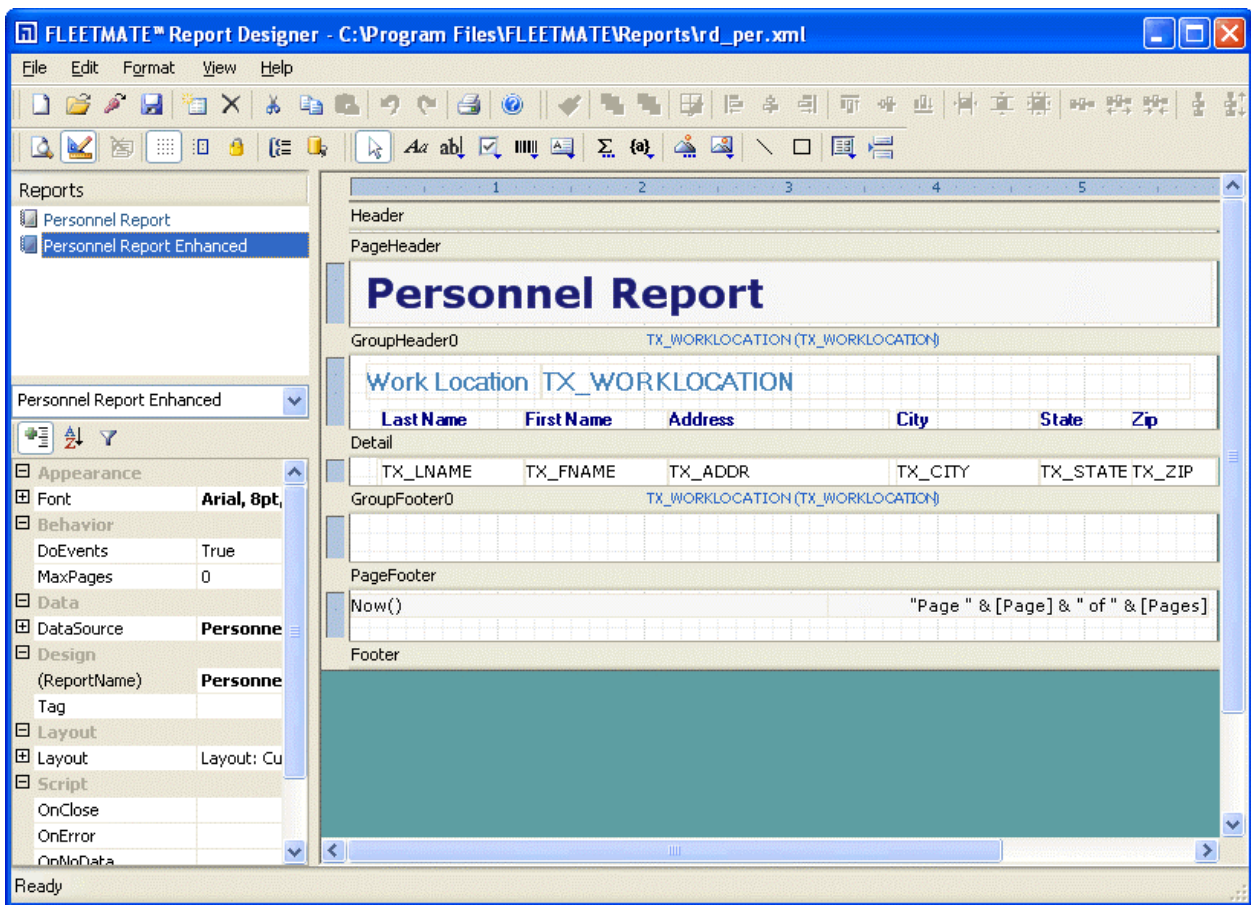
The report generated for you by the wizard is a good starting point. But you will likely want to adjust and enhance the report to give you the exact results you need. You can do this with the Designer.

Modifying a Report Layout

Report Sections



To start using the designer, click the **Design** button on the View toolbar or select the **View | Design** menu. The right pane of the main window will switch from Preview mode to Design mode, and it will show the controls and fields that make up the report:



The Designer in "Design" Mode

The picture above shows how the report is divided into horizontal bands or **sections** (Header, Page Header, etc). The sections contain fields that hold the labels, variables, and expressions that you want in the printed report. In our example, the Header section contains a label with the report title "Personnel List". The Header section appears once per report. The Page Header section in this sample report is blank, but would normally contain labels or other information that you would want at the top of each page of your report. The PageFooter section will appear at the bottom of each page of the report, and in the

example provides the date/time and page number. The Footer section appears once for a report on the last physical page. In the example above, the Footer section is empty.

Using Report Sections and Groups

To summarize, the various sections of the report determine what each page, group, and the beginning and ending pages of the report, will look like. The table below describes where each section appears in the report and what it is typically used for.

Section Name	Appears	Contains
Report header	Once per report	The report title and summary information for the whole report.
Page header	Once per page	Labels that describe detail fields, and/or page numbers.
Group header	Once per group	Fields that identify the current group, and possibly aggregate values for the group (e.g. total, percentage of the grand total).
Detail	Once per record	Fields containing data from the RecordSource.
Group footer	Once per group	Aggregate values for the group
Page footer	Once per page	Typically used for page number, page count, date printed, report name, etc.
Report footer	Once per report	Grand totals and or Summary information for the entire report.

Note that you can't add and delete sections directly. The number of groups determines the number of sections in a report. Every report has exactly five fixed sections (Report Header/Footer, Page Header/Footer, and Detail) plus two sections per group (a Header and a Footer). You can hide sections that you don't want to display by setting their **Visible** property to False.

To enhance your report, you can add lines, rectangles, and pictures to any section. You can also modify the existing fields and sections by changing their properties that appear in the **Properties** pane, or move and resize them with the mouse.

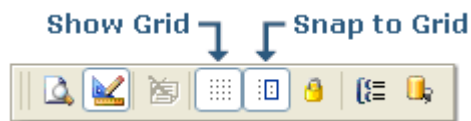
To resize a section, drag its border to the position where you want it. The rulers on the left and on top of the design window show the size of each section (excluding the page margins). Note that you cannot make the section smaller than the height and width required to contain the fields in it. To reduce the size of a section beyond that, you will need to move or resize the fields in it first, then resize the section.

Selecting, Moving and Copying Fields

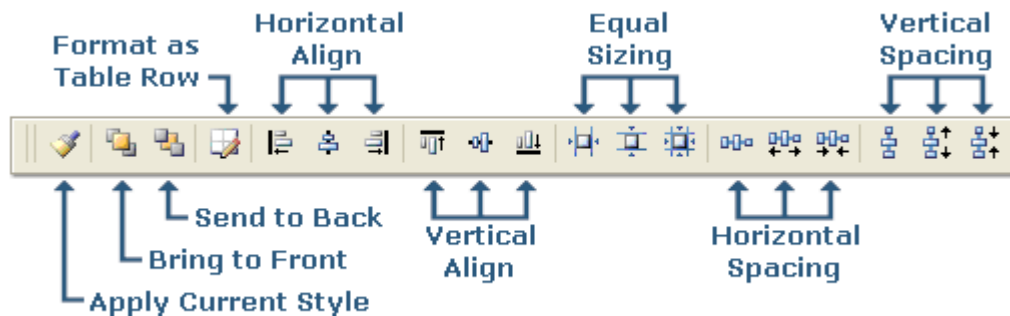
The Designer allows you to use the mouse in a way that should be familiar to you. You can use the mouse to select fields in the following ways:

- Click a field to select it
- Shift-click a field to toggle its selected state
- Control-drag to create a copy of the selected field(s)
- Click the empty area and drag to select multiple fields
- Drag field corners to resize fields
- Double-click right or bottom field corners to auto-size the field

To select fields that intersect vertical or horizontal regions of the report, click and drag the mouse on the rulers along the edges of the designer.



The **Show Grid** and **Snap to Grid** buttons provide a grid that helps position controls at discrete positions. While the grid is on, the top left corner of the fields will snap to the grid when you create or move fields. You can select the grid units (English or metric) using the **View | Options** menu.



When multiple fields are selected, you can use the buttons on the **Format** toolbar (above) to align, resize, and space them evenly and uniformly on your report.



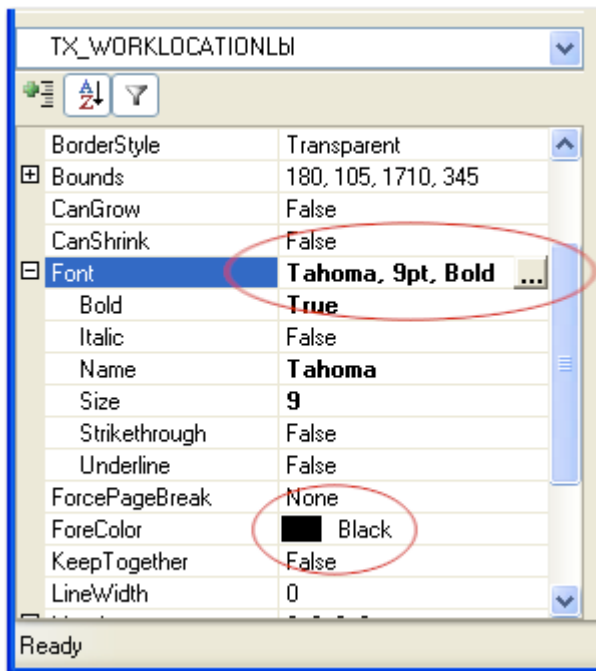
If you make any mistakes while moving or editing the fields, use the **Undo/Redo** buttons on the main toolbar to fix the mistake on the report.

Changing Field, Section, and Report properties

Once an object is selected, you can use the **Properties** pane to edit its properties.

When more than one field is selected, the property window will show property values that all fields **have in common**, and will leave the other properties blank. If no fields are selected and you click on a section (or on the bar above a section), the **Section** properties will be displayed. If you click the gray area in the background, the **Report** properties will be displayed.

Properties Pane



To see how this works, click on a field in the report and change its **Font** and **ForeColor** properties to something different.

You can also select a report field by using the droplist at the top of the **Properties Pane**.

You can change a field's position and dimensions by typing new values for the Left, Top, Width, and Height properties.

When you see an ellipsis (...) next to a property, there is a dialog available to help you select your settings.

When you see a down arrow next to a property, you can select a value from a droplist of valid values.

The properties pane expresses all measurements in twips (the native unit). You can type in values in other formats (e.g. inches) and they will be converted into twips for you.

For example, if you set the field's Height property to "0.5in", the property window will convert it into 720 twips.

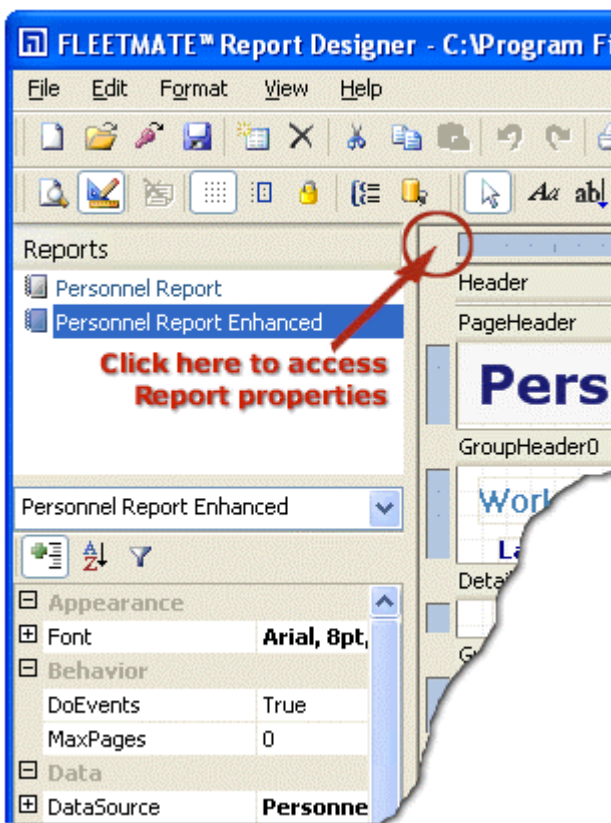
There are 1440 twips per inch.

Changing the Data Source

The Data Source is defined by and consists of the **ConnectionString** and the **RecordSource**. The **Filter** property acts on the Record Source to filter the results based on the criteria that you specify.

These are regular **Report** properties and may be set using the **Properties Pane** and clicking on the background area (see below) where there are no sections.

You can also click the **Data Source** button to display a dialog box that enables you to set the **ConnectionString** and **RecordSource** properties directly.



The **Filter** property enables you to filter data for your report so that only desired data is included in the report.

As an example, if you only want to see employees (from the Personnel table) located at the "Headquarters" location, you would set the Filter property to:

```
TX_LOCATION = 'Headquarters'
```

Note the single quotes in the above filter setting. String values must be enclosed in single quotes.

Date values must be enclosed in hash marks (#). As an example:

```
DT_SERV >= #01/01/2005#
```

The example filter property above will return all records where the value stored in the **DT_SERV** field is greater-than or equal-to January 1, 2005

Reports Designed for use within FLEETMATE

When designing a report for use within FLEETMATE, the **Filter** property is used in a special way. In this case it will contain two (2) parameters separated by a pipe "|" character. The first parameter will be the field name used for primary record selection. The second parameter will be the field name used to select a date range in the FLEETMATE Report Viewer. The following is an example **filter** setting:

Maintenance.TX_VIN | DT_SERV

This filter setting will tell the report viewer to select Maintenance records based on VIN, and that the DT_SERV in the Maintenance table will be used when the Date Range option in FLEETMATE is activated.

The actual values for these two fields will be supplied by the FLEETMATE Report Viewer user interface. The VIN value(s) are supplied by the user-interface based on the vehicle record(s) that is/are selected. The date values supplied in the Report Viewer window in FLEETMATE will be passed to the report, if the Date Range option is activated.

Additional details of creating reports for use within FLEETMATE are addressed later in this document.

Adding Fields to a Report

Use the buttons in the **ToolBox** toolbar to add fields to your report. Each button creates a certain type of field and initializes its properties a certain way. Field types are as follows:

Button	Name	Description
	Label	Creates a field that displays static text, i.e. a literal value that you supply.
	Bound Field	Creates a field that is bound to a field in the RecordSource. When you click this button, a menu appears and you can select the RecordSource field. Bound Fields are not limited to displaying raw data from the database. You can edit their Text property and use any VBScript expression for format the data in a certain way.
	Checkbox	Creates a bound field that displays a Boolean value as a check box. By default, the checkbox displays a regular checkmark. You can change it into a radio button or crossmark by changing the value of the field's Checkbox property after it has been created.
	Bar Code	Creates a field that will express the data field value as a barcode. FLEETMATE databases do not specifically use this type of field, but may do so in a future release.
	Rich Text Format	Creates a field that will support the RTF mark-up expressions contained in a string value. RTF is not used in a FLEETMATE database, but may be used in a future release of the product.
	Calculated Field	Creates a calculated field. When you click this button, the code editor dialog box will appear so you can enter the VBScript expression that you want to display for any specified input values.
	Common Functions	Adds common functions to your report such as the current date and page number.
	Unbound Picture	Creates a field that displays a static picture, such as a logo. When you click this button, a dialog box will appear to prompt you for a picture file to insert in the report. A copy will be made of the picture you select and placed in the same directory as the report file.
	Bound Picture	Creates a field that displays a picture (or object) stored in the RecordSource. When you click this button, a menu appears so you can select a picture field in the RecordSource (if there is one). FLEETMATE databases do not use this type of field, but may do so in a future release.
	Line	Creates a line. Lines are often used as visual separators.
	Rectangle	Creates a rectangle. Rectangles are often used to highlight groups of fields or to create tables and grids.
	Subreport	Creates a field that displays another report within the current report. When you click this button, a menu appears and you can select other reports that are contained in the same report definition file.
	Page Break	Creates a field that inserts a page break.

After you click any of these buttons, drag your mouse pointer over the report, and the mouse cursor will change into a cross-hair. Click and drag to define the rectangular area that the new field will occupy, and then release the mouse button to drop the new field. If you change your mind, hit the ESC key or click the arrow button to cancel the operation.


You can also add fields by copying and pasting existing fields, or by holding down the control key and dragging a field or group of fields to a new position to create a copy.

Sorting and Grouping Data

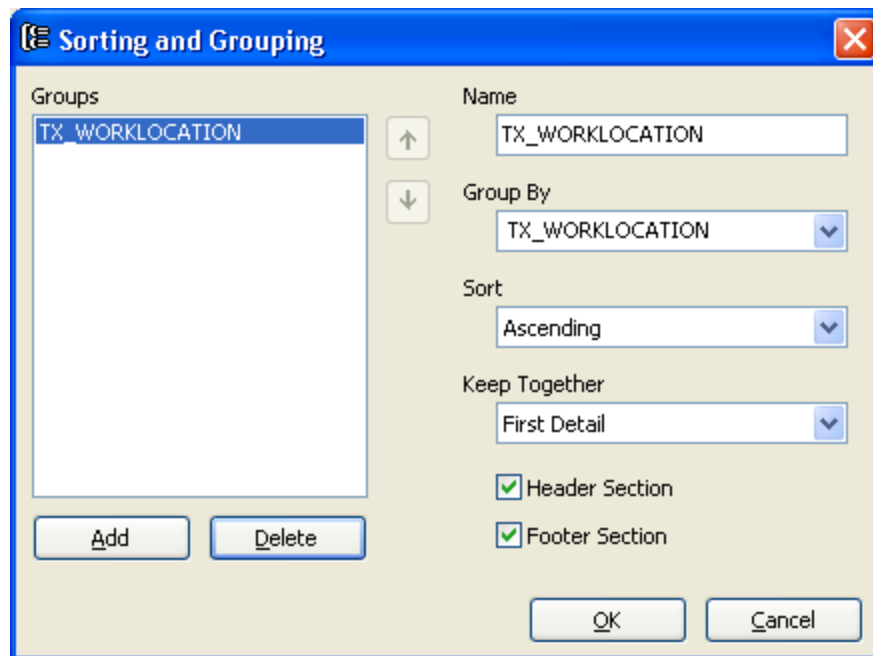
After designing a basic report layout, you may decide that grouping the records by certain fields or other criteria would make the report easier to read. Grouping allows you to separate groups of records visually, and to display introductory and summary data for each group. The group break is based on a **grouping expression**. This expression is usually based on one or more RecordSource fields but it can be as complex as you like.

Grouping is also the primary means of sorting your data, even if you don't plan to show the Group Header and Footer sections.

Sorting and Grouping Dialog

 To add or edit the groups in the report, click the **Sorting and Grouping** button or select the **View | Grouping Window** menu. The Sorting and Grouping dialog box will appear. You can use this dialog box to create, edit, reorder, and delete groups.

To create a group, click the Add button and set the properties for the new group.



The **Group By** field defines how the records will be grouped in the report. For simple grouping, you can select fields directly from the drop-down list. For more complex grouping, you can type grouping expressions. For example, you could use TX_WORKLOCATION to group by work location or **Left(TX_WORKLOCATION, 1)** to group by the left-most character in a work location.

Next, select the type of **Sort** method you want ("Ascending" in our example). You can also specify whether the new group will have visible Header and Footer sections, and whether the group should be rendered together on a page. Note: You cannot use memo or binary (object) fields for grouping and sorting.

If you add more fields, you can change their order using the arrow buttons on the right of the group list. This will automatically adjust the position of the Group Header and Footer sections in the report. To delete a field, use the Delete button.

Once you are done arranging the fields, click **OK** to close the dialog and see the changes in the Designer.

After adding a group, there will be two new sections, a **Header** and **Footer** for the new group. Both will have a height of zero. You can expand them by dragging the edges of the field with the mouse.

The **Header Section** and **Footer Section** checkboxes will determine whether or not a section is visible. Invisible sections are displayed with a gray-hatched pattern (see **GroupFooter0** on the next page) to indicate they will be invisible when the report is rendered.

Group Section Options

The screenshot shows a report layout with the following sections:

- Header:** Personnel List
- PageHeader:** (Empty)
- GroupHeader0:** TX_WORKLOCATION (TX_WORKLOCATION)
- Detail:**

TX_WORKLOCATION	TX_WORKLOCATION			
Last Name	First	Emp No	Home Address	City, State Zip Code
TX_LNAME	TX_FNAME	TX_EMPID	TX_ADDR	TX_CSZ
- GroupFooter0:** TX_WORKLOCATION (TX_WORKLOCATION)
- PageFooter:** Now() "Page" & [Page] & " of " & [Pages]
- Footer:** (Empty)

On the gray bars that mark the top of the sections there are labels that contain the section name and the **value** of the group's **GroupBy** property. In the above example, the report is grouped by the **TX_WORKLOCATION** field. When the report is rendered, whenever the **value** in the **TX_WORKLOCATION** field changes, your report definition will repeat the **GroupHeader0** section so that the new location and the column headings will repeat for the new location.

Note that the GroupFooter0 section for the **TX_WORKLOCATION** field is not being used, and therefore has its **Visible** property set to False.

Filter and Record Selection Syntax

Once you have a report created, you may find it necessary to filter the data returned by the Record Source, so that only specific data is displayed on your report. One example of when filtering data may be necessary is when you only want data within a specific date range to be displayed.

There are format rules that must be followed when constructing a filter, or when creating any type of expression that will govern the data returned. This is referred to as syntax. Syntax is similar to the rules that govern the construction of a properly formed sentence in the English language. If a sentence is improperly formed, it may not be properly interpreted. Similarly, if a filter expression is improperly formed, it may be improperly interpreted (resulting in the wrong data being returned), or rejected completely.

A Basic Filter Expression - Field - Operator - Value

A basic expression consists of a **Field**, an **Operator**, and a **Value**. An expression is either **True** or **False**. Records will be returned only if the expression is found to be **True**.

A **Field** is any field in the database that is being selected by the RecordSource.

The **Operator** is a symbol that represents the type of comparison that will be made between the Field and the Value.

The **Value** is any literal string, date, or number that you supply. The following expression will return records from the RecordSource provided that the Employee Number is greater than 10000:

- `TX_EMPNO > '10000'`

Basic Set of Logical Operators

Operator	The Expression is TRUE if...
=	The values on both sides of the expression are EQUAL
>	The value on the left side of the expression is GREATER-THAN the value on the right side of the expression
<	The value on the left side of the expression is LESS-THAN the value on the right side of the expression
<=	The value on the left side of the expression is LESS-THAN OR EQUAL-TO the value on the right side of the expression
>=	The value on the left side of the expression is GREATER-THAN OR EQUAL-TO the value on the right side of the expression
<>	The values on both sides of the expression are NOT-EQUAL

Specifying Numeric, String, and Date Values

A **Numeric** value is made up of numerals **0 – 9**. A decimal stop, typically a period character in the U.S., is used to represent the beginning of the fractional portion of a real number as opposed to a whole number (an integer). A Numeric value is simply typed into the expression. An example of an expression using a numeric value is:

- `NO_LAST_ODOMETER >= 50000`

A **String** value is made up of alphanumeric characters **A – Z** and numerals **0 – 9**. A string may also contain spaces and limited punctuation characters. A String must be enclosed in Single-Quotes (`'`) within an expression. An example of an expression using a string value is:

- `TX_MAKE = 'ford' OR TX_MAKE = 'chevrolet'`

A **Date** value is made up of numerals **0 – 9**, and either a slash (`/`) or a hyphen (`-`) character used to separate month, day, and year. Date values must be enclosed in hash marks (`#`). The following is an example of the syntax to use with date values:

- `DT_SERV >= #01/01/2004# and DT_SERV <= #12/31/2004#`

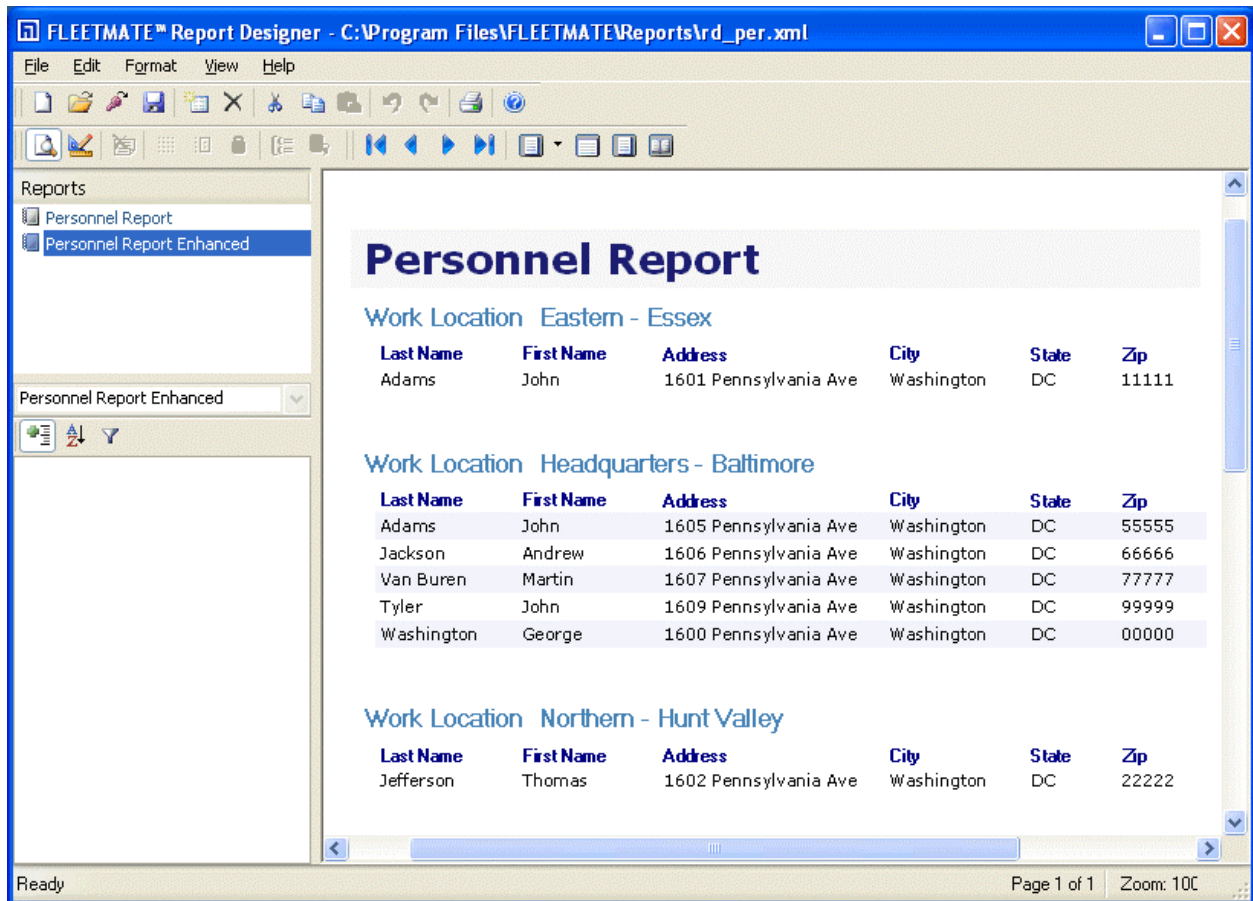
The above expression will return all records with a date within the year 2004.

The **FLEETMATE Data Dictionary** contains a complete listing of all fields and field data types, so that you can determine the type of data field you are evaluating. Refer to the Data Dictionary for additional information.

Previewing and Printing Your Report

To preview a report, select it from the **Report** pane on the left of the Designer window and click the **Preview** button, or select the **View | Preview** menu option.

The report will be displayed in the **Preview** pane, similar to the picture shown below:



The Designer in "Preview" Mode

Navigating and Printing



When in **Preview** mode, the main window displays a **Navigation** toolbar, with buttons that let you page through the document, view multiple pages, and select the zoom level.



At this point, you can print the report by clicking the **Print** button or by selecting the **File | Print** menu option.

Exporting and Publishing Your Report

Instead of printing the report, you may want to export it into a file and distribute it electronically to your associates or co-workers. The Designer supports several export formats, listed below:

Format	Description
Excel	Exports reports to standard Microsoft® Excel® files (.xls).
Paged HTML	Creates one HTML file for each page in the report. The HTML pages contain links that let the user navigate the report.
Drill-Down HTML	Creates a single HTML file with sections that can be collapsed and expanded by the user by clicking on them.
Plain HTML	Creates a single, plain HTML file.
PDF	Creates a PDF file that can be viewed on any computer equipped with Adobe's Acrobat viewer or browser plug-ins.
PDF with Embedded Fonts	Creates a PDF file with embedded font information for extra portability. This option significantly increases the size of the PDF file.
RTF	Creates an RTF file that can be viewed and edited in most popular word processors (e.g., Microsoft® Word, WordPad).
Text	Creates a plain text file without formatting. Use this format to create data export files.
TIFF	Exports reports to multi-page tiff files.

Exporting a Report

To create an export file, select the **File | Export** menu and use the **File Save** dialog to specify the type of file you want to create, and to specify its name and its location.

Exporting Raw Data for Use in Other Applications

The FLEETMATE Report Designer offers a wide-range of power and versatility in terms of using the data stored in your FLEETMATE database.

It is often useful to share the information within the FLEETMATE database with other applications. Provided the other application(s) can accept import data in a commonly used format, such as comma-delimited (CSV), you should find it easy to accomplish this task.

As an example, let's say that your other application accepts comma-delimited (CSV) import files, and you want to extract specific FLEETMATE data, and import it into your other application.

A report designed for this type of use will often consist of only a Detail section. All other sections will likely have their **Visible** property set to **False**. Your detail section could consist of the needed fields, separated by literal comma characters using labels.

Another approach would be to concatenate all fields and literal commas using one single data field in the Detail section. Using this approach, the **Text** property of your data field might look like this:

TX_VIN & "," & DT_YEAR & "," & TX_MAKE & "," & TX_MODEL & "," & TX_STYLE

The portions of the Text property above that are **blue** correspond to the actual data that will be written to the output file. When exported as a text file, your output file would contain data similar to the following:

```
12345678901234567,2005,FORD,E-250,VAN  
23456789012345678,2004,FORD,F-350,PICKUP  
34567890123456789,2005,CHEVROLET,S2500,PICKUP
```

When using a report in this manner, select the **Text** format when actually exporting the results of the report. This will ensure that your output will contain 'clear' text, with no formatting or special characters. One record will be written per physical line.

Saving Your Report Definition



When you are done creating, modifying and viewing your report, use the **Save** button or the **File | Save** menu to save the report definition file.

The Designer will save the report definition in a special XML format, which can be read back into the Designer or directly into FLEETMATE using the Report Viewer window.

NOTE:

If you are evaluating the FLEETMATE Report Designer, the **save features are disabled** in the unlicensed product. The unlicensed evaluation copy is only offered to enable you to explore the various product features to determine if it is a product that you would find beneficial, without having to actually purchase it.

Once a registration key is purchased and entered using the FLEETMATE Report Designer Registration program, you will be able to save your reports and report definition files.

Managing Report Definition Files

A report definition file will likely contain many different reports. Occasionally, you may want to copy or move a report from one report definition file to another.

Moving a Report

To move a report from one file to another, open two instances of the Designer and drag the report from one instance to the other. If you hold down the control key while doing this, the report will be copied. Otherwise, it will be moved.

Copying a Report

You can also copy a report within a single file. This will create a new copy of the report, which is a good way to start designing a new report that is similar to an existing one. This is particularly handy with very complex reports. It is always beneficial to leverage your prior work. A quick way to do this is to click on a report in the list and hold your mouse button. Drag the report and release the mouse. You can then rename the copy to whatever you like.

Importing Microsoft Access Reports

Overview

One handy feature of the FLEETMATE Report Designer is its ability to import reports created with Microsoft® Access™. This feature requires Access to already be installed on the computer. Once the report is imported into the Designer, Access is no longer required.



To import reports from an Access database (.MDB) file, click the **Import** button or select the **File | Import** menu. A dialog box will prompt you for the name of an Access file (.MDB). After you select the file, the Designer automatically scans it and converts the reports into a new report definition file.

Special Import Exceptions

The import process works well and handles most elements of Access reports, with a few exceptions that are listed below:

- 1. Event handler code**
Access reports can use VBA, macros, and forms to format the report dynamically. FLEETMATE Report Designer can do the same things, but it only uses VBScript. Because of this, all report code needs to be translated manually.
- 2. Form-oriented field types**
Access reports may include certain fields that are not handled by the Designer's import procedure. The field types not supported are Chart, CommandButton, ToggleButton, OptionButton, OptionGroup, ComboBox, ListBox, TabCtl, and CustomControl.
- 3. Reports that use VBScript reserved words**
Because Access does not use VBScript, you may have designed reports that use VBScript reserved words as identifiers for report objects or dataset field names. This causes problems when the VBScript engine tries to evaluate the expression, and will prevent the report from rendering correctly.

Reserved words you shouldn't use as identifiers include Date, Day, Hour, Length, Minute, Month, Second, Time, TimeValue, Value, Weekday, and Year. For a complete list, please refer to a VBScript reference.
- 4. Reports that sort dates by quarter (or weekday, month, quarter, etc.)**
FLEETMATE Report Designer uses the ADO.NET dataset Sort property to sort groups. This property sorts datasets according to field values only, and **does not** take expressions. (Note that you can group according to an arbitrary expression, but you can't sort.) An Access report that sorts groups by quarter will sort them by date after it is imported. The preferred method of handling this situation is to change the SQL statement to derive a field that holds the information that is needed.

These limitations affect a relatively small number of reports, but you should preview all reports after importing them, to make sure they perform as expected.

Creating Reports for Use in FLEETMATE

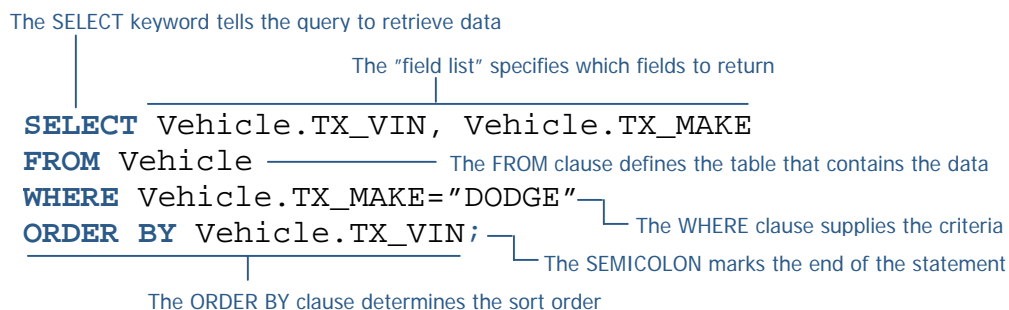
Overview

Reports that are being written for use within the Report Viewer of FLEETMATE will require that you follow several rules in order to achieve full integration. This section will discuss how to proceed.

You will begin the design process as you would normally, either by using the Report Wizard, or by starting with an existing report, copying it, and modifying it to suit your needs. Recall that your **RecordSource** determines what supplies your data. This can simply be a table name, in which case no **SQL** statement is required. However, in any report but the simplest type, you will need to construct an SQL (pronounced "Ess Queue Ell", an acronym for Structured Query Language, or so the story goes...) statement to serve as your **RecordSource**.

Starting with an existing report is often easier, particularly if you have a complex SQL statement that you need to use as your **RecordSource**. By complex we mean SQL that goes beyond a simple "**SELECT * FROM VEHICLE WHERE TX_VIN = '1'**" type of statement. Many times an SQL statement will contain one or more **JOIN** keywords, which will link two or more tables, enabling you to retrieve data from multiple tables. Covering complex SQL statements is beyond the scope of this document. However, the **SQL Builder** feature in the Report Designer will help you with moderately complex SQL statements. There are also many good sources of information on the Internet to assist you in constructing complex queries.

The following illustrates the fundamental structure of a basic SQL statement.



Structure of a Basic SQL Statement

The SQL statement above will return the VIN and MAKE of all DODGE vehicles sorted by the VIN.

Report Set File Naming Conventions

FLEETMATE **production** reports that come packaged with the product can be easily identified on your disk. These report definition files (or “sets”, since there are multiple reports per set) have filenames that begin with “**fm_**”. Use caution **not** to modify these production report definition files. These files are always replaced whenever you reinstall FLEETMATE, and/or whenever you perform a software upgrade. If you modify a production report definition file, **all of your changes will be lost during an upgrade**. You can, however, copy a production report definition file to serve as a starting point for your new customized reports. And recall that you can copy individual production reports into your new customized report definition files.

The filenames of custom report definition files that you create and maintain should all begin with “**rd_**” to designate the report definition as a Report Designer report definition file.

Report Classes and Required Report Set Filenames

There are eight (8) classes of report definitions used by FLEETMATE. Each report set (except Inventory and Vendor) will feature data selection by a certain record type, and will fall under one of the eight classes as follows:

Class Name	Selection by	Production Filenames	Custom Filenames
Fuel Economy	Vehicle	cc_SI_FUEL.XML cc_UK_FUEL.XML cc_US_FUEL.XML	rd_SI_FUEL.XML rd_UK_FUEL.XML rd_US_FUEL.XML
Maintenance	Vehicle	cc_MAINT.XML	rd_MAINT.XML
Expense	Vehicle	cc_SI_COST.XML cc_UK_COST.XML cc_US_COST.XML	rd_SI_COST.XML rd_UK_COST.XML rd_US_COST.XML
Inventory	n/a – all records	cc_INV.XML	rd_INV.XML
Personnel	Employee	cc_PER.XML	rd_PER.XML
Route	Employee	cc_ROUTE.XML	rd_ROUTE.XML
Vehicle	Vehicle	cc_VEH.XML	rd_VEH.XML
Vendor	n/a – all records	cc_VEND.XML	rd_VEND.XML

Report Classes and Report Definition Filenames

Your custom report definitions must use the filenames found under the **Custom Filenames** column. Note that you can skip unnecessary FUEL and COST report sets, and only define the one used based on your System of Measure choice.

Report Filter Property

FLEETMATE **production** reports that come packaged with the product use the **Filter** property of a report in a special way. If you copy a production report definition and open the copy with Report Designer and attempt to Preview the report, you will receive Filter property errors. This is because Report Designer does not understand the special filter property setting used by the FLEETMATE Maintenance Management software.

As you develop new reports you should leave the Filter property blank unless you are testing specific data conditions. Once you have completed the design of your report and you want to prepare it for use in the Report Viewer in FLEETMATE, you will need to define the filter property appropriately.

Selection Field and Date Parameters

A report designed to enable record selection and/or date selection within FLEETMATE will require that you set the **Filter** property in the following manner:

selection field | date field or keyword

In this case the Filter property contains two (2) parameters separated by a pipe “|” character. The first parameter will be the field used for **primary record selection** (e.g. Vehicle). The second parameter will be the **date field** used to select a date range in the FLEETMATE Report Viewer, or a special keyword. In this example we’ll assume that we are using a simple **RecordSource** SQL statement of “**SELECT * FROM Maintenance**”. The following is an example **filter** setting:

TX_VIN | DT_SERV

This filter setting will enable the user of the report to select one or more vehicles for inclusion in the report, and will offer the option of specifying a date range. If you wanted all vehicles automatically included in the report, but still wanted to offer the date range option, your filter would leave off the selection field portion as follows:

| DT_SERV

If you want to disable the date range function in the Report Viewer, but keep the vehicle selection feature, you would use the “**NODATE**” keyword in your filter setting as follows:

TX_VIN | NODATE

This will prevent record selection based on date. Note, the pipe “|” character is always required unless you want to remove all selection capability by leaving the Filter blank. This will return all rows from the RecordSource, and is completely acceptable.

Selection Field and Date Parameters with Multiple Tables

Whenever your **RecordSource** contains SQL that performs a **JOIN** on two or more tables, you **MUST** qualify the field. In other words, you must be explicit in specifying the table name where the field resides.

In the last example, all data came from a single table with a simple SQL statement "**SELECT * FROM Maintenance**". The next example will retrieve data from two tables with a **JOIN**.

This example will retrieve data from the **Vehicle** and **Parts** tables only where parts data exists for a vehicle. The SQL statement is as follows:

```
"SELECT Vehicle.TX_VIN, Vehicle.TX_VEHNUMBER, Vehicle.DT_YEAR,
Vehicle.TX_MAKE, Vehicle.TX_MODEL, Vehicle.TX_TAGNO, Parts.NO_QTY,
Parts.NO_PARTNO, Parts.TX_DESC, [NO_QTY] * [AM_PRICE] AS
AM_PRICE_EXT, Parts.AM_PRICE, Parts.TX_VIN, Parts.TX_YRMON,
Parts.TX_MONNAME FROM Vehicle INNER JOIN Parts ON Vehicle.TX_VIN =
Parts.TX_VIN"
```

In this example we want to provide the user with the ability to select vehicles, but a date is irrelevant since our report automatically summarizes parts costs by month/year. Therefore we want to disable the date range feature in the Report Viewer window. In order to do this our Filter property must be set as follows:

```
[Vehicle.TX_VIN] | NODATE
```

Note the brackets "[]" surrounding the fully qualified field name. These are required whenever you need to fully qualify the field name. This filter setting is explicit in specifying that we are selecting records using the **TX_VIN** field from the **Vehicle** table, not the **Parts** table.

Testing Complex SQL Statements

The **SQL Builder** feature on the **Data Sources** dialog enables you to create moderately complex SQL statements. The SQL Builder dialog also features a **Check SQL Statement** button to help you determine if your SQL statement is valid.

You may find the **Issue SQL Statement** utility in FLEETMATE convenient for testing and saving your SQL. This feature can be found under the **File | Database | Issue SQL Statement...** menu option in FLEETMATE.