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Quicktour Metric

1. LIFTdesigner 5 Imperial Quick Tour

This *LIFTdesigner* Quick Tour provides an introduction to the program, walking you through the creation of an elevator project using *LIFTdesigner* Version 5

We recommend that both new users and familiar users with older versions of the program try Quick Tour and work through the example project. This gives you a clear view of the basic functions of the program and how it works.

⌨ This symbol identifies paragraphs with instructions for operations or for data that you need to enter.

☞ This symbol identifies paragraphs containing important information and warnings.

We hope that you will enjoy working with the new, powerful version of *LIFTdesigner 5*.

2. Installation & System Requirements

2.1. Hardware and Software Requirements

To run *LIFTdesigner 5* efficiently, your computer should meet the following, minimum system requirements:

CPU:	Pentium 4, 1.4 GHz (Pentium 4, 2 GHz recommended)
Memory:	512 MB RAM (1024 MB recommended)
Hard disk:	Approx. 500 MB of free disk space
Video card:	128 MB memory (3D hardware acceleration recommended)
Pointing device:	Windows compatible mouse
Operating system:	Windows 2000 Professional (SR4 or later); Windows XP Professional / Home Edition; Windows 2000 / 2003 Server
Additional software:	AutoCAD 2004 / AutoCAD 2004LT (or a higher version) is recommended.

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2.2. Installation

Close all other applications before you start the installation.

☞ You must have administrative rights to installation LIFTdesigner 5.

Step1:

Place the *DigiPara Suite* CD in your CD-ROM drive or download the single executable installation file from http://www.LIFTdesigner.com/

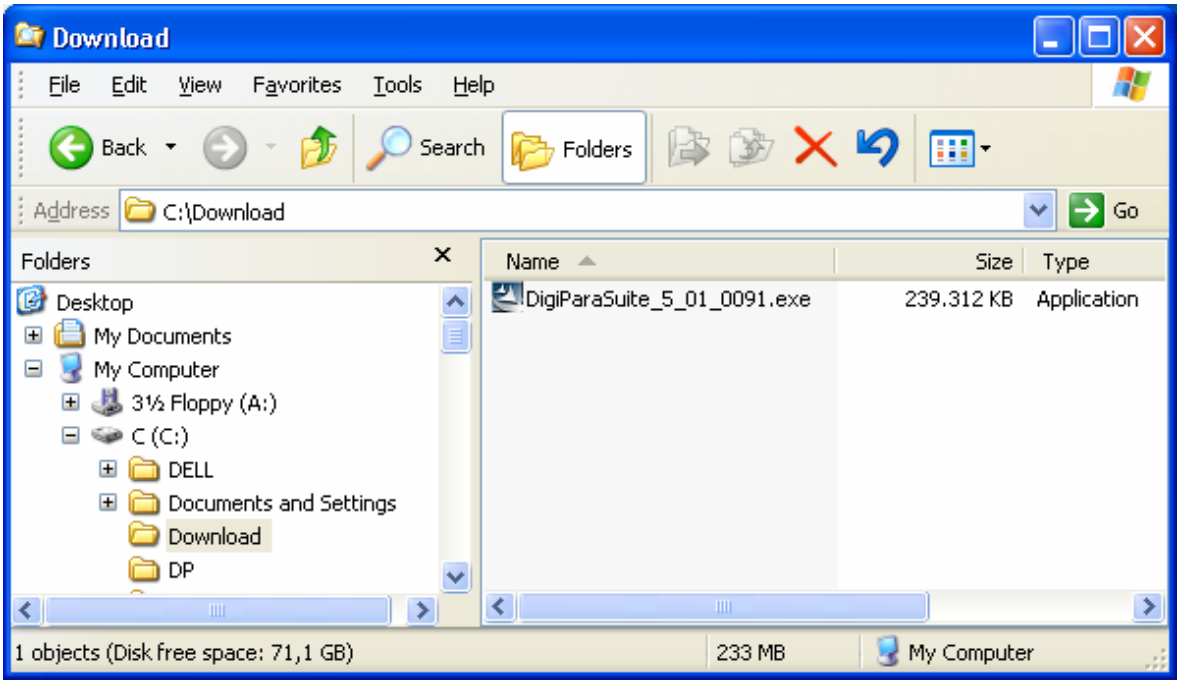
Step2:

CD Version:

If Auto run is enabled, the installation will start automatically. If Auto run is not enabled, select **Run** from the **Start** menu and type **D:\setup** (substitute the appropriate letter of your CD-ROM drive for **D**).

Single Executable File:

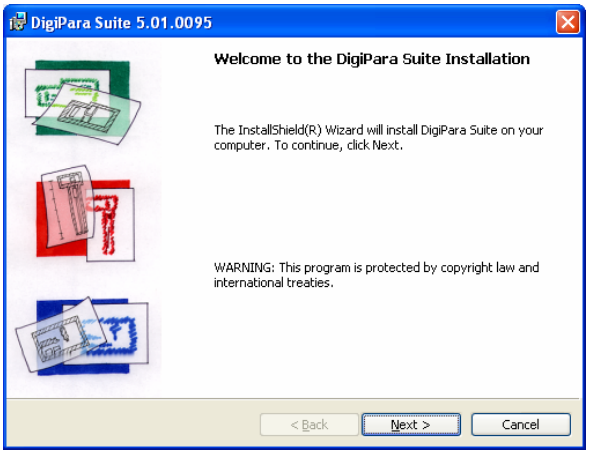
Double click on the downloaded executable file to start the installation.



Step 3: Follow the instructions on the screen.

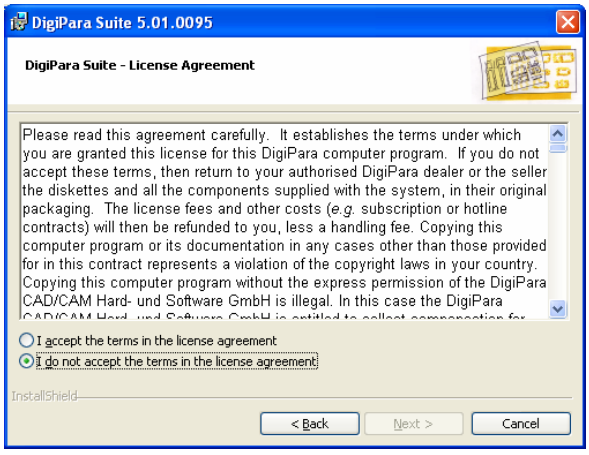
1. Welcome screen:

Click on the **Next** button to start the Installation.



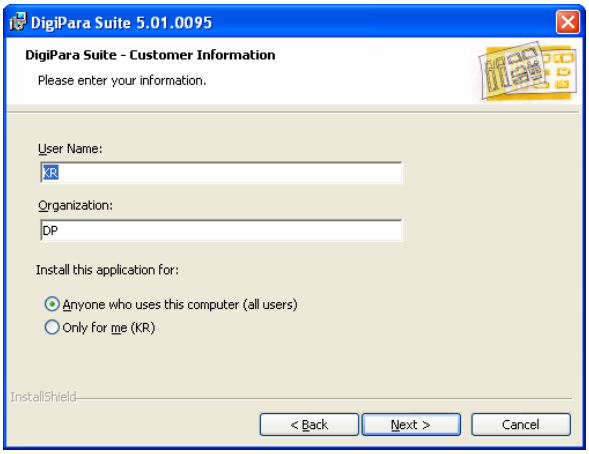
2. License agreement:

Accept the license agreement to continue the installation process.



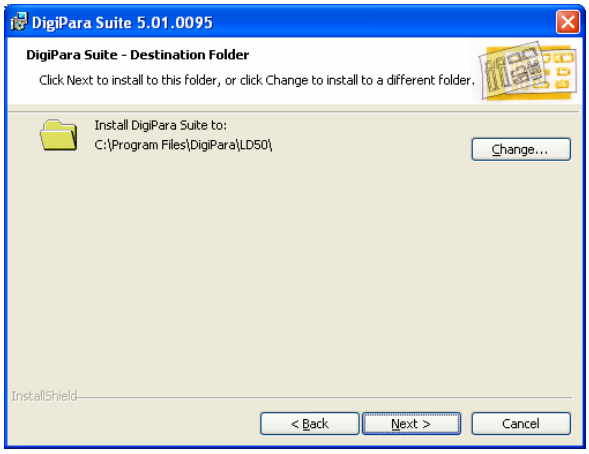
3. Customer information:

Enter your name and the name of your Company.



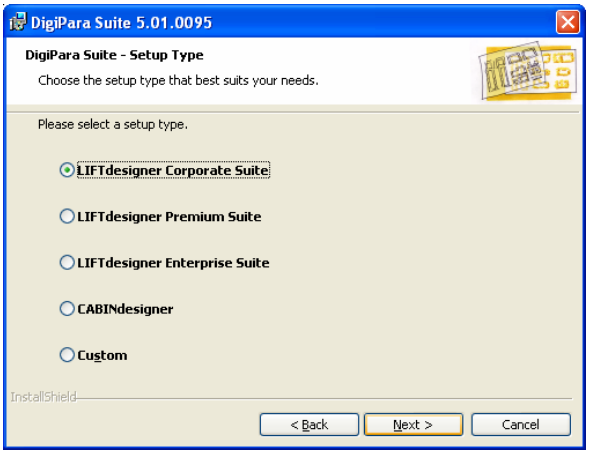
4. Installation location:

Confirm the default path or change it to a different installation location.



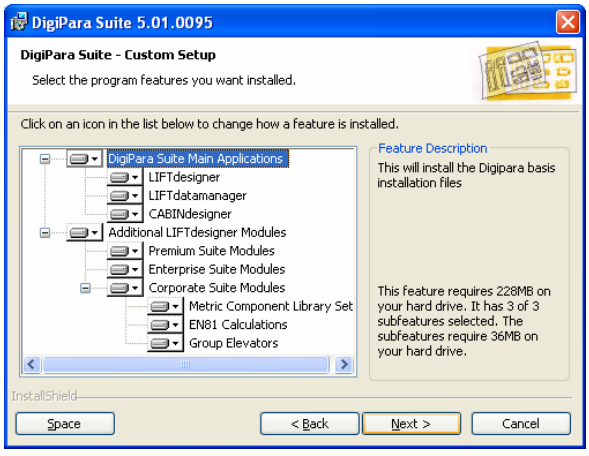
5 Setup type:

Select the **Setup Type**.



6. Select features (Custom installation):

Select the program features that you would like to install.



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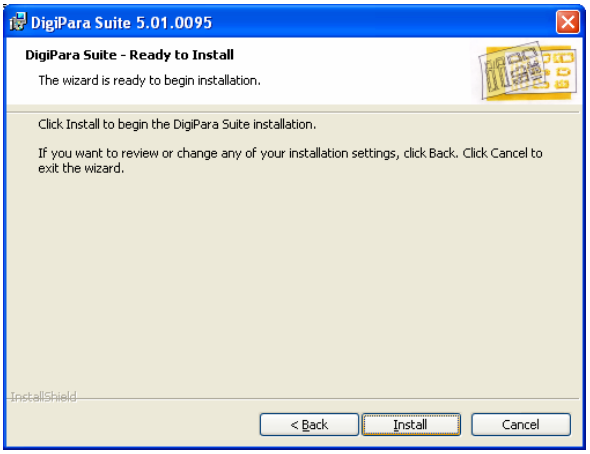
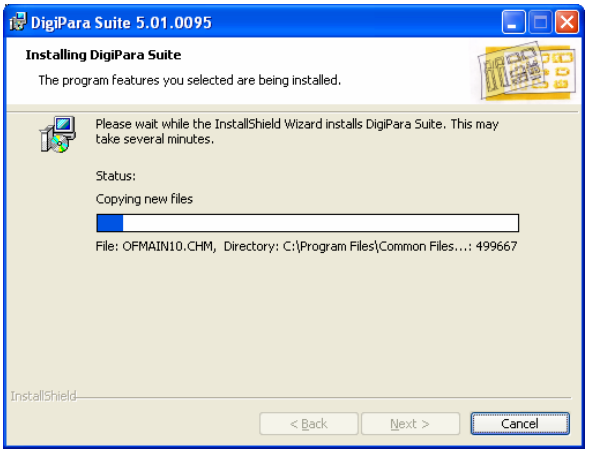
8. Confirm installation:

Confirm this dialog to start the installation.



9. Setup Status:

The installation is running.



10. Installation Finished

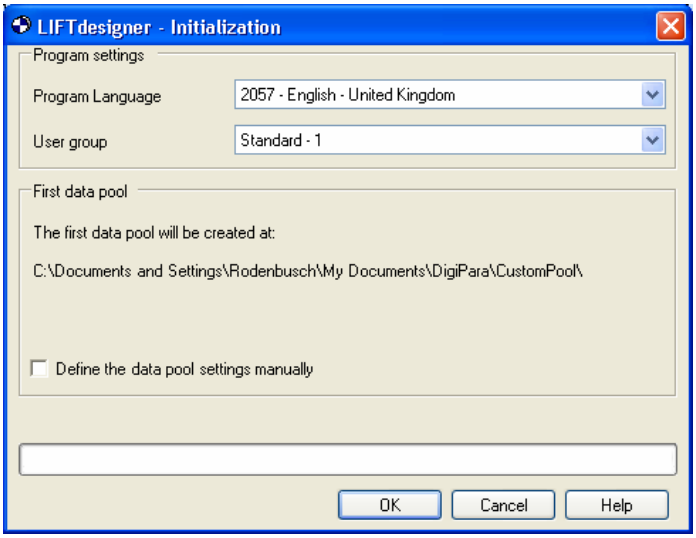
Click **Finish** to launch LIFTdesigner 5.

The installation time depends on the computer's hardware as well as on the operating system. Some computers will need to be rebooted after the installation has finished.

☞ LIFTdesigner 5 is based on the Microsoft .NET framework technology. The installation of the framework environment takes about 50% of the installation time. If the .NET framework 2.0 has already been installed on the target computer/s, the installation process will be faster.

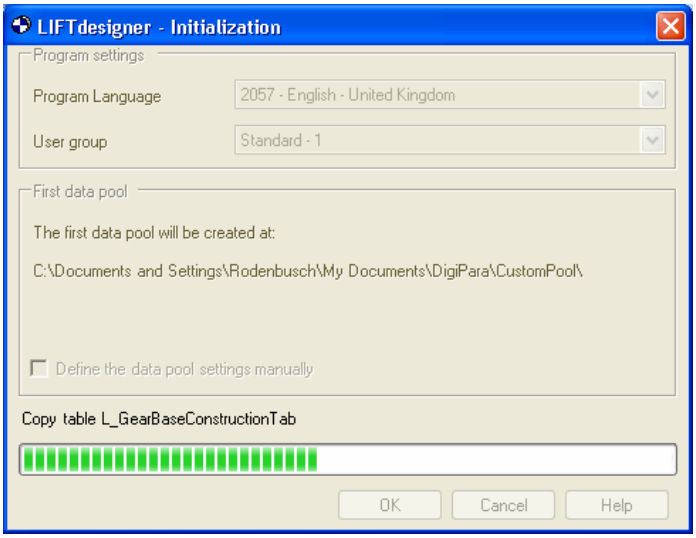
2.3. First Starting LIFTdesigner 5

When you run LIFTdesigner 5 for the first time, an initialization dialog will come up asking you to specify the program language as well as the user group type.



☞ You can also change the language as well as the user group later in the program.

⌨ Choose your settings and click on the **OK** button. You do not need to define the data pool settings manually.



The data pool contains all the relevant data that is necessary to run the program, e.g. the system database, user interface files, manufacturer libraries, etc. From the program aspect, this means that the program files (executables, libraries, etc.) are separated from the program data (user interface data, system data, manufacturer data, etc.).

☞ Advanced users, e.g. LIFTdesigner component developers who are already familiar with the data pool subject, are free to manually define the data pool settings. For all other users, we recommend that you use the default settings.

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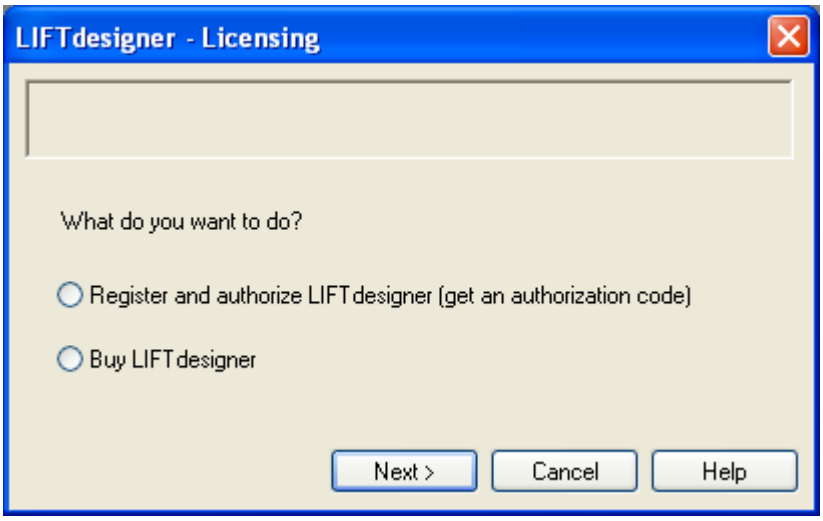
2.4. LIFTdesigner 5 Authorization

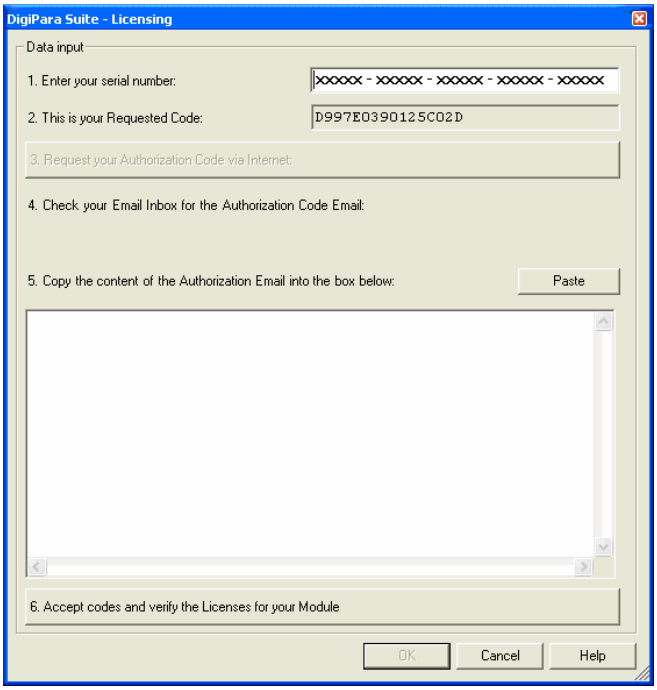
When LIFTdesigner 5 starts for the first time, the Licensing dialog will appear asking you for your license information.



Choose between one of the following options:

2.4.1. Register and Authorize LIFTdesigner (get an authorization code)

Click on the **Next** button. A dialog box appears asking you for your **Serial Number** (this is a long number for ex. 123AB-12345-ABC34-ABC45-FG567) and **Authorization code**. Enter the necessary information and click on the OK button. If you have entered the correct information, LIFTdesigner 5 will be activated.

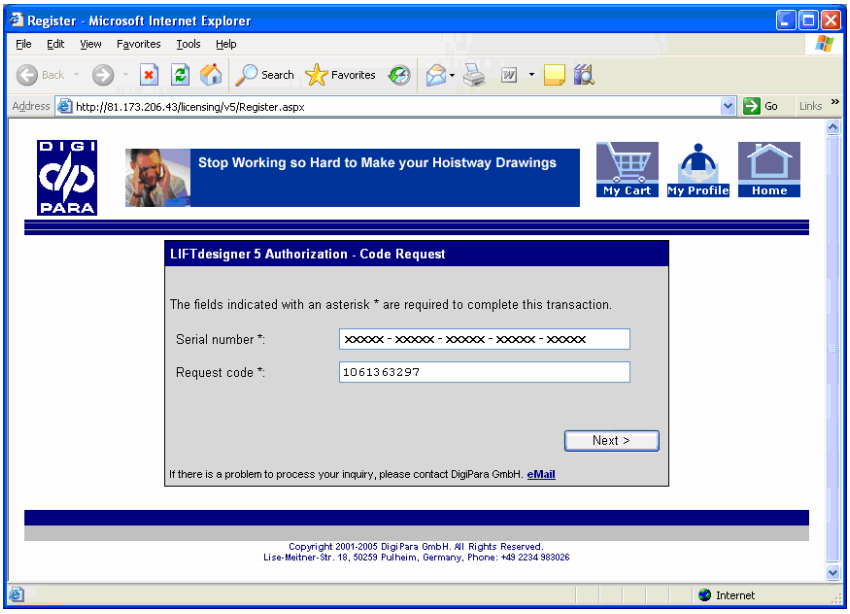


2.4.2. Request the Authorization code via the Internet

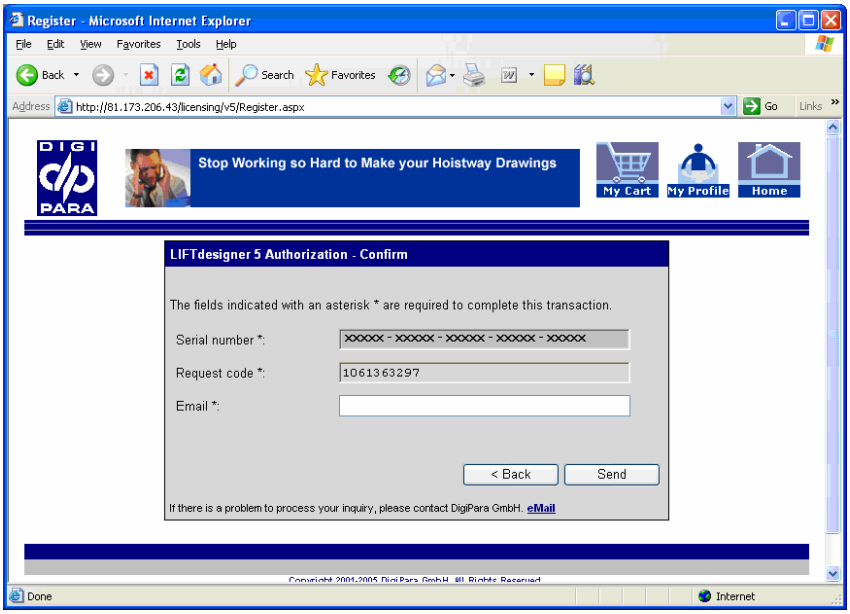
If you haven't obtained your authorization codes yet, please proceed as follows (this procedure requires Internet access):

⌨ Click on the button "**3. Request your Authorization Code via Internet**".

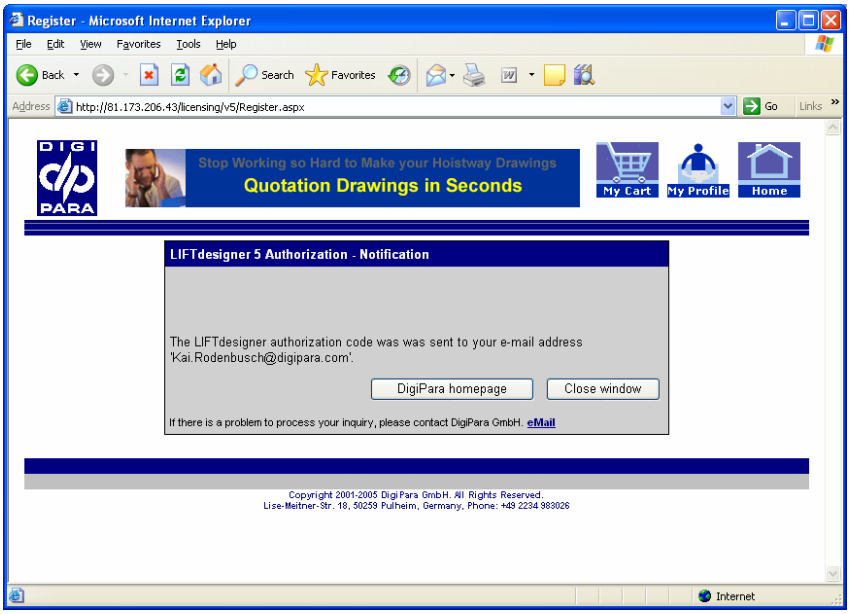
The LIFTdesigner Authorization website will be displayed.



⌨ Enter your Serial number in the corresponding field and click on the "Next" button.



Then enter your email address in the corresponding field and click on the “Send” button.



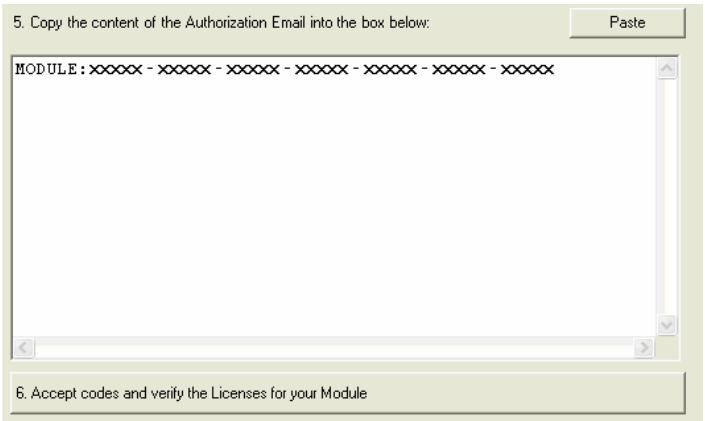
The Authorization codes will be sent to the specified email address.

After you have received the email containing the necessary LIFTdesigner authorization codes, please proceed as follows to finalize the authorization process:

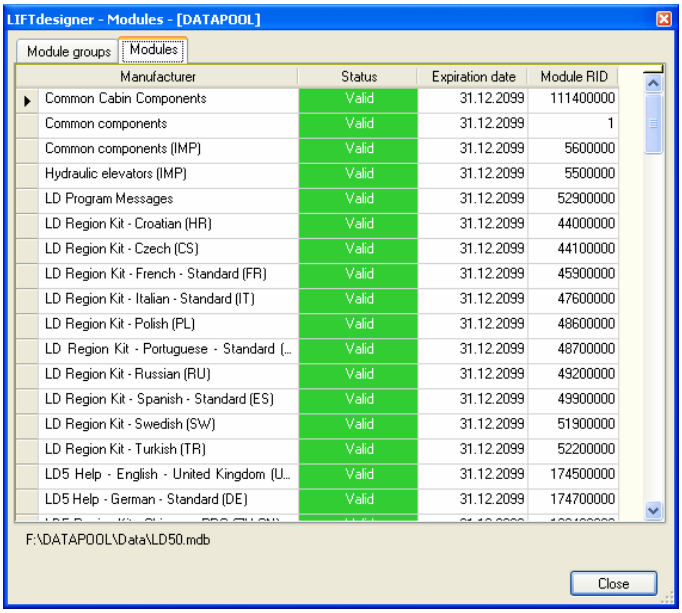
Copy the authorization codes from the email to the text box. Please copy only the Authorization codes content starting with the term “MODULE:” (to copy – Ctrl + C).

MODULE:xxxxx - xxxxx - xxxxx - xxxxx - xxxxx - xxxxx - xxxxx

Now paste the copied authorization codes into the corresponding text box in the LIFTdesigner “Licensing” dialog: (To paste – Ctrl + V)



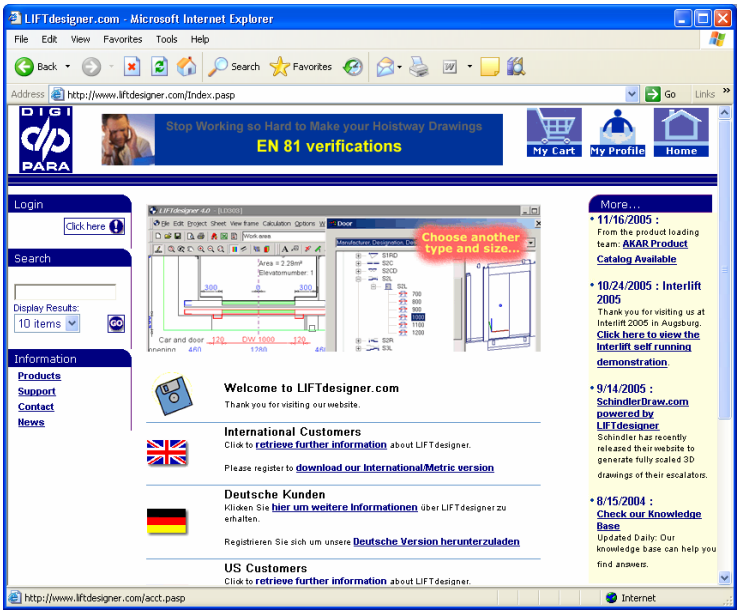
Then click on the button "**6. Accept codes and Verify the Licenses for your Module**" to activate LIFTdesigner. Check if all your LIFTdesigner modules are valid in the appearing "LIFTdesigner - Modules" dialog.



If all modules are valid, click on the **Close** button. Now click on the enabled **OK** button in the **Licensing** dialog. The authorization process has finished.

2.4.3. Buy LIFTdesigner

When you select this option, you will be redirected to the LIFTdesigner website (requires Internet access). On the website, you have the possibility to purchase your LIFTdesigner 5 version.



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3. Starting the Program – Creating a new Project

3.1. The Basic Structure of the Program

LIFTdesigner has three main components:

Designer: This is the main part of the program. It includes the user interface that enables you to enter and edit the dimensions and properties of your elevator.

To change dimension values, just click on a dimension and edit the value in LIFTdesigner's Properties window.

You can make changes in any view – all changes are automatically implemented throughout the entire data model.

Database: The specifications and geometrical data of selectable elevator components are stored in the *LIFTdesigner* database. DigiPara continually updates this database with the latest components and data. In addition to this, users can also enter their own components into the database.

Programming interface: Engineering calculations, collision factors, limit value checks, component selection criteria, customized program dialogs, editing limitations, etc. are all implemented in the individual modules, which are separate from the main *LIFTdesigner* program code. These modules can be started from within *LIFTdesigner* and they have full access to all the data of your elevator project. The results of the calculations can be displayed using the "Checking Report", for example.

Please note that all editing functions are disabled when external program modules are running!

It is not possible to guarantee that custom components are compatible with your elevator project, if no company specific configuration procedures have been defined via the programming interface. It is possible to perform recalculations for some components, even though you should always have the project checked thoroughly by the manufacturer or responsible engineer before implementation.

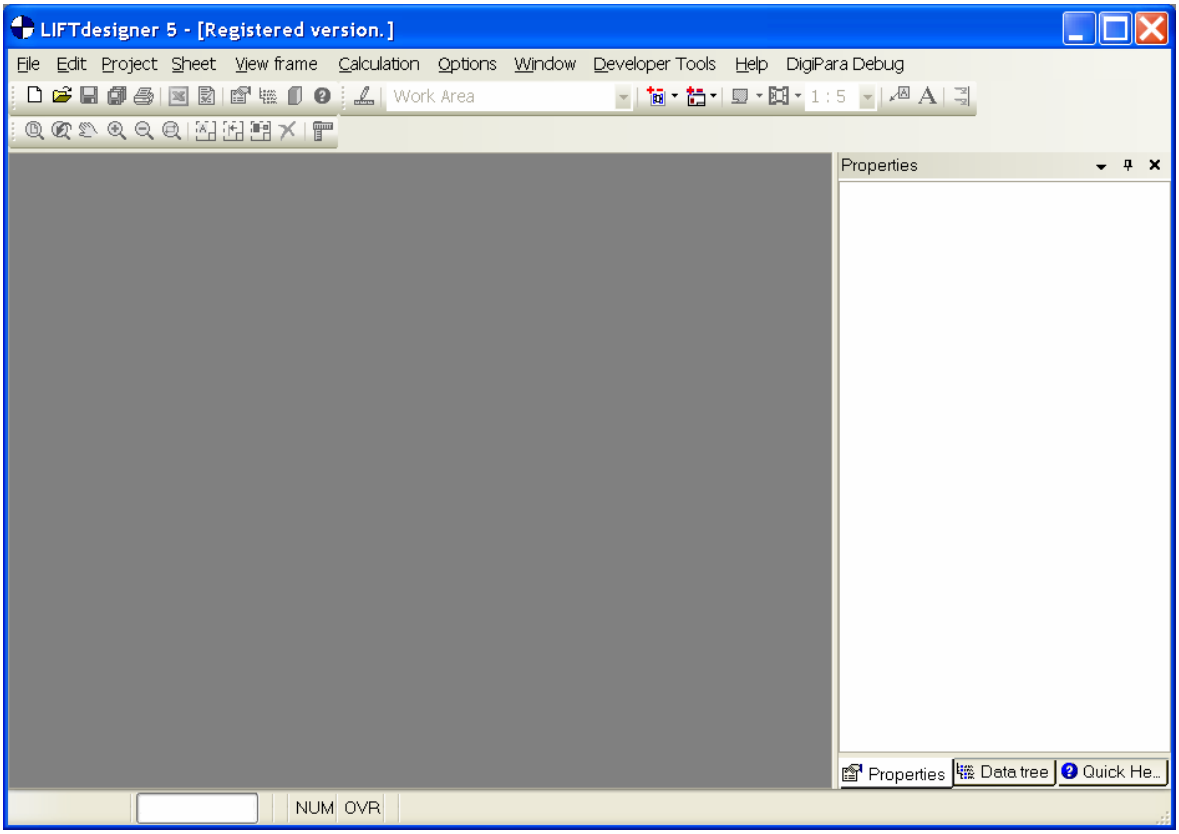
3.2. Downwards Compatibility

Your old LIFTdesigner project files, created with LIFTdesigner 4.0, can also be edited with LIFTdesigner 5.

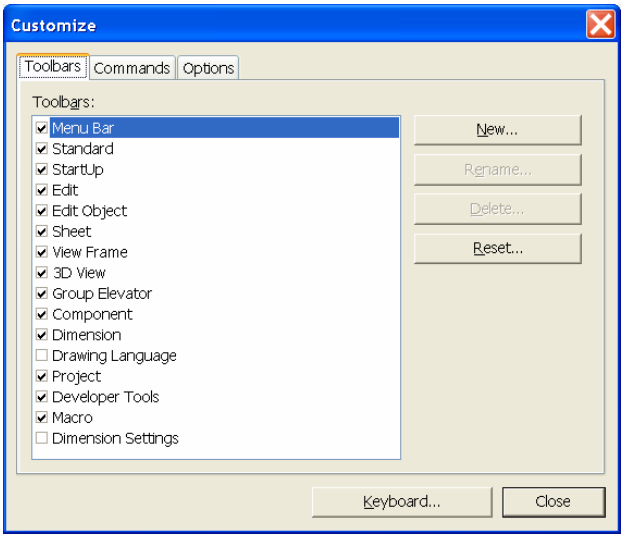
☞ When you open an old LIFTdesigner 4 project file with LIFTdesigner 5 and save it, the file cannot be opened anymore with the old version of the program. For this reason, we recommend that you to make a backup of your old project files first.

3.3. User Interface Configuration

The first time you start the program you will see that only a couple of toolbars are displayed on top of the main program window.



To display additional toolbars, click on the right mouse button in the toolbar area and click on “Customize” in the appearing context menu.



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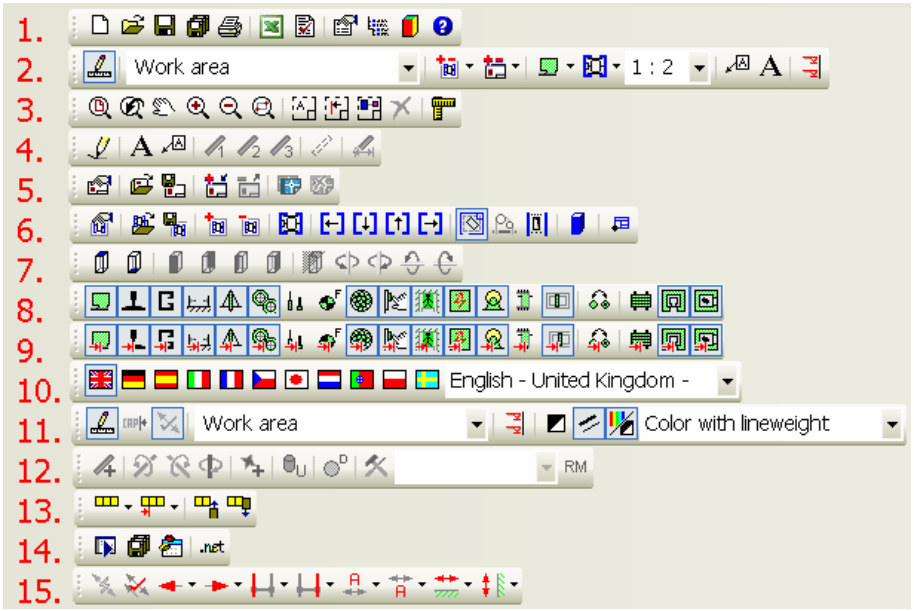
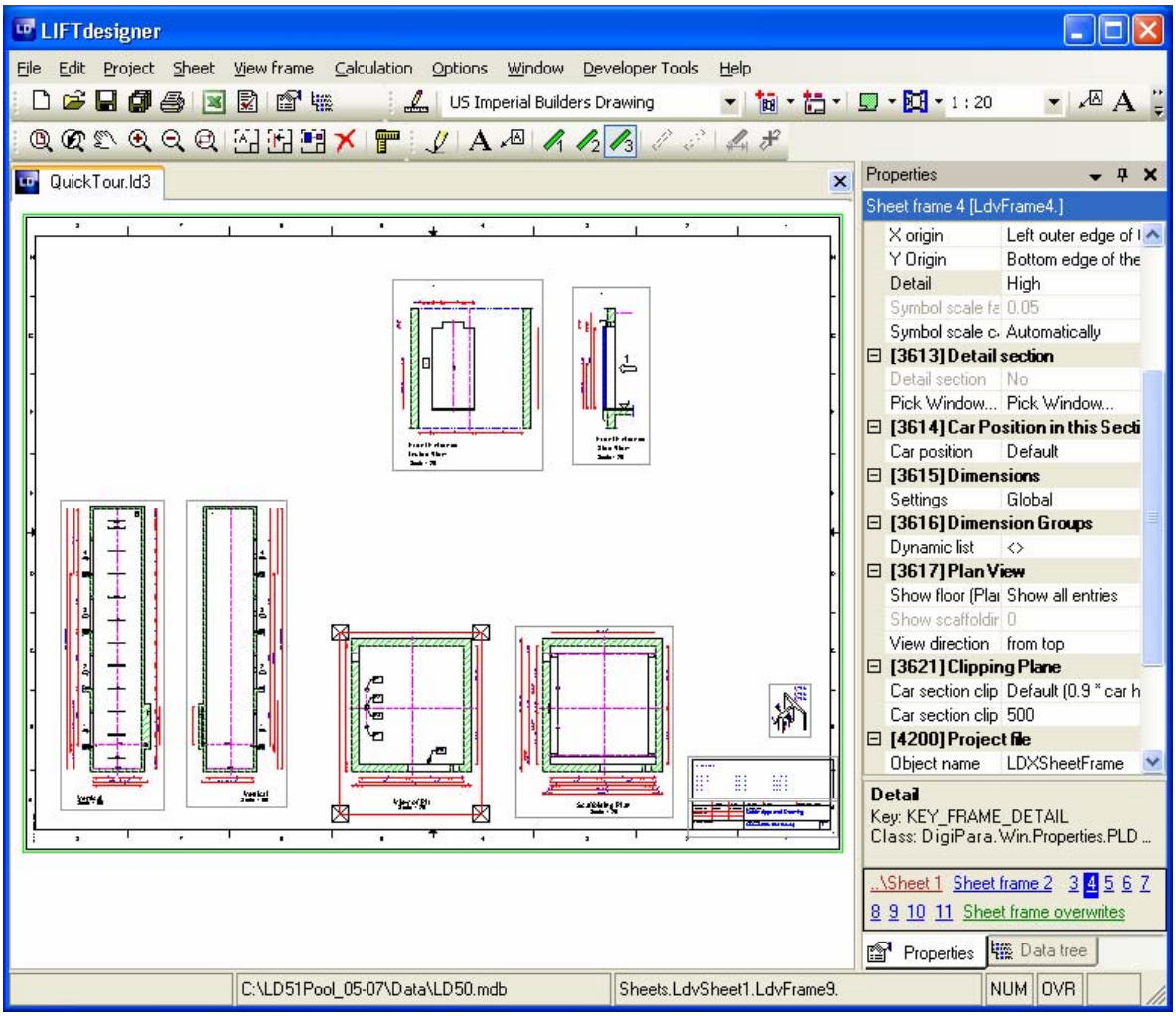
3.4. LIFTdesigner 5 Toolbars

The following toolbars are available in LIFTdesigner 5:



1. File and docking Window operations
2. Provides the most common features a Standard user will need
3. View commands and object select operations.
4. View frame settings: Texts, component detail levels and additional dimensions
5. Sheet operation - open, save, load and delete sheet; add and remove DWG overlays
6. View frame operations: load, save, add and remove view frames; View frame views ->Plan, verticals, MR, sheaves, wall opening, 3D and DWG view
7. Sub-options for view frames
8. Visibility of basic shaft components.
9. Dimensions on/off for basic shaft components.
10. Drawing languages (to be configured first).
11. Project settings like Edit-/Print mode, Dimensions Captions, Disabled dimensions, sheet selection, Color and line weight settings
12. Component developer operations
13. Group elevator operations: Add, remove shafts, display / hide shafts, shaft dimensions
14. VBA and .Net application operations
15. Dimension operations

You can move the toolbars to any position on the screen (left mouse-click on a toolbar and drag it).



Whenever you create or open a project file (**.LD3*), a new LIFTdesigner document window is opened automatically. *LIFTdesigner 5* will look something similar to the example shown above.

3.5. LIFTdesigner Properties, Data Tree, Checking Report

The new user interface has been completely developed from scratch. The structure and content of the pull-down menus is similar to LIFTdesigner 4.0.

The old property cards have been replaced by a standard LD properties window, which is used in other known applications as well. E.g. AutoCAD is using the standardized property window.

If you don't see the LD Properties window in the *LIFTdesigner 5 main window*, you need to activate it in the "Window" menu:

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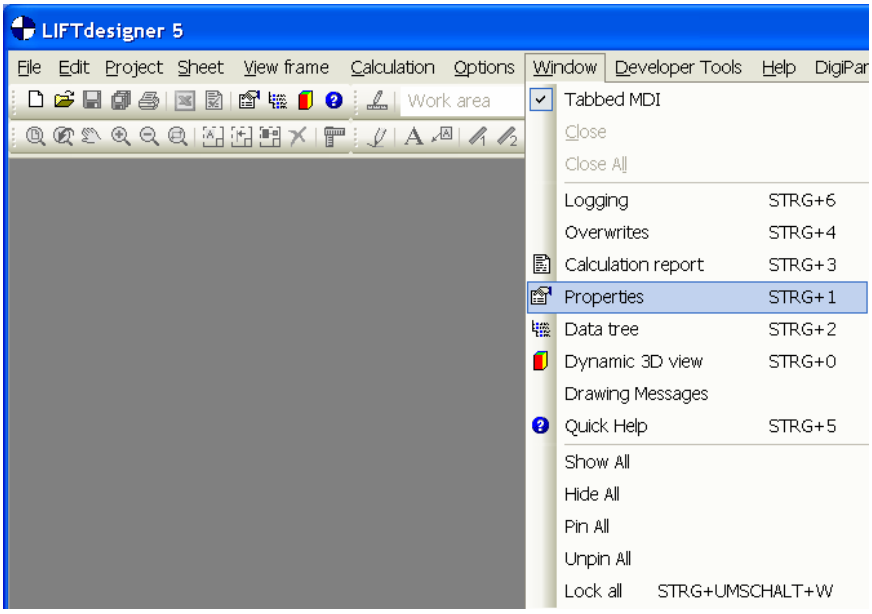


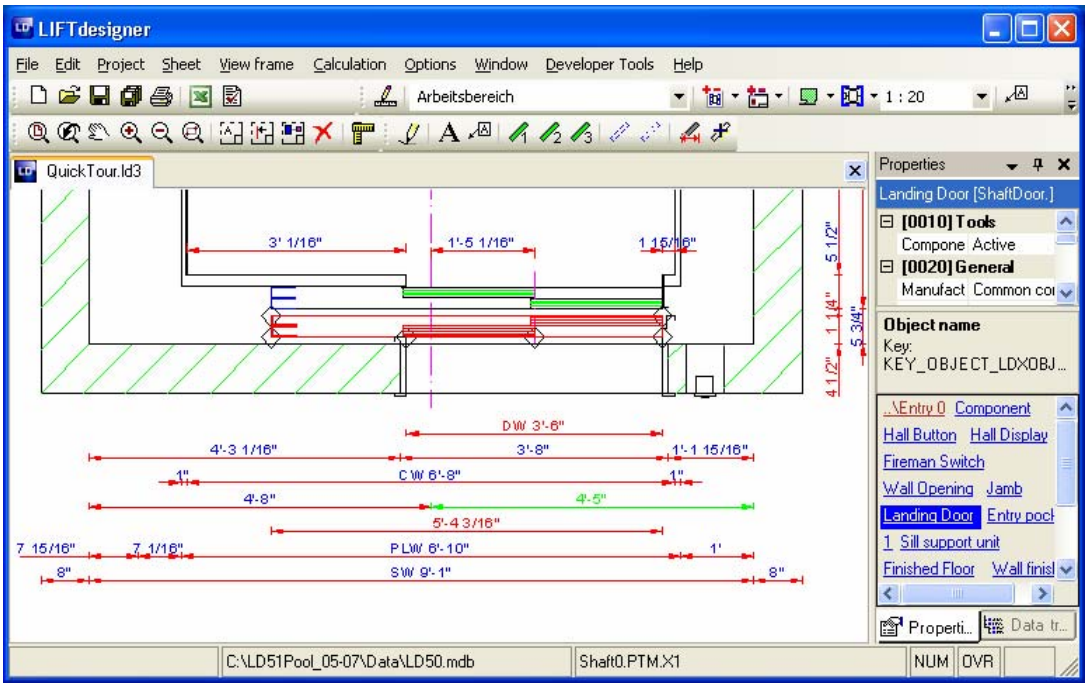
The calculation checking report, the *LIFTdesigner component* data-tree, the dynamic 3D View and the new Quick Help are also located in separate docking windows. Activate them by clicking on the appropriate item in the “Window” menu.

3.6. Properties Docking Window

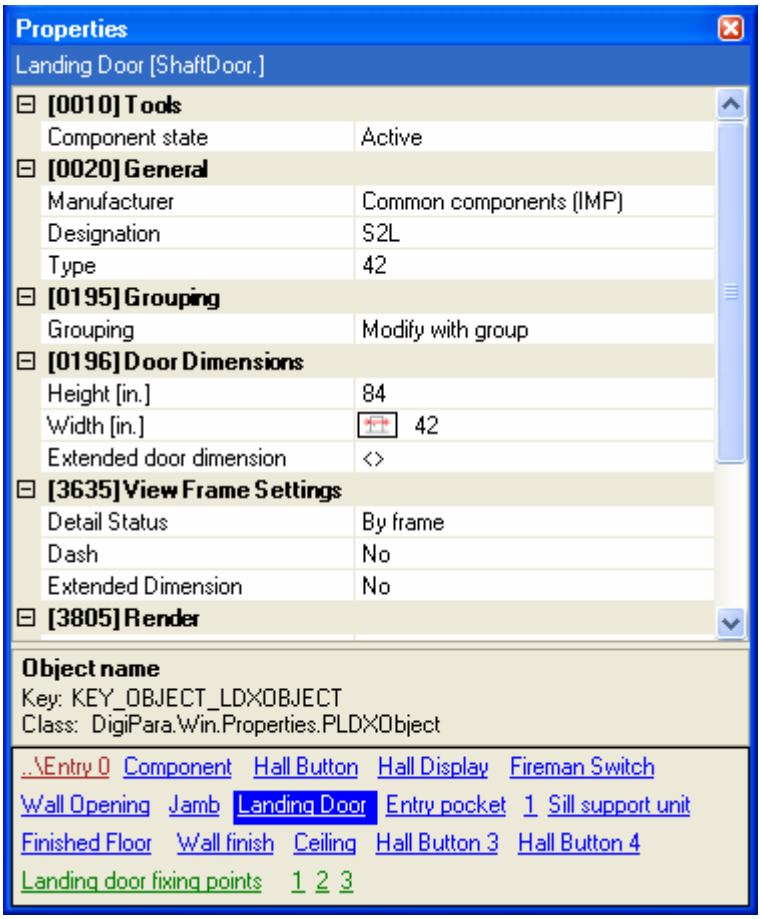
The **Properties** window is divided into different sections, which provide component / dimension specific information and options.

In the following example, the landing door properties will be explained.

In the LIFTdesigner document window, click on the landing door, e.g. in the plan view.

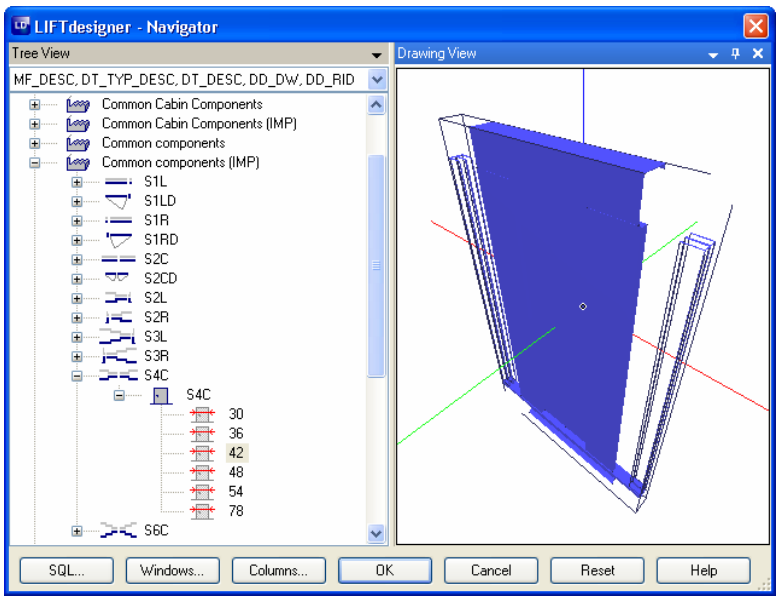


The landing door properties are displayed in the **Properties** docking window:



1. The **General** section contains manufacturer specific information as well as the opportunity to exchange the component.

Manufacturer	Displays the component manufacturer. Click on the button in the value field to exchange the component.



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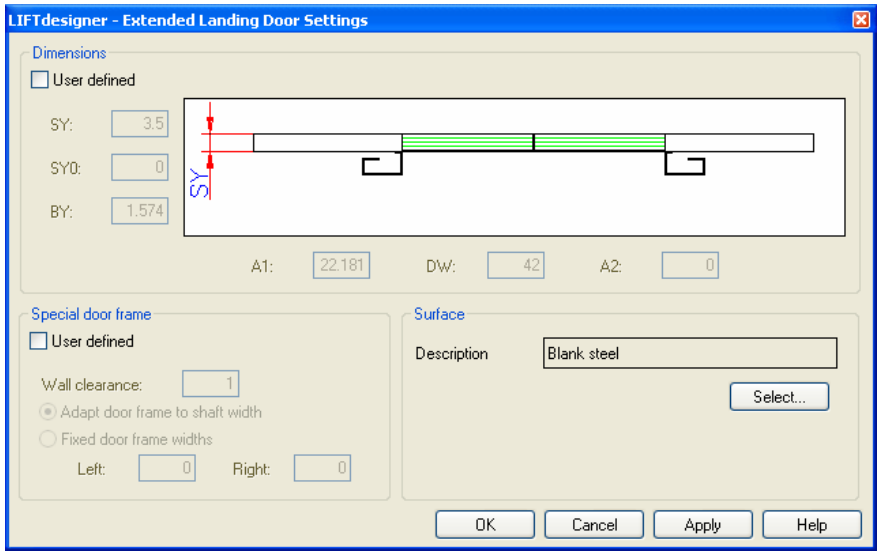
Designation	Displays the component model. Click on the button in the value field to exchange the component.
Type	Displays the component's design (type, size, etc.). Click on the in the value field to exchange the component.

2. The **Grouping** section contains landing door specific shaft global information.

Grouping	Select whether the door settings shall be applied to the selected door only or if they shall be applied to the other landing doors as well.

3. The **Door Dimension** section displays information according to the door geometry.

Height:	Displays the landing door height, this value is editable.
Width:	Displays the width of the currently selected door. Click on the button to quick select a different door width (this option is only available if the selected door is part of the installed / authorized manufacturer libraries).
Extended Door Dimension:	Click on the button in the value field to open the extended door dimension dialog. Make your individual changes to the selected landing door and close the dialog. **Hint:** You need to exchange the door to reset the user-defined settings. 

4. The **View Frame Settings** section provides additional component display and dimension options.

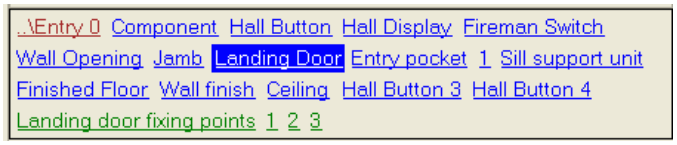
Detail Status:	By Frame: The component's detail level is set by the view frame's detail level. Delete from frame: Deletes the component detail status from the active view frame. Other: Provides the opportunity to select between different component detail levels, independent from the view frame detail level (must be supported by the component).
Dash:	Provides the opportunity to display the selected component dashed.
Extended Dimensions:	Provides the opportunity to display the extended component dimensions permanently.

5. The **Quick Component Link** box contains quick links to the parent-; parallel existing- and child- components of the currently selected object (the marked quick-link).

   The parent components are red. In this case, the entrance list "**...\Entry 0**" is the parent object of the selected landing door.

   The parallel existing objects (located under the same parent node in the hierarchical data tree) are blue. The "**Entry Pocket**" and the "**Wall Opening**", for example, are located under the same node (parent object) as the landing door.

   The child components are green.



Click on one of the quick links, to browse through the different elevator components. Click on the "**Jamb**" component for example, to display its properties in the **Properties** window.

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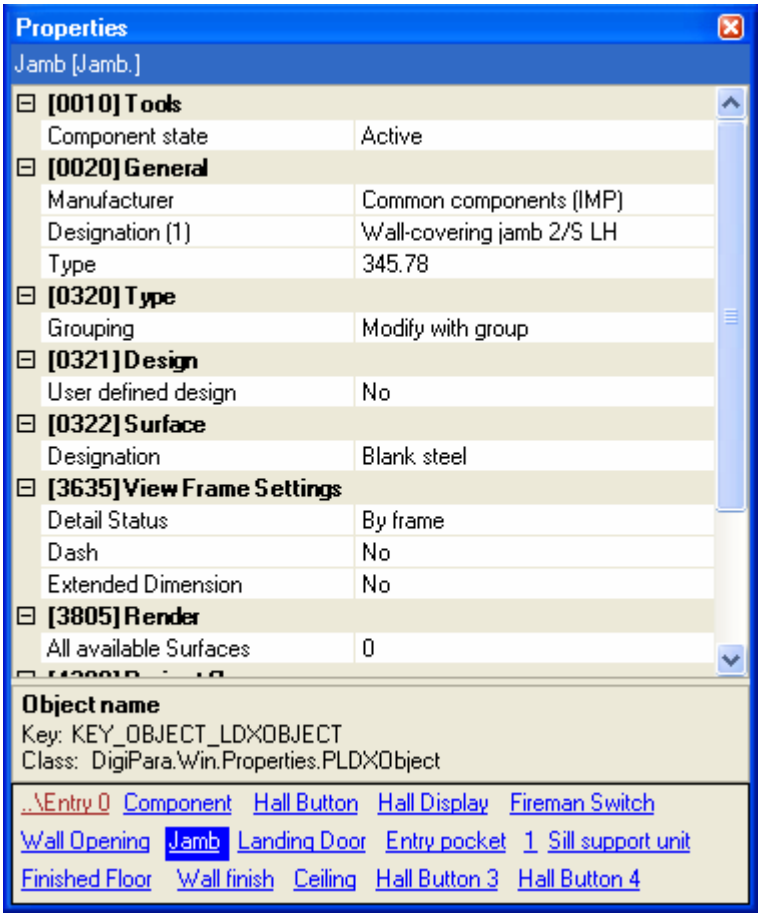
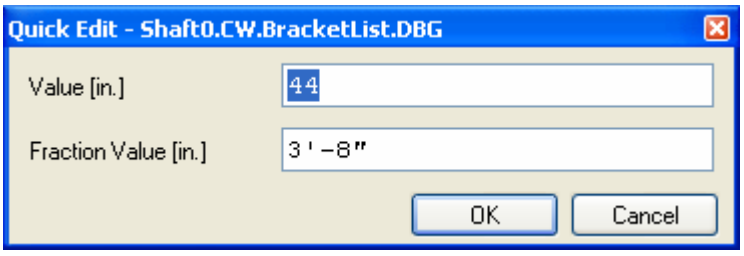


The displayed properties vary depending on the selected component. Take a look at the different components properties by using the links in the **Quick Component Link** box.

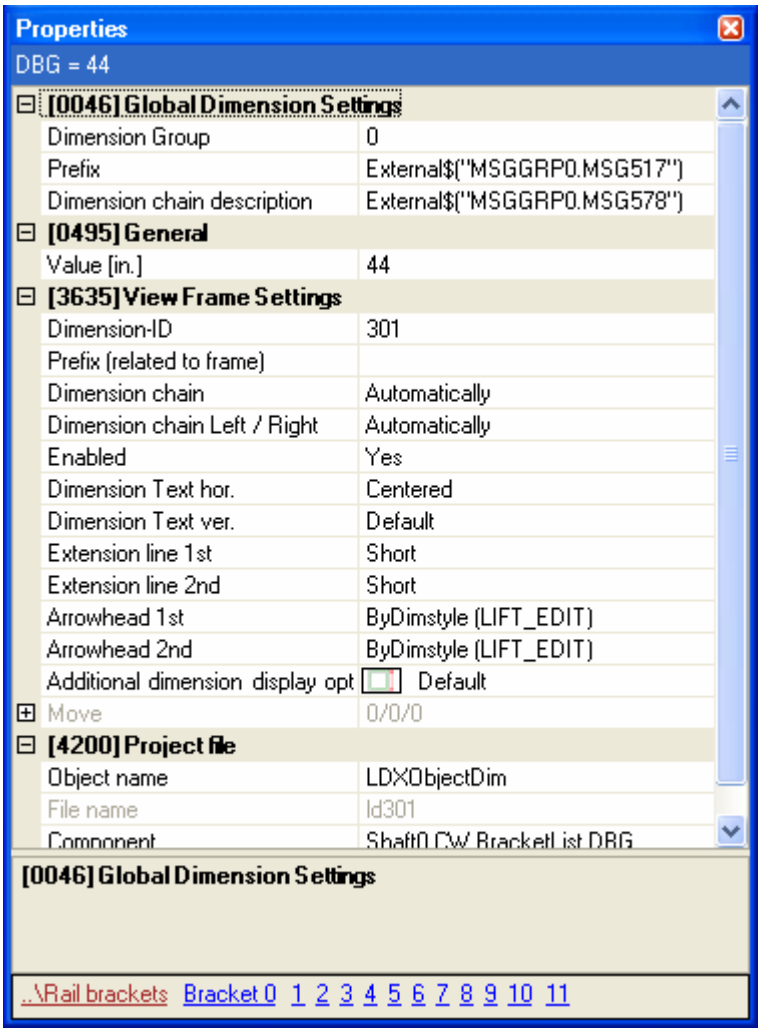
3.7. Change Dimensions in the Drawing

There are two ways to change a dimension value:

- Double click on a dimension in the drawing and change its value in the appearing **Quick Edit** window dialog.



- The second way is to click on a dimension once and change its value in the **Properties** window.



3.8. The ShaftWizard

The *ShaftWizard* helps you set up the basic parameters of your new elevator project. Start a new project by clicking on **File** and selecting **New** from the menu. This starts the *ShaftWizard*, which displays a series of dialog boxes in which you can select and enter the information for your elevator. While the *ShaftWizard* is active, the changes generated from your entries are displayed automatically in the view window in the background. For this exercise, please enter the parameters shown in the example below.

☞ All the entered values and selected components in the ShaftWizard can be changed later when you are editing the project – so there's no need to worry about making mistakes!

☞ The main purpose of the ShaftWizard is to select a standard elevator system as a basis for your project. When you are starting a project with a new elevator type that you have never used before, use the ShaftWizard to define the elevator type and other basic system parameters. (The standard version of LIFTdesigner 5 does not include standard specifications for the products of specific companies.)

☞ The elevator components included in the project when the ShaftWizard closes are ***not*** the result of the calculations. They are read automatically from the

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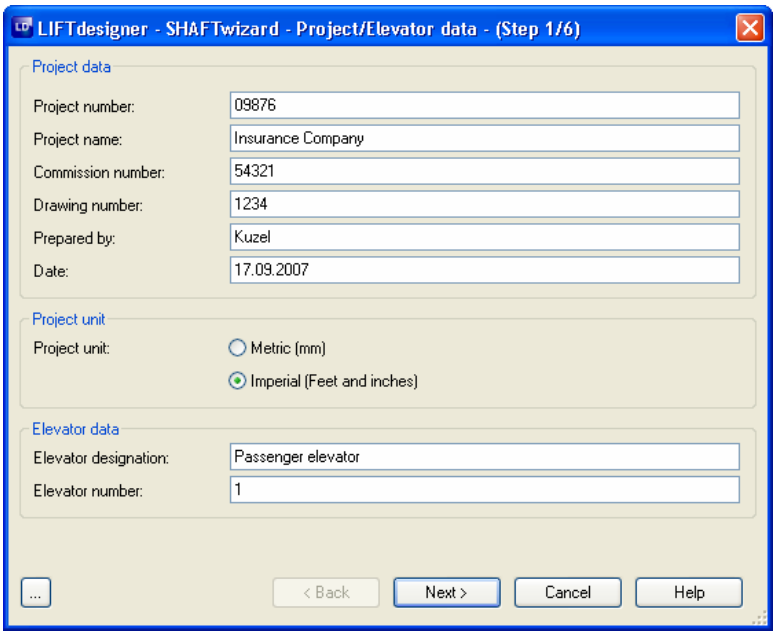
"duty tables". This is where the standards for the products of specific companies can be stored.

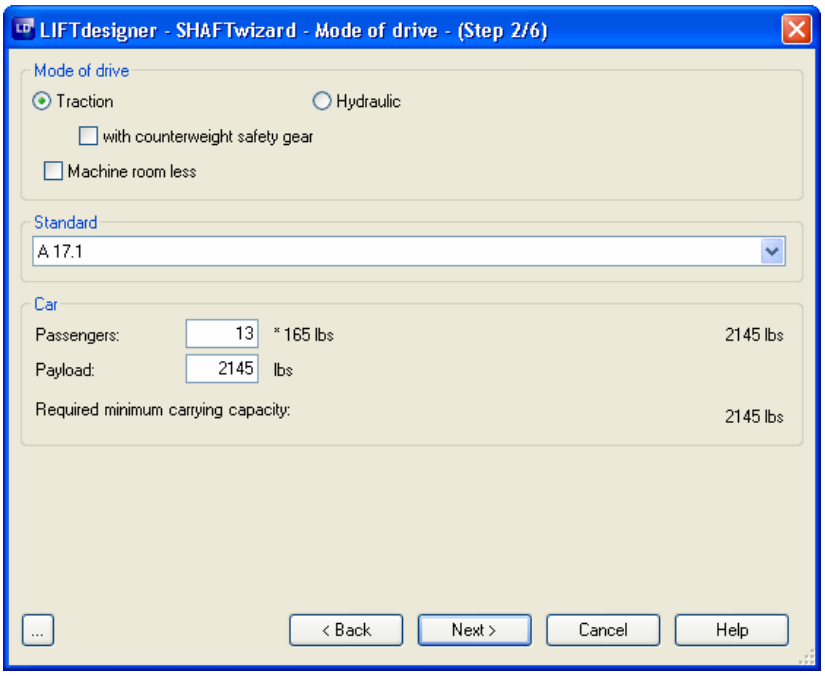
⌨ Enter the following data in the first dialog box:

Project number:	09876
Project name:	Insurance Company
Commission number:	54321
Drawing number:	1234
Prepared by:	Your Name
Date:	The Current Date
Project Unit:	Metric
Elevator designation:	Passenger elevator
Elevator number:	1

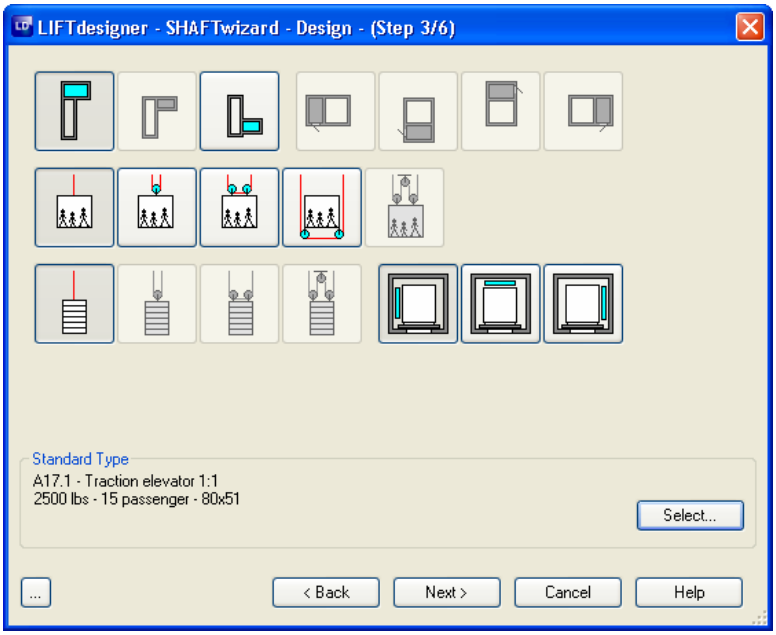
☞ This data does not affect the technical part of the project. Later on you will see this text information in the drawing or in the title blocks. You can also change the project data later by selecting **Specifications...** in the **Project** menu.



⌨ In the next dialog, enter the basic parameters for the elevator drive type. Enter **1000kg** in the **Payload** field. Click on the **"with Counterweight safety gear"** box to disable this option.



☞ All the values entered and components selected in the ShaftWizard can be changed later on when you are editing the project – so there's no need to worry about making mistakes!



⌨ Next select the settings used in the above rope arrangement dialog (4 selections). Click on the **Select...** button to choose a different standard elevator.

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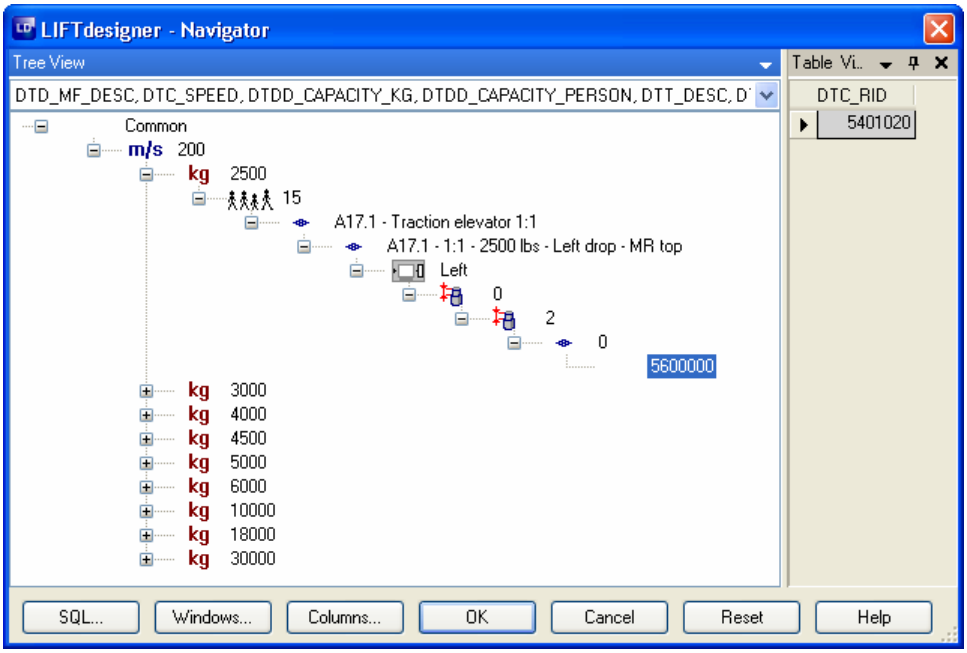
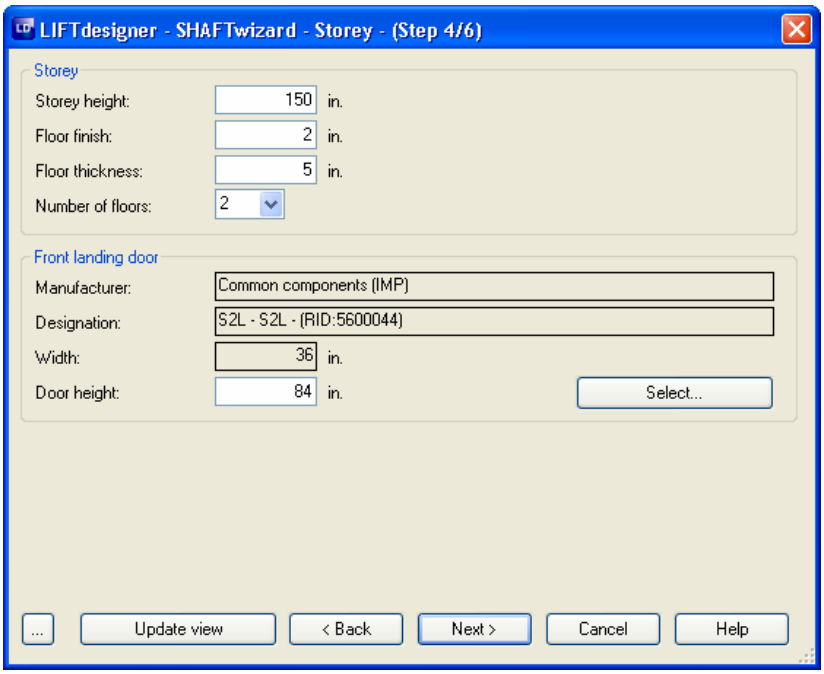
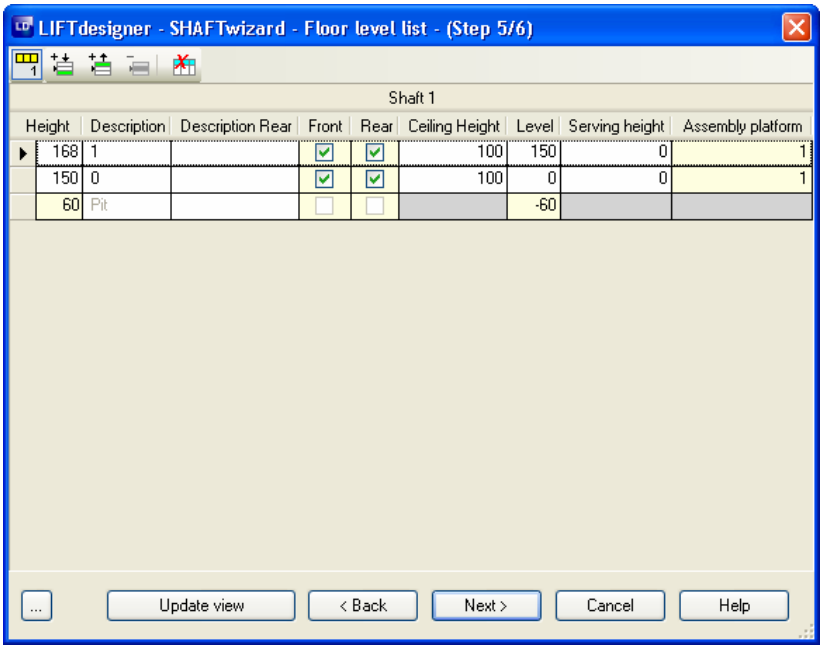


Select a system with a car size of **80x51”**. You can move down through the hierarchical tree structure by clicking on the “**+**” and “**-**” symbols. To select the car size, click on the lowest level in the appropriate branch. As shown above, the “5600000” is the lowest branch for choosing a car size of 80x51”. Please click on “5600000” then on **OK** to close the dialog. Click on **Next** in the “Design” dialog.



Set up the values for the storey height, the floor thickness, etc. You can also select a different landing door type by clicking on the **Select** button. Click on the **Next** button to display the next dialog.



⌨ Enable the rear entrances for both entries. In the floor level list you can edit and modify floor level specific values. After selecting a floor level, you can also insert or remove floor levels by clicking on the appropriate buttons on top of the floor level list:

Insert above: Inserts a floor level above the selected floor

Insert below: Inserts a floor level below the selected floor

In the last dialog box, you can select different sheet templates from a list to be loaded with the new project. The sheet templates are located in the data pool's sheet directory (e.g. "C:\Documents and Settings\Your Name\My Documents\DigiPara\CustomPool\sheets*.*").

☞ You can also create your own sheet templates and store them in the sheets directory. The next time you run the ShaftWizard, your own sheet templates will also be available in the list.

⌨ Then click on the **Finish** button to close the *ShaftWizard*.

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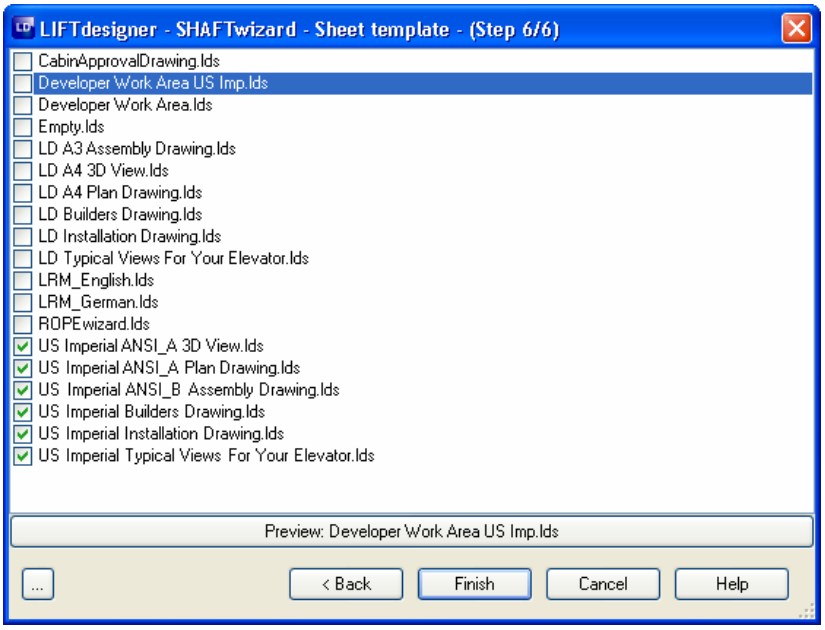
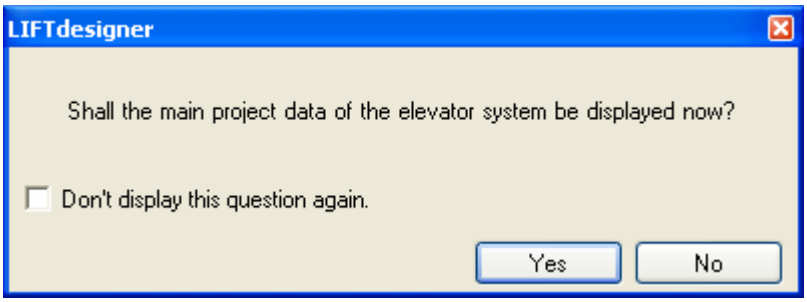
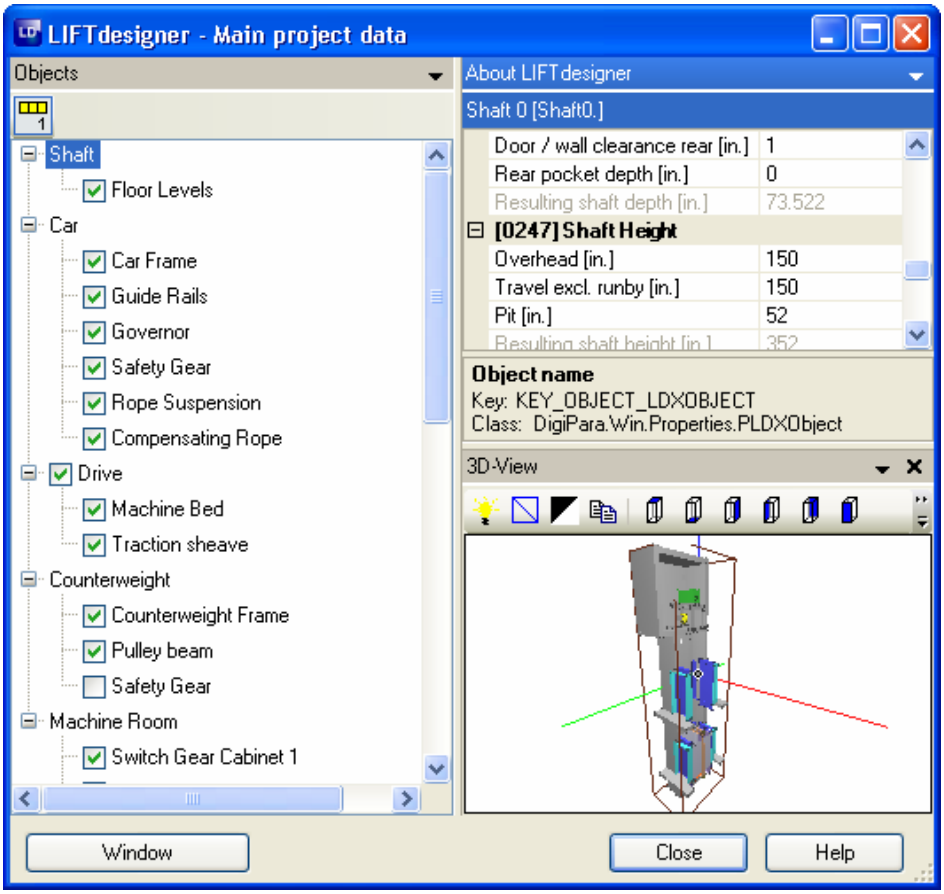


3.9. Main Project data

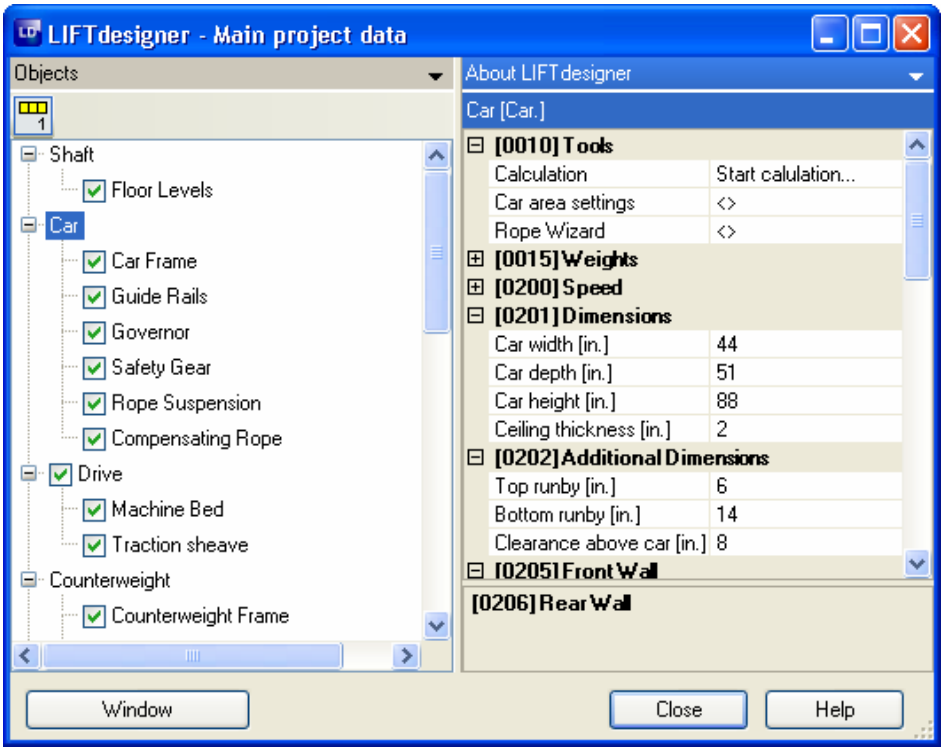
When you close the *ShaftWizard*, the following message is automatically displayed, asking you weather you want to display the main project data for editing.



⌨ Select **Yes** to display the main project data.



Change the **Shaft** values as shown above. Adjust the values until you achieve the figures shown in the illustration. Please **don't** click on "**Close**" as this will exit you from the dialog.



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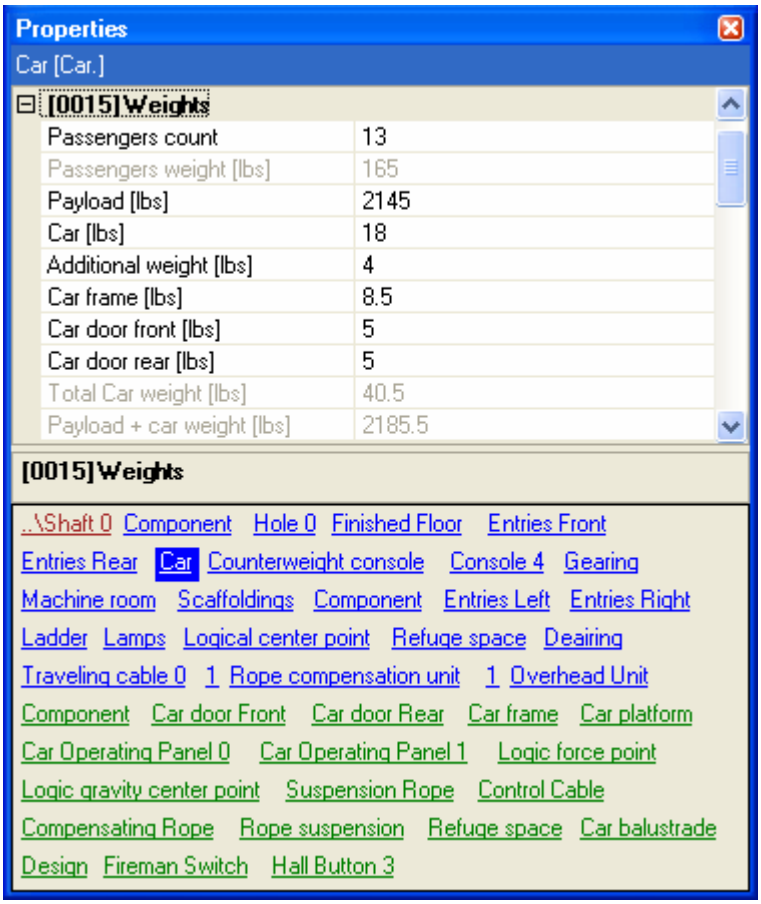
Click on the **Car** node. Change the car width and depth according to the example shown above. Enter a ceiling height of **2”** and a car height of **88”.** Change the **Bottom run by** to **14** and the **Top run by** to **6**.

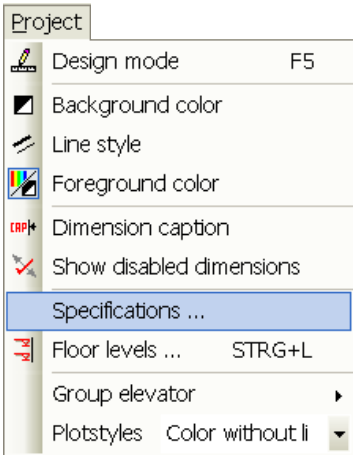


Under the **Weights** Category, enter the values shown above (they are needed for the calculations later on), then click on **Close** to close the dialog box. *LIFTdesigner* now displays a rough layout of the elevator.)

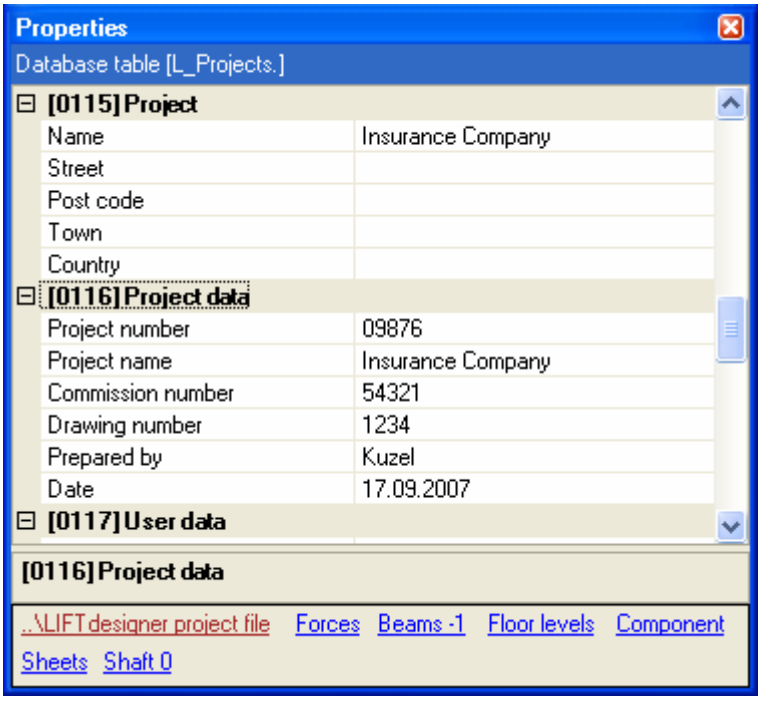
You can edit the main project data directly by right clicking anywhere in the document window and selecting the appropriate option from the context menu.

3.10. Other Project data

You can enter other data relevant to your project by going into the **Project** menu and selecting **Specifications…**.



The project specific information is displayed in the LIFTdesigner **Properties** window:



4. Plan view

4.1. Change view

You can adjust the current project drawing view by using the tools in the **Edit** and **Project** toolbar.

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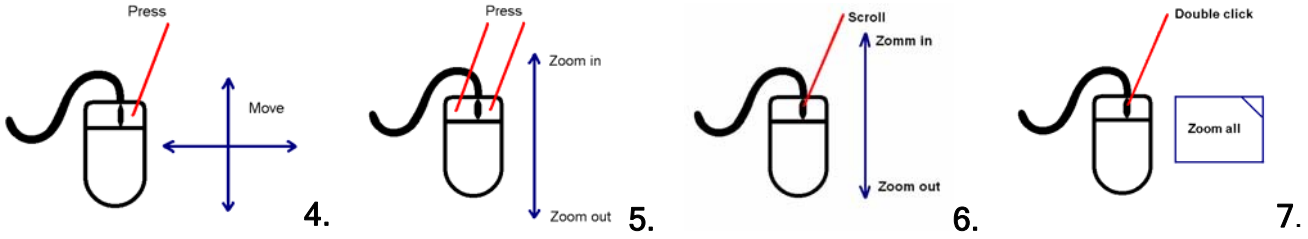
4.1.1. Edit Toolbar

From left to right:

1. **Zoom All**: Adjust the zoom scale to show all the views available in the current drawing. **New: Use the mouse scroll wheel**, see picture 7 in chapter 4.1.2.
2. **Zoom Previous**: Restores the last drawing zoom scale.
3. **Move**: Enables you to move the drawing within the current window by clicking on two points to define the move (the distance and direction between points 1 and 2 & specify the move). Alternatively you can also move the drawing with the cursor keys. **New: Use the right mouse button**, see picture 4 in chapter 4.1.2.
4. **Zoom In**: Enlarges the current zoom view or press the "+" key, or use both mouse buttons and move the mouse. **New**: **Use both mouse buttons or the mouse scroll wheel**, see pictures 5/6 in chapter 4.1.2 .
5. **Zoom Out**: Opposite of Zoom In (or press the "-" key). See picture 5/6.
6. **Zoom Window**: Clicking on the two diagonally opposite corners points of an imaginary rectangle & it zooms the selected rectangle to fill the window.
7. **Annotation Select**: Draw a rectangle over the annotations you want to select.
8. **Dimension Select**: Draw a rectangle over the dimensions you want to select.
9. **Component Select**: Draw a rectangle over the components you want to select.
10. **Delete objects:** Delete the selected objects.
11. **Measure:** Click on the left mouse button to specify the start point, move the mouse and click on the left mouse button again to specify the end point. You can also press the spacebar to define the start point, then move the mouse cursor and press the spacebar a second time.

4.1.2. How to use the Mouse



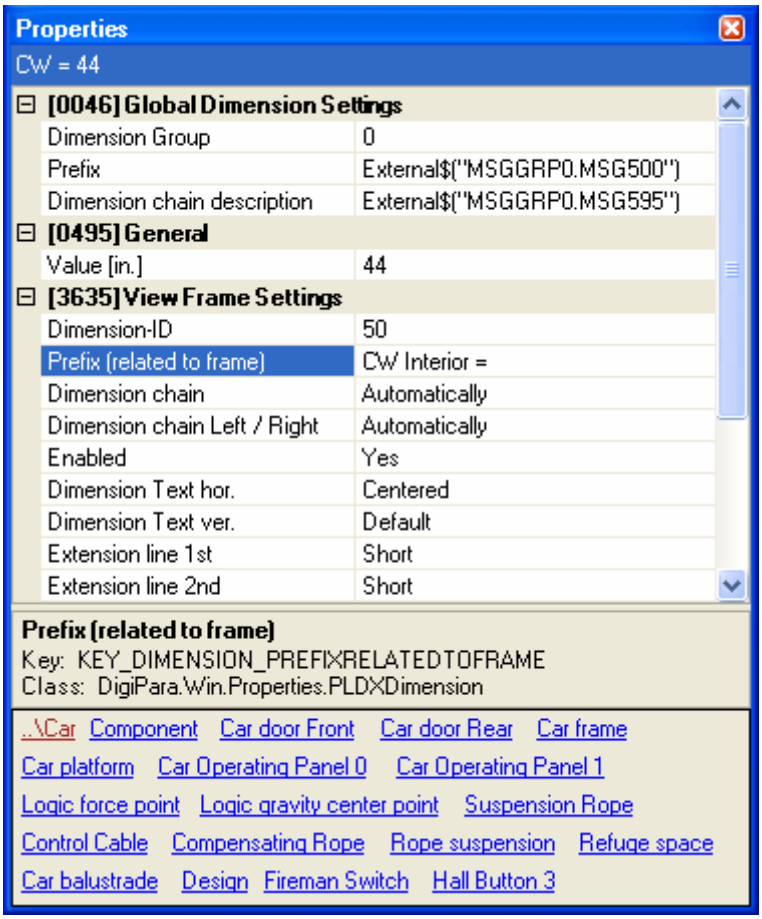
4.1.3. Project Toolbar:

From left to right:

1. **Toggle View**: Toggle between design and print mode (see chapter 4.3).
2. **Dimensions captions:** Display, hide the dimensions captions
3. **Show disabled dimensions:** Display hide disabled dimension in print mode.
4. **Switch sheet:** Select between the available sheets
5. **Floor level dialog:** Display the floor level dialog
6. **Background color:** Switch between black and white background color.
7. **Line style:** Toggle line thickness on/off. Important for direct printouts.
8. **Foreground color:** Switch between colored and monochrome foreground color. Important for direct printouts.
9. **Plot style:** Switch between different plot styles for the selected BG / FG color and line style configuration.

4.2. Dimension Text Configuration

The texts displayed in the drawings for dimension chains and automatic texts preceding individual dimension values, can be modified for the entire project or for the selected frame only. Click on the car width dimension (from the elevator screen, it's located at the top among the other dimensions) to display its properties.



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Change the information for the **"Prefix (related to frame)"** value. Type "*CW*" **SPACE** *"interior"* **SPACE** *"="* in the input field. The selected dimension's prefix text in the active view frame will change to the new value.

☞ If you change the information for the **Prefix** value, these changes will automatically take effect in all view frames of the current project, as well as in all existing and new LIFTdesigner projects.

Repeat the same procedure for any other dimension text you'd like to change.

4.3. Design and Print mode

The view frames have two different display modes: **Design Mode** and **Print Mode**. When the **Design Mode** is active all editable dimensions are shown in blue.

The **Print Mode** displays cross-hatching, colors, and line thickness and removes hidden edges. You will normally want to activate this mode for clearer visualization of the drawing on the screen or to print the drawings.
You can toggle between the two modes by enabling / disabling the **Design Mode** button in the **Edit** toolbar as shown below.

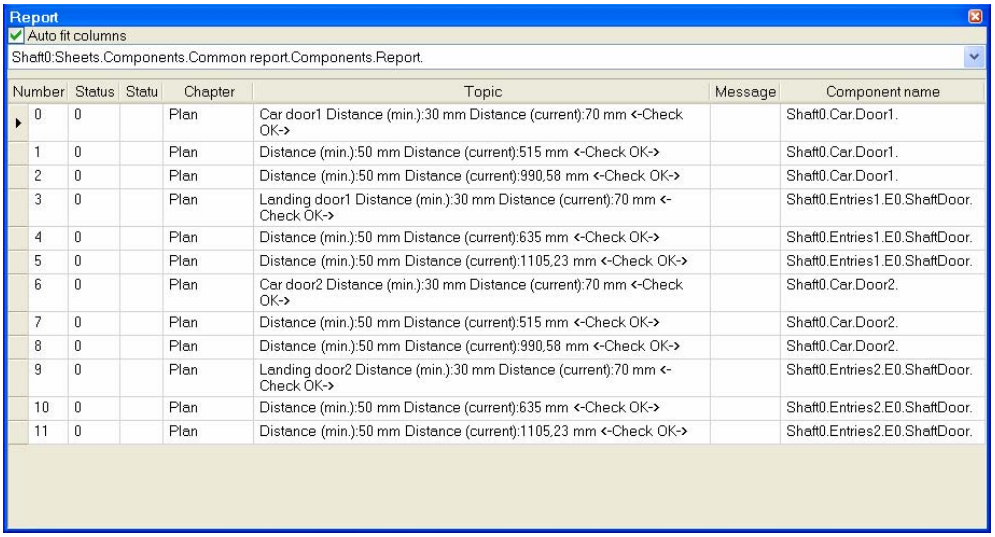
4.4. Shaft Depth and Entrances

4.4.1. General Check

☞ This check is part of the calculation module. First save your project file then click on **Results...** in the **Calculation** menu. This command performs geometrical and engineering calculations for the entire elevator system and displays the results in the **Calculation Report** docking window.

⌨ Select the "**Common Report.Components.Report**" entry from the list box at the top of the window to display the standard components checking report.

☞ This report provides LIFTdesigner internal common geometrical and engineering calculation results (not acc. to EN81). If a result is invalid (marked red), click on the "**Component name**" entry to display the properties regarding to the component that caused the error.



Number	Status	Statu	Chapter	Topic	Message	Component name
0	0		Plan	Car door1 Distance (min.):30 mm Distance (current):70 mm <-Check OK->		Shaft0.Car.Door1.
1	0		Plan	Distance (min.):50 mm Distance (current):515 mm <-Check OK->		Shaft0.Car.Door1.
2	0		Plan	Distance (min.):50 mm Distance (current):990,58 mm <-Check OK->		Shaft0.Car.Door1.
3	0		Plan	Landing door1 Distance (min.):30 mm Distance (current):70 mm <-Check OK->		Shaft0.Entries1.E0.ShaftDoor.
4	0		Plan	Distance (min.):50 mm Distance (current):635 mm <-Check OK->		Shaft0.Entries1.E0.ShaftDoor.
5	0		Plan	Distance (min.):50 mm Distance (current):1105,23 mm <-Check OK->		Shaft0.Entries1.E0.ShaftDoor.
6	0		Plan	Car door2 Distance (min.):30 mm Distance (current):70 mm <-Check OK->		Shaft0.Car.Door2.
7	0		Plan	Distance (min.):50 mm Distance (current):515 mm <-Check OK->		Shaft0.Car.Door2.
8	0		Plan	Distance (min.):50 mm Distance (current):990,58 mm <-Check OK->		Shaft0.Car.Door2.
9	0		Plan	Landing door2 Distance (min.):30 mm Distance (current):70 mm <-Check OK->		Shaft0.Entries2.E0.ShaftDoor.
10	0		Plan	Distance (min.):50 mm Distance (current):635 mm <-Check OK->		Shaft0.Entries2.E0.ShaftDoor.
11	0		Plan	Distance (min.):50 mm Distance (current):1105,23 mm <-Check OK->		Shaft0.Entries2.E0.ShaftDoor.

☞ To display the EN81 calculation results (requires the EN81 calculation module), select the "**EN81.Components.Report**" entry from the list box at the top of the dialog.

☞ If the **Checking report** window doesn't look like the example above, you can resize it by dragging the bottom left corner. You can also adjust the column widths for better legibility by dragging the column heading dividers with the mouse, or use the **"Auto fit columns"** option in the top section of the docking window.

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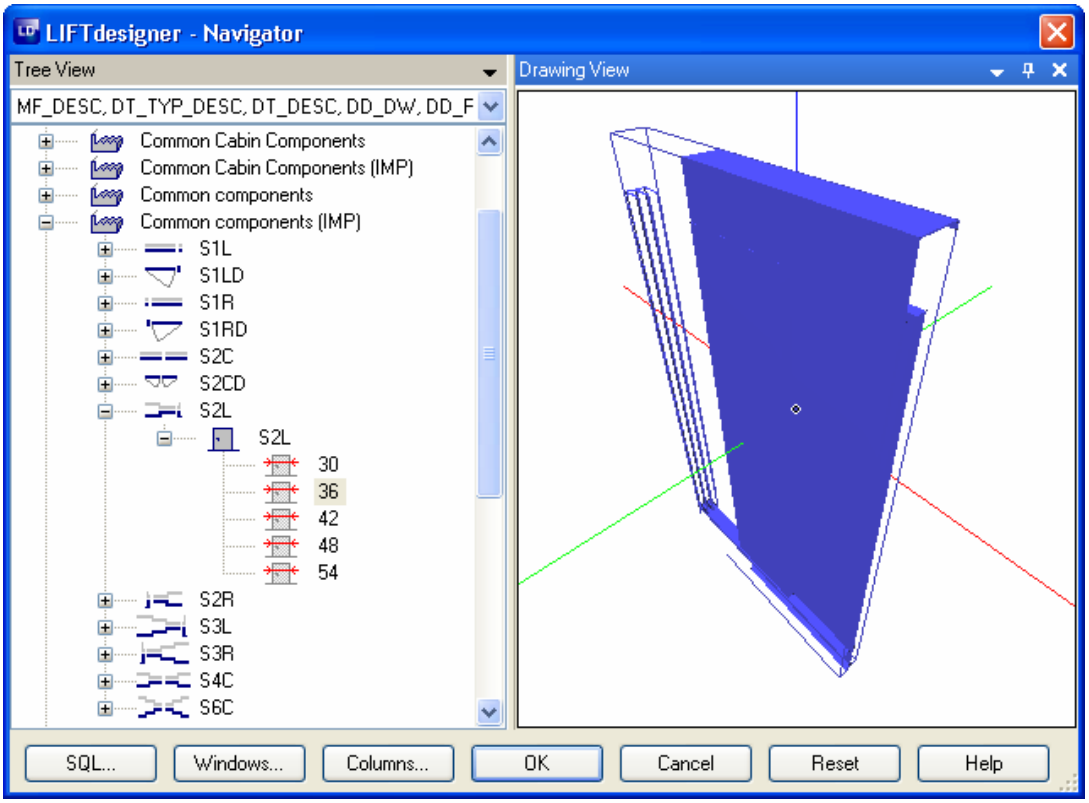
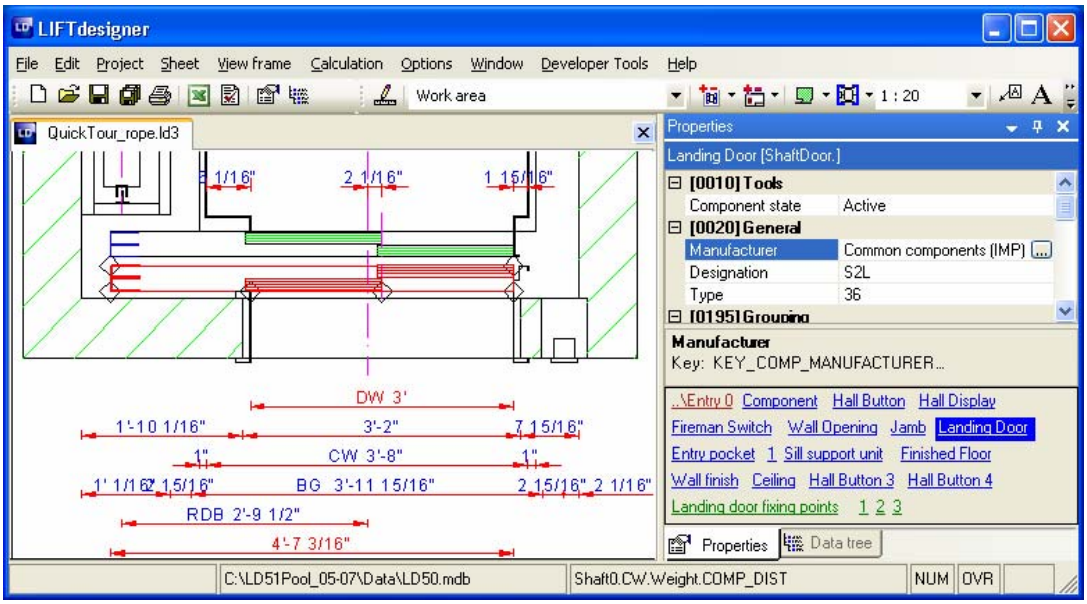
4.4.2. Changing Components: Landing Doors

First we want to replace the default door (S2L, 36'') with another model (S4C, 36''). There are two ways to display the landing door's component dialog:

⌨ Double click on the landing door to display the component navigator dialog.

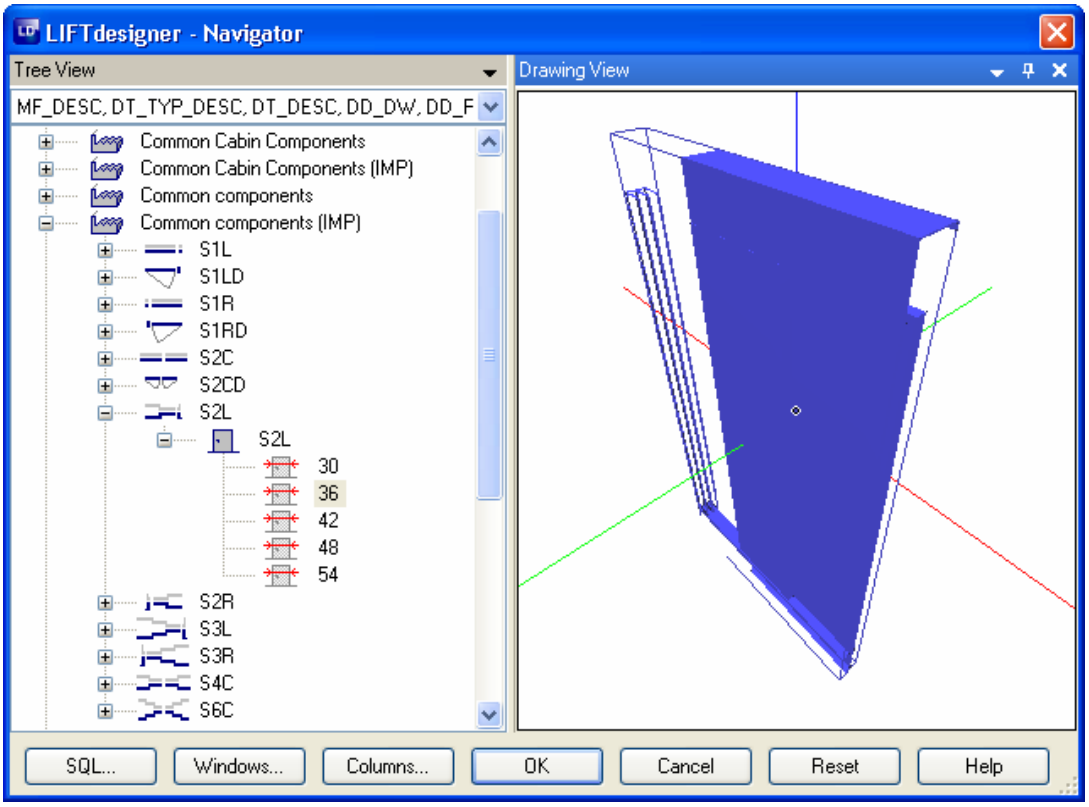


⌨ First select the door in the drawing. The door will then be marked red to indicate that it has been selected. After you have selected the door, its properties will be displayed in the **Properties** docking window.



Now click on the button in the **Manufacturer**, **Designation** or **Type** value field to open the landing door's component dialog.

The component navigator dialog appears on the screen:



Components are selected from the hierarchical tree structure, displayed in the left part of the window. The doors are sorted by manufacturer, internal designation (e.g. S2L for **S**haft landing door, **2**-leaf, **L**eft-opening), catalogue code and door width.

Click on the "+" and "-" icons to navigate through the tree structure (you can also double-click on the individual entries).

Select the door as shown above and then click on **OK** to exit the dialog. *LIFTdesigner 5* will then automatically ask, "Automatically select suitable car door?" Answer this prompt with **Yes**.

By disabling the **Drawing view** box, you can shorten the display time. (Click on the Window button and uncheck the **Drawing View** item in the appearing Navigator configuration window as shown below).

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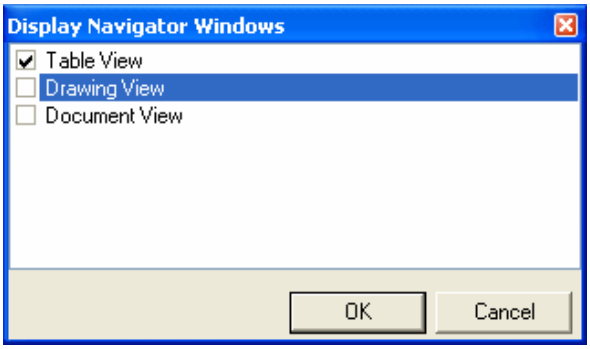
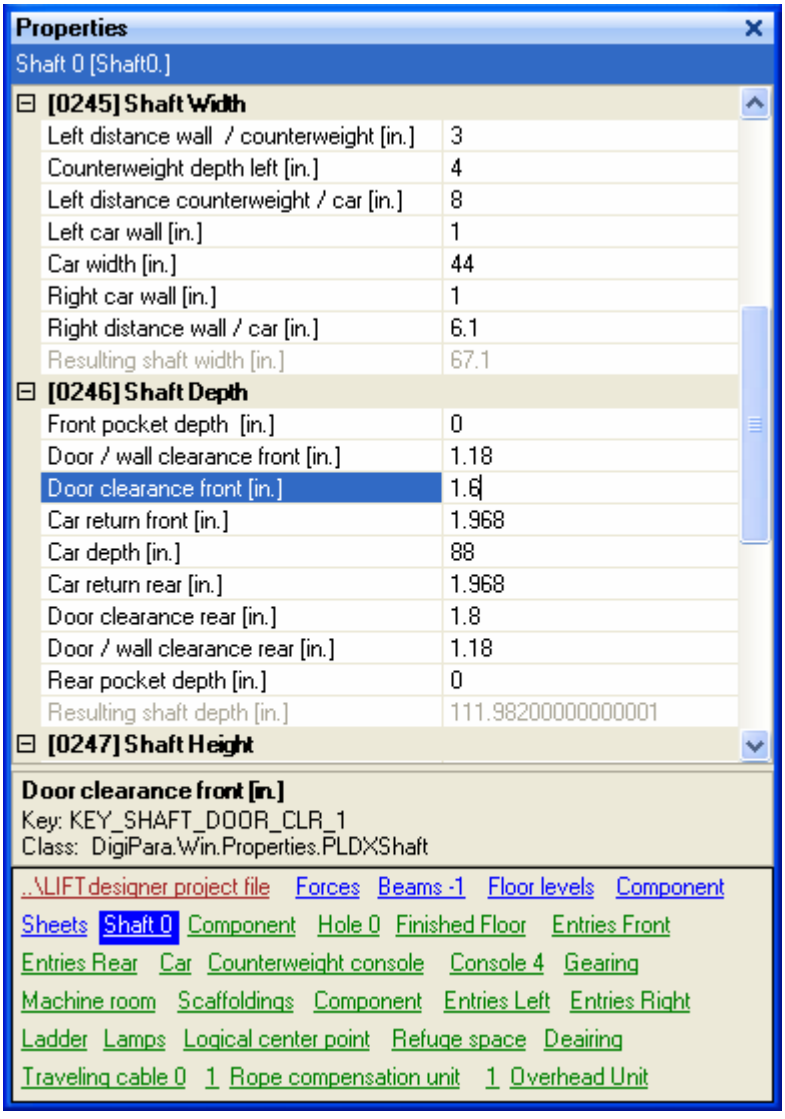


Now perform the same steps for the rear door (select the same door model).

4.4.3. Determine the Shaft Depth

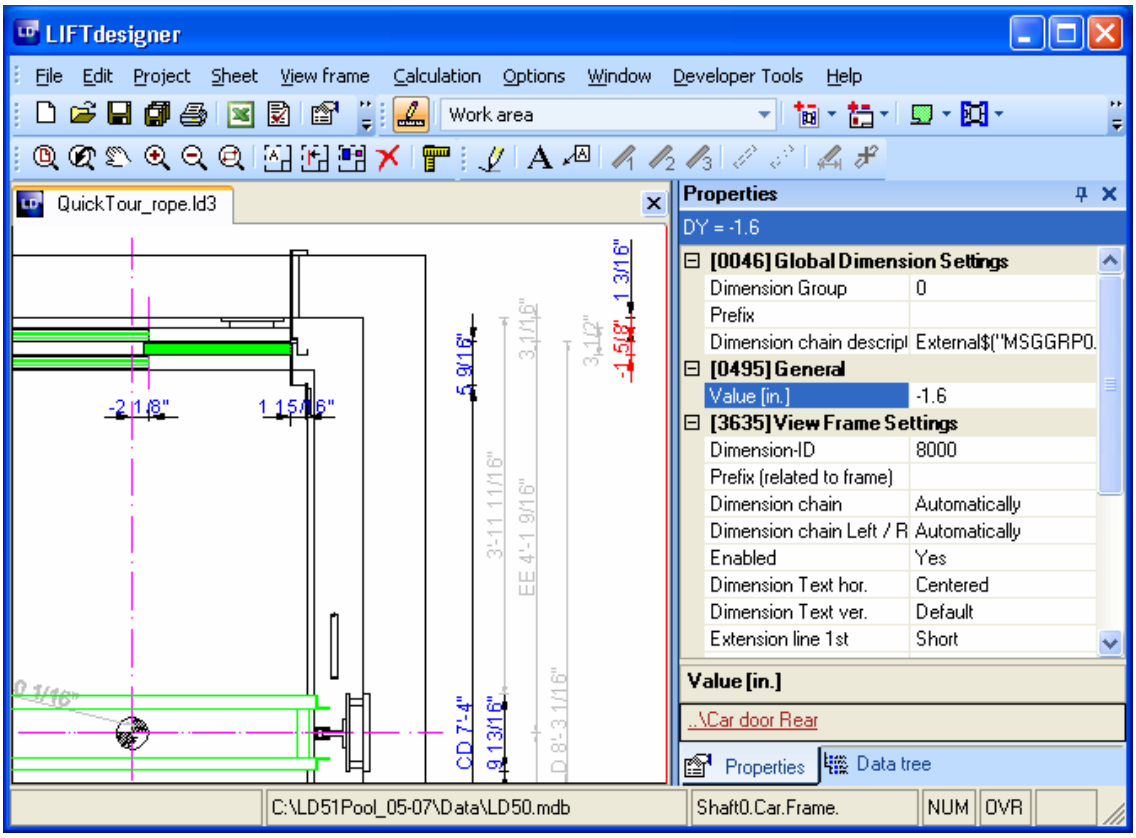
Your current shaft depth has a value of 111.98'' but you need a shaft depth of 111.58''. There are two ways to obtain the necessary 0.4'' increase in shaft depth:

Click on the shaft wall in one of the view frames:



⌨ In the **Properties** window, change the door wall clearance (distance between the door frame and shaft wall) in the **Shaft Depth** section from **-1.6** to **-1.8”** for both sides.

⌨ Or click on the corresponding blue dimensions in the drawing...



...and change the values from **-1.6** to **-1.8”** (remember to do this for both entrances).

☞ As you have probably noticed, it is not possible to change the shaft depth directly. This is because this dimension is the sum of a linked chain of other dimensions. If you change one of the dimensions in a linked chain, all the other dimensions remain constant and this naturally results in a change in the total shaft depth. The reason for this behavior is that LIFTdesigner 5 has no way of knowing how it should modify the elevator system when you alter a value that is relevant for the shaft dimensions – there are simply too many degrees of freedom to make a clear decision. This is why it is the responsibility of the user to check the shaft dimensions.

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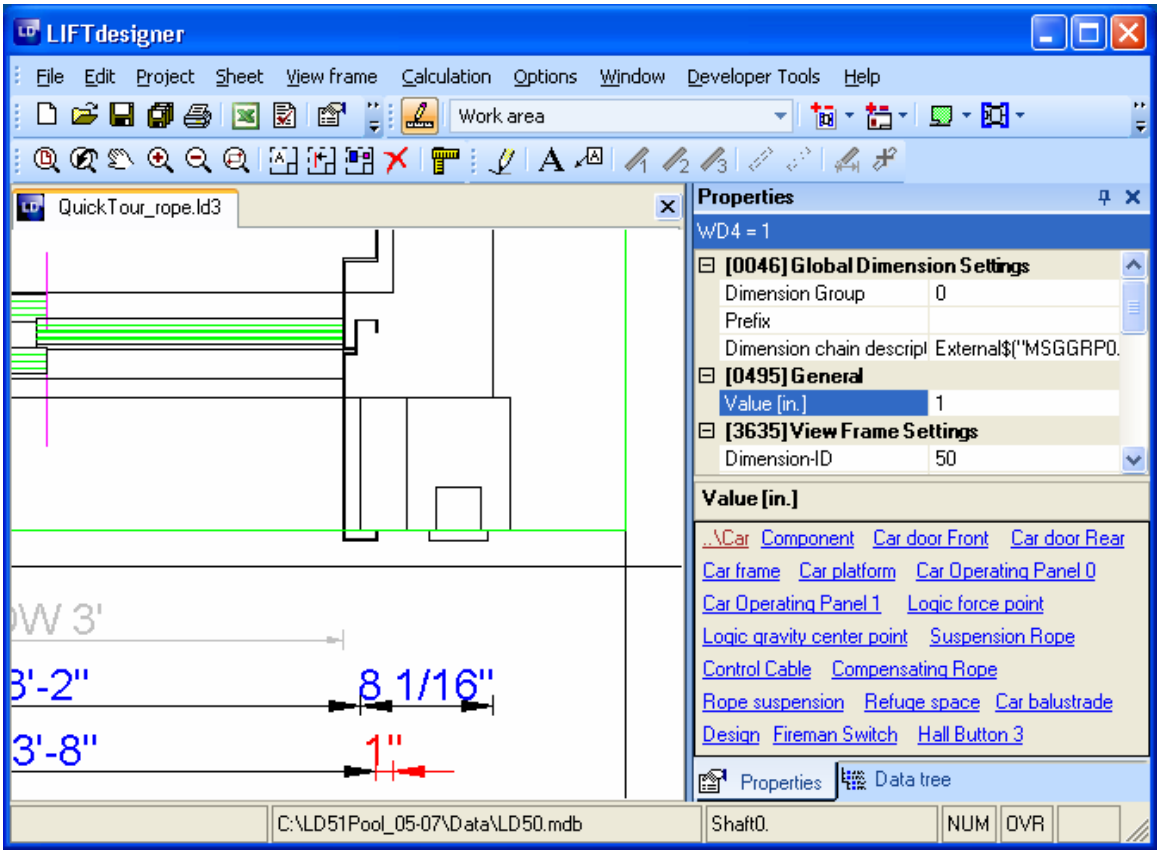
4.5. Car Guide Rails and Distance Between Guides (DBG)

4.5.1. DBG

You need to set a cab wall thickness of 1.2" with a DBG of 47.6". Like the shaft dimensions, the car DBG is a sum of linked chain of dimensions. This means that changing the wall thickness will also automatically change the cab DBG.

There are two ways to obtain the target DBG value:

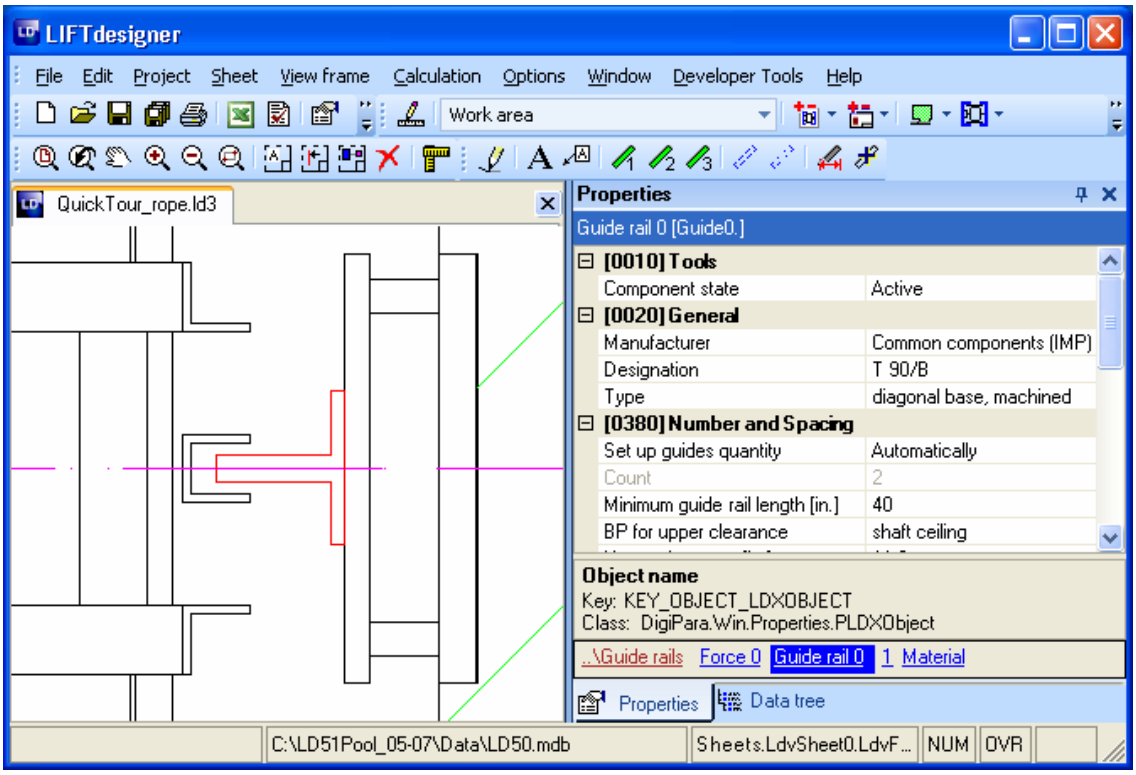
- Click on the shaft in the view window. This displays the properties for the shaft again. Now change the left and right cab wall thickness to **1.2"** (in the **Shaft Width** section).
- Click on the corresponding blue dimensions in the drawing and change them directly...



...from **1** to **1.2** for both sides.

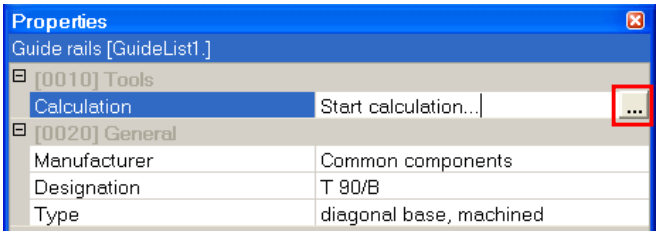
4.5.2. Car Guide Rails

- Zoom in on one of the car guide rails and display its properties.



This is a T90 rail. Now click on the parent **Guide rails** component node in the **Quick Component Link** box to display the guide list properties.

In the Guide rails **Tools** section, click on the **Start Calculation...** button in the **Calculations** field,



to open the Guide rail calculation dialogue.

Note: Guide rail calculation is only available for EN 81 projects, not for other standard like A17.1.

4.6. Positioning the Governor

Select the Safety Gear/Governor unit:

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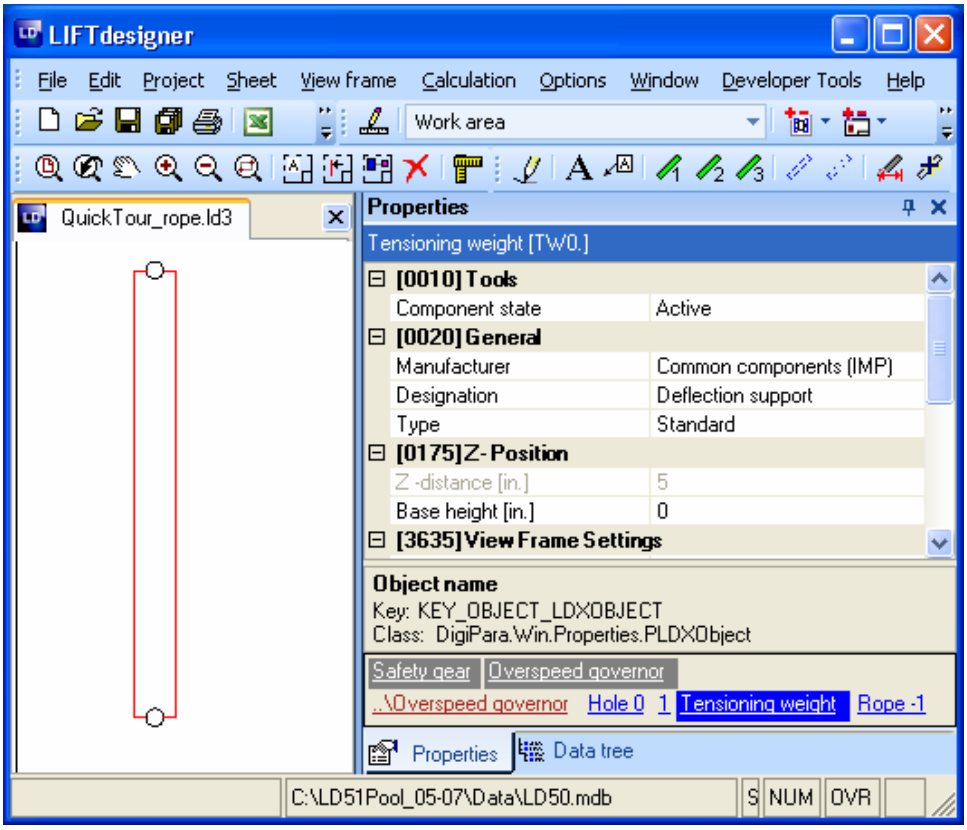
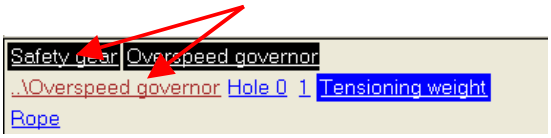
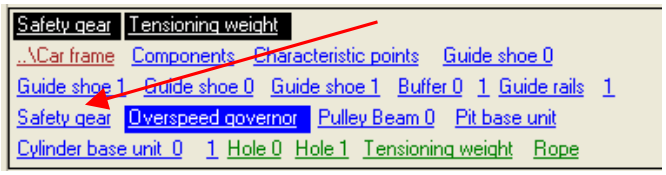


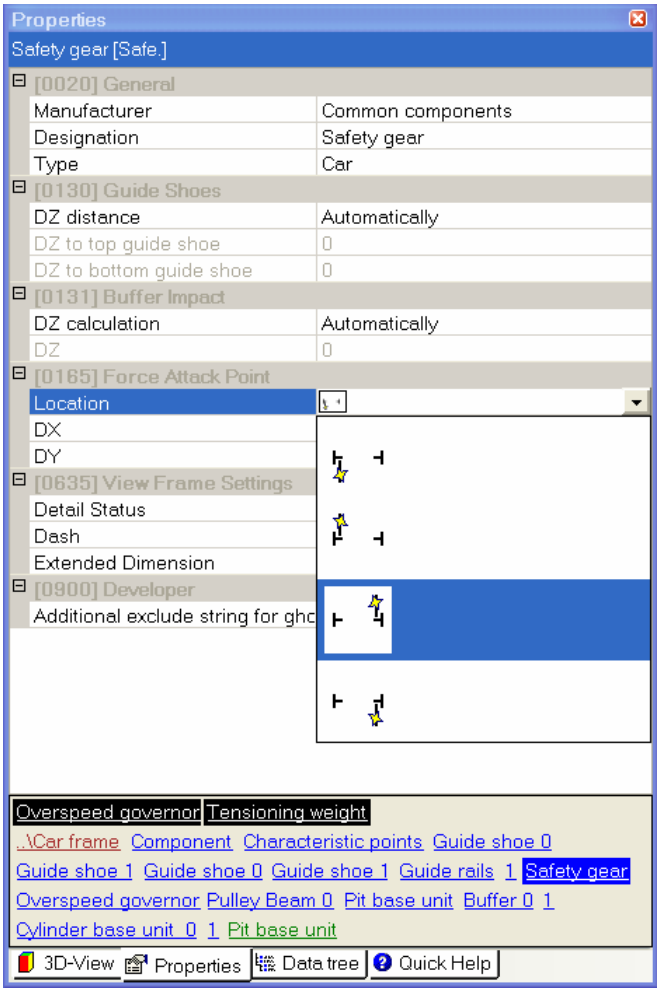
First select the opposite side for the safety gear trigger point. If you can't select the **Safety gear** directly, use the **Quick Component Link** box (click on it) and show its properties.



The safety gear is located under the same parent-node ("**Car Frame**"), as the governor. Click on the governor component link ("**..\Overspeed Governor**") to show all the components that are located under the "**Car Frame**" node (alternatively, use the black quick link to display the safety gear properties directly).

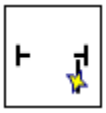


Now click on the "**Safety gear**" link to display the safety gear's properties:



Select the opposite side for the safety gear trigger point under **Force Attack Point -> Location** in the properties window.

Select this location:



Now click on the "**Overspeed Governor**" link in the **Quick Component Link** box (use the black quick link in the hyperlink box) to switch the governor's application point to the other side (**XY-Direction > Preset direction**).

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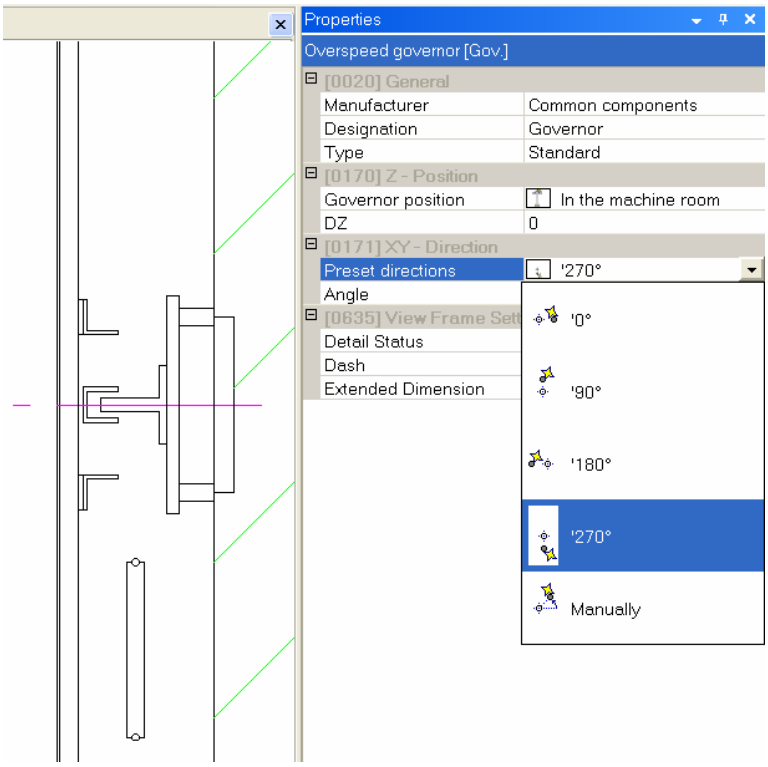
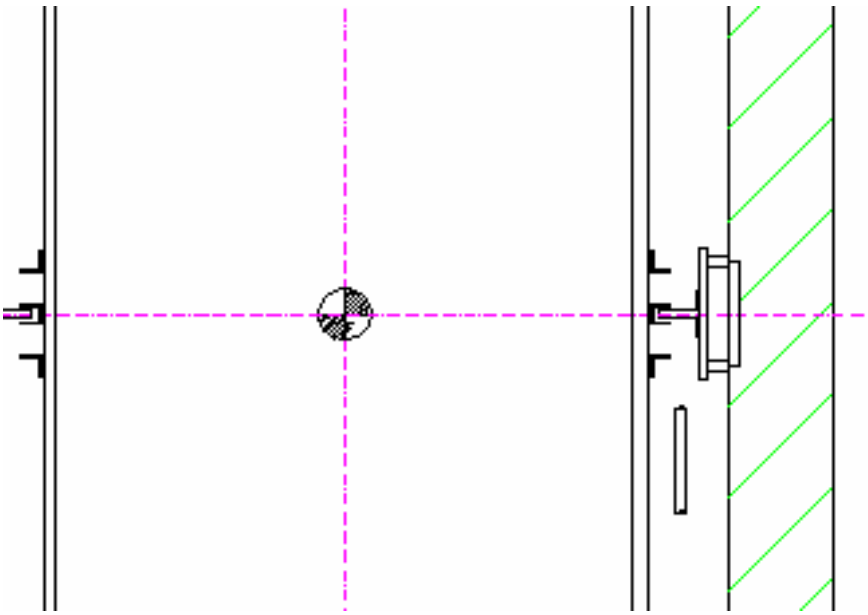


Select this location:

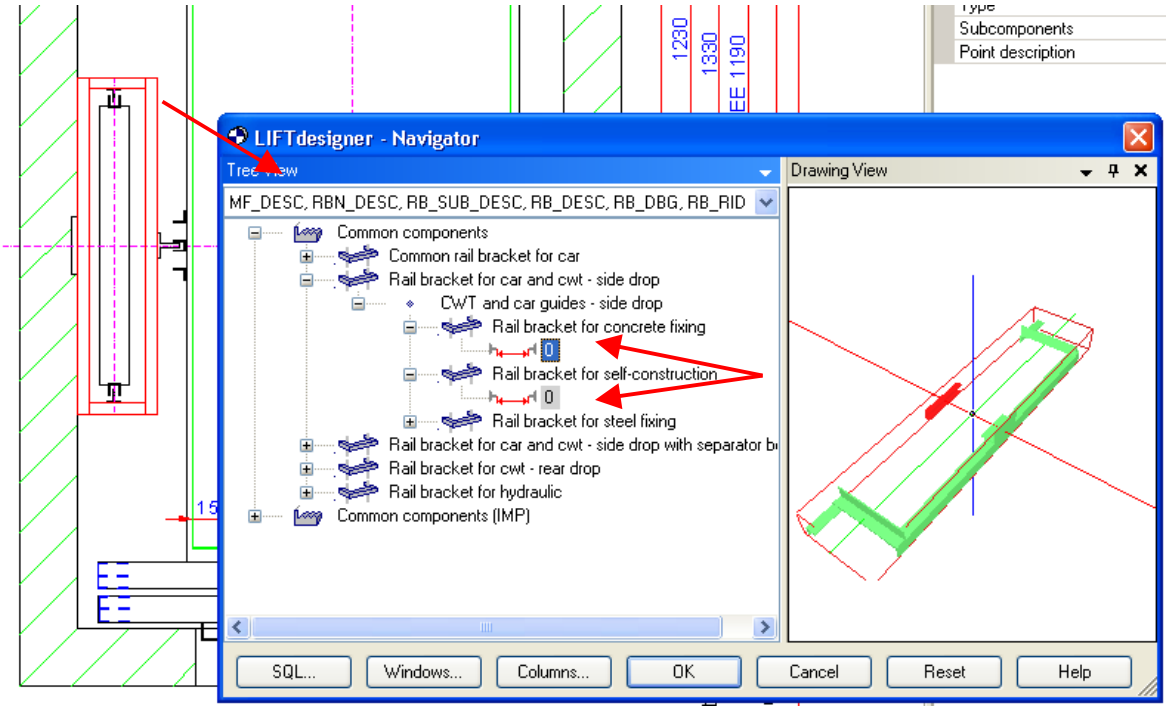
Once you have moved the "**Passenger elevator...**" text, the section of your drawing that we have been editing, should now look something like shown below:



4.7. Rail Brackets and Shaft Width

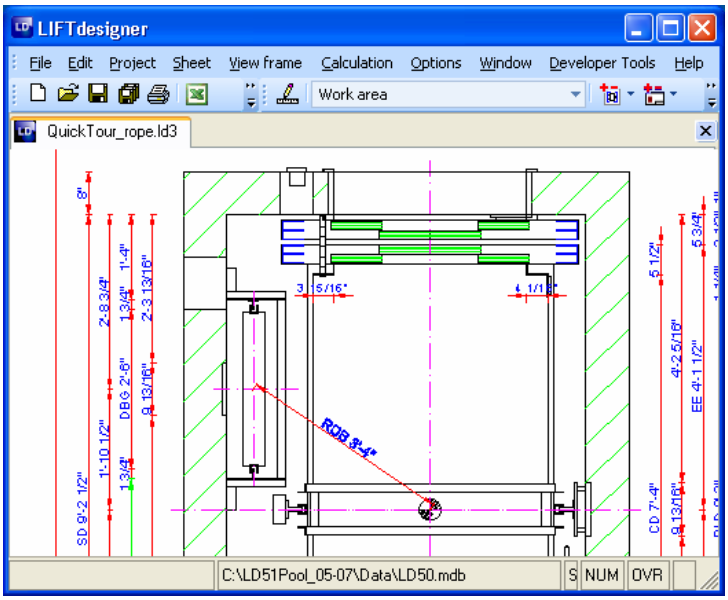
Now we are going to modify the rail brackets and the counterweight.

Double click on the rail bracket and select another counterweight bracket according to the following illustration:



Next, click on the counterweight DBG dimension and change it to **30”** (see below). Then move the counterweight **22.5”** back towards the rear shaft wall.

The drawing should now look like this:



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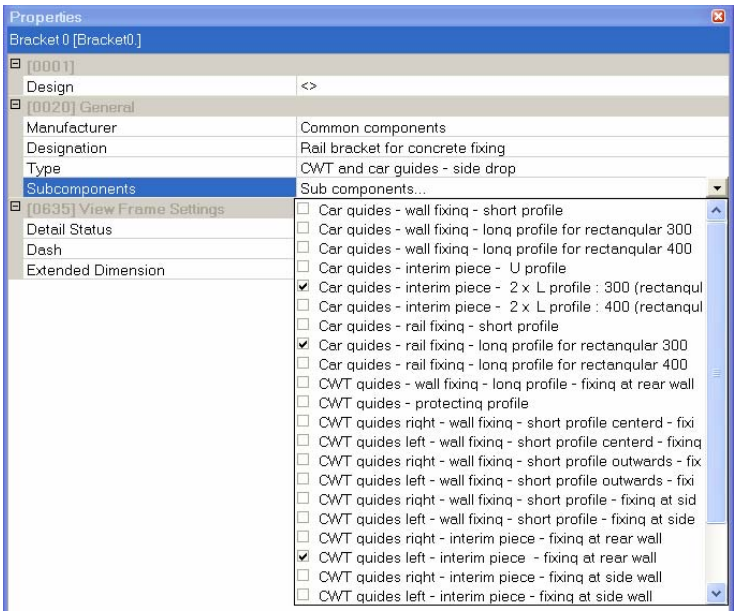
Next we are going to modify the rail brackets.

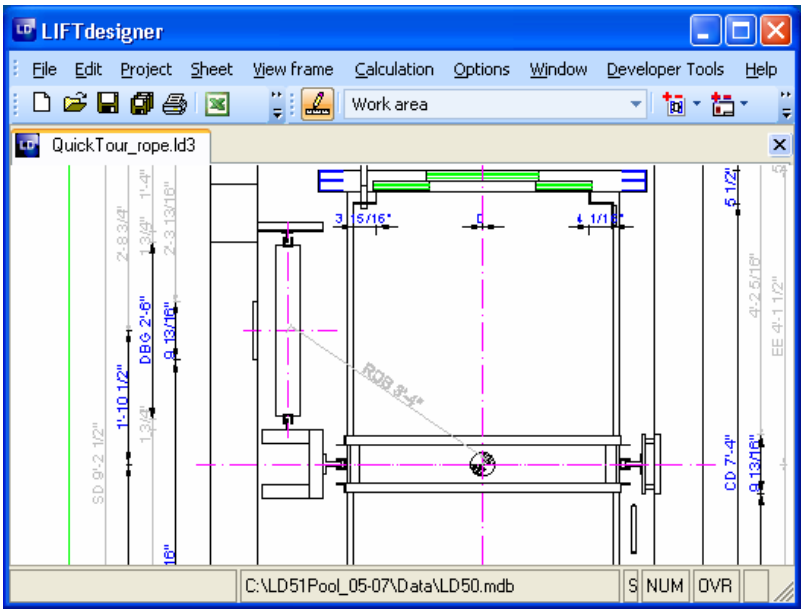
⌨ Click on the rail bracket, to display its properties and click on the subcomponents button in the **Properties** window's **General** sections. Activate the following components (working from top to bottom):

Car guides – interim piece – 2 x L profile: 300 (rectangular)	->	2 L sections as variable connecting components for the rail mountings.
Car guides – rail fixing – long profile for rectangular 300	->	Long section on which the cab rail is mounted.
CWT guides left – interim piece – fixing at rear wall	->	Left side section for fastening the counterweight rail guides.

⌨ **Deactivate** all other rail bracket sub-components. Go through the entire list of sub-components from start to end to make sure that you've got them all:



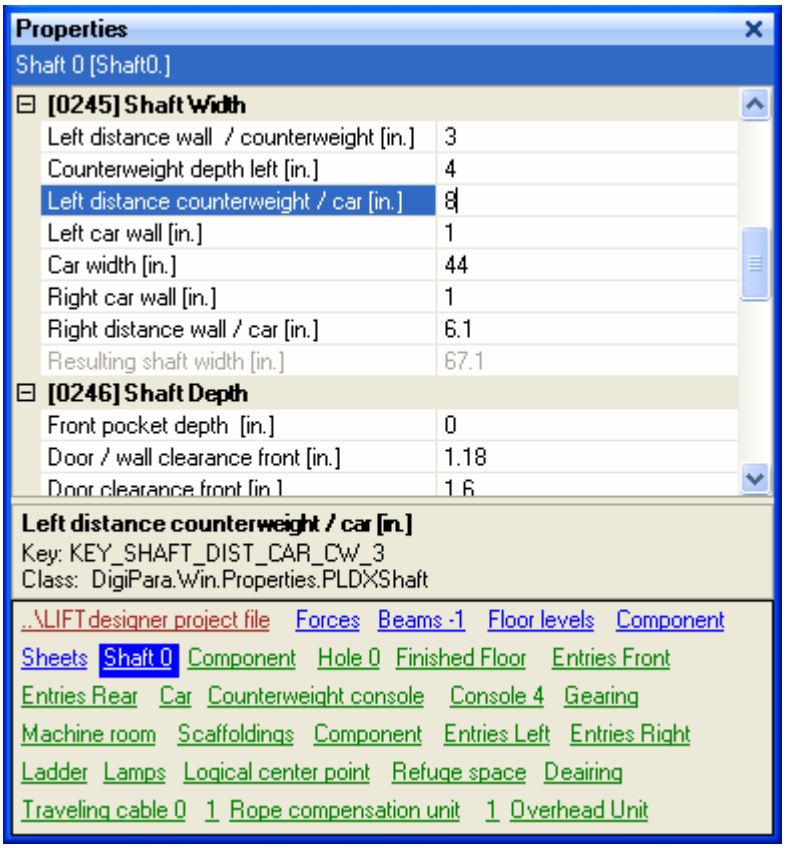
Your drawing should now look like the example below:



4.7.1. Determine the Shaft Width

Your current shaft width has a value of 67.1'' but you need a shaft depth of 64''. One way of achieving the target value of 64'' is to reduce the distance between the cab and the counterweight. Once again, there are two possible ways to do this:

Click on the shaft and change the **Left distance counterweight / car** dimension in the **Shaft Width** section from **8** to **4.9"**.



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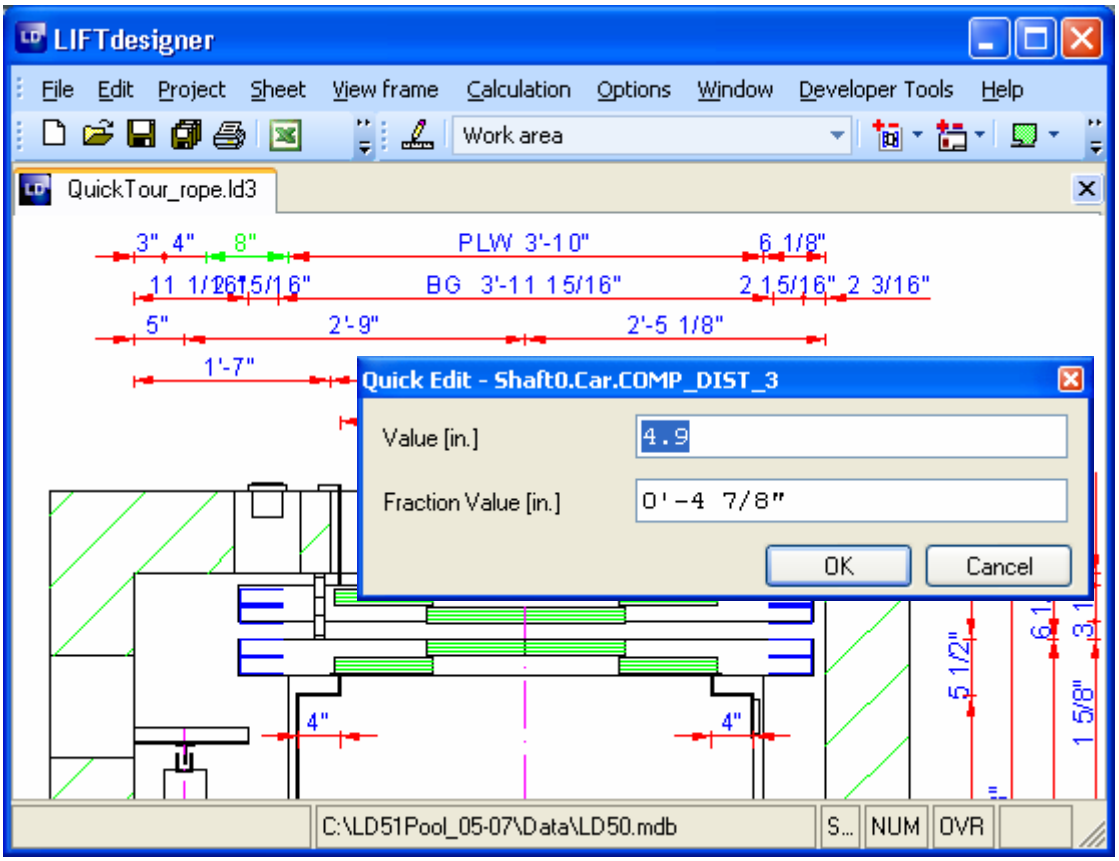
The second way is to double click on the corresponding blue dimension in the drawing...



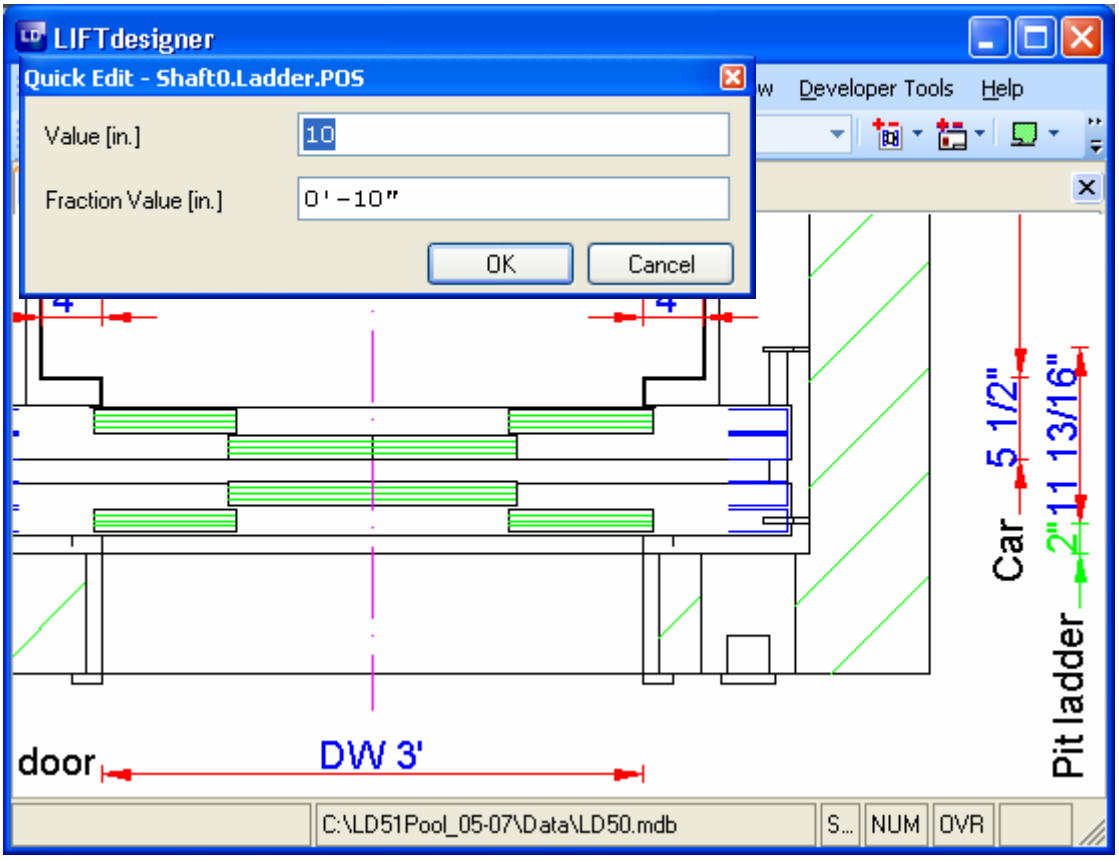
...and to change the value from **8** to **4.9** in the **Quick Edit** dialog.

As you have probably noticed, it is not possible to change the shaft width directly. This is because it is the sum of a linked chain of other dimensions. If you change one of the dimensions in a linked chain, all the other dimensions remain constant and this naturally results in a change in the shaft dimensions. The reason for this behavior is that LIFTdesigner 5 has no way of knowing how it should modify the elevator system when you alter a value that is relevant for the shaft dimensions – there are simply too many degrees of freedom to make a clear decision. This is why it is the responsibility of the user to check the shaft dimensions.

4.8. Pit Ladder

Enable the pit components to activate the pit ladder.

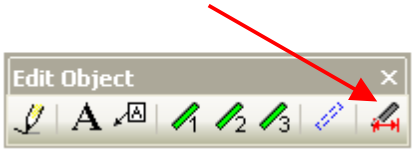
Note: The pit ladder dimensions are only displayed when the ladder is selected!



Change the appropriate value from **2** to **10** to move the ladder 8'' deeper into the shaft, so that it is farther away from the shaft door.

The dimensions of some components are only displayed when the components are selected. This makes the drawing less complex, while still enabling you to display the less important dimensions when you need them.

If you wish, you can also activate all of these dimensions in the **Edit Object** toolbar by clicking on the icon shown below.



Hide the pit components by pressing the corresponding button again.

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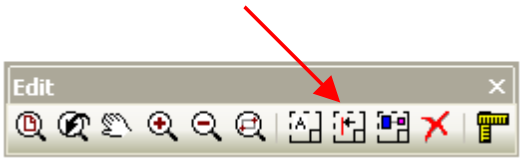
4.9. Configuring and Saving Views

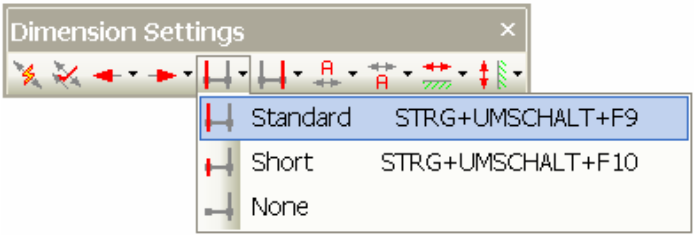
4.9.1. Dimensions

You can store dimension and view setting configurations in “drawing templates”. To do this, first switch to the print mode (the shaft is shown with cross-hatching). Now you can move the dimension texts in the drawing by clicking and dragging it with the left mouse button.

⌨ To move more than one dimension at once: Click on the **Select Dimension Objects** button in the **Edit** toolbar and draw the selection box over the dimensions that you want to move / modify.



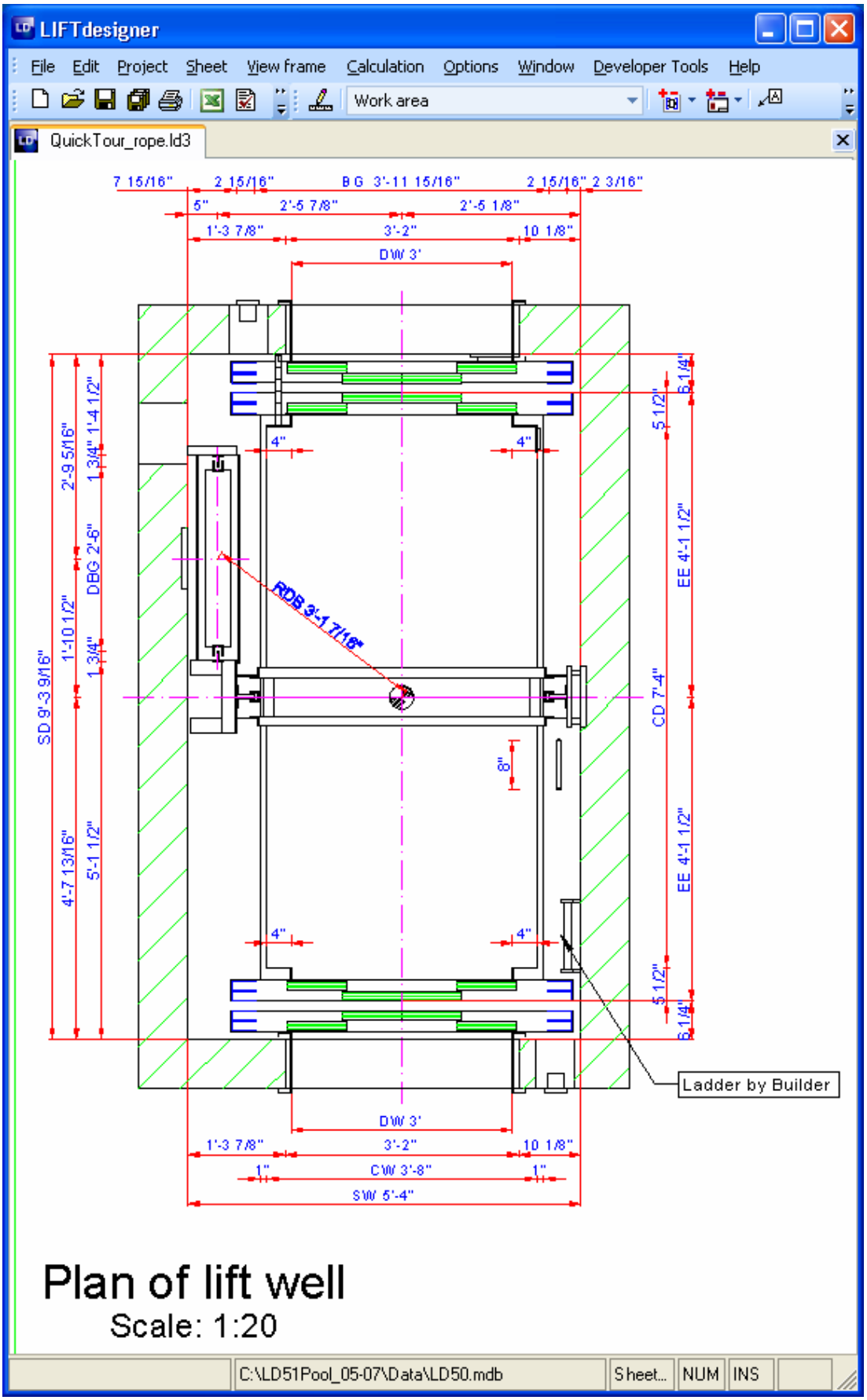
⌨ To display dimension’s extension lines: Proceed in the same way as above. Then click on the **Extension Line** buttons in the **Dimension Settings** toolbar.



⌨ To disable dimensions: Select all dimensions you don’t want to show and disable them by clicking on the **Delete Objects** button in the **Edit** toolbar.

If you don’t want to display the disabled dimensions (colored light gray, after disabling), click on the **Show Disabled Dimension** status button in the **Project** toolbar.

After making a few changes using the options described above, your drawing should look something like the example on the next page.



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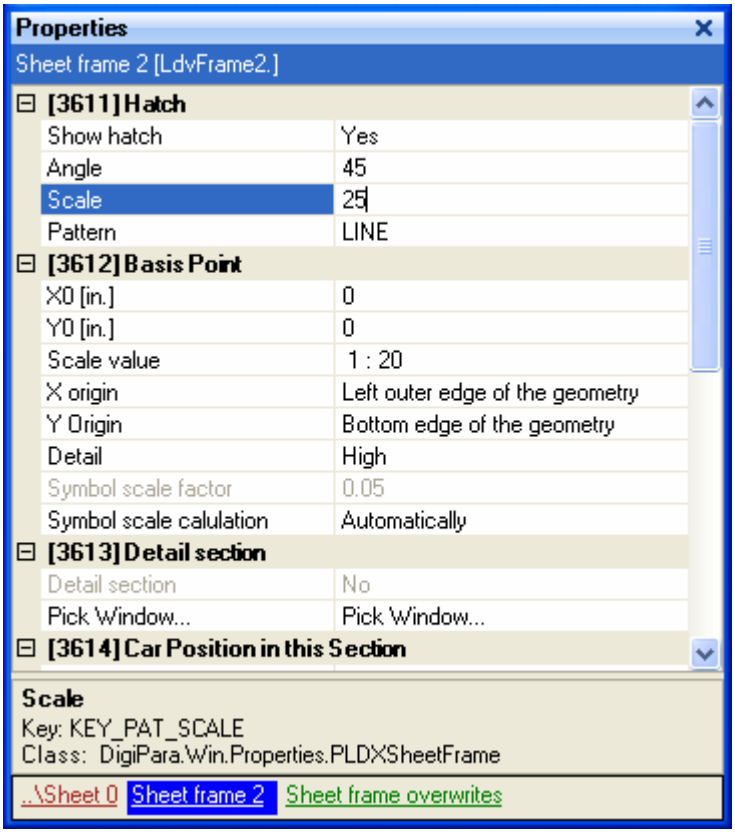
4.9.2. Scale and Hatching

Click on the View frame to display its properties in the LIFTdesigner **Properties** window:



Select a finer hatch by editing the corresponding "**Scale**" value.

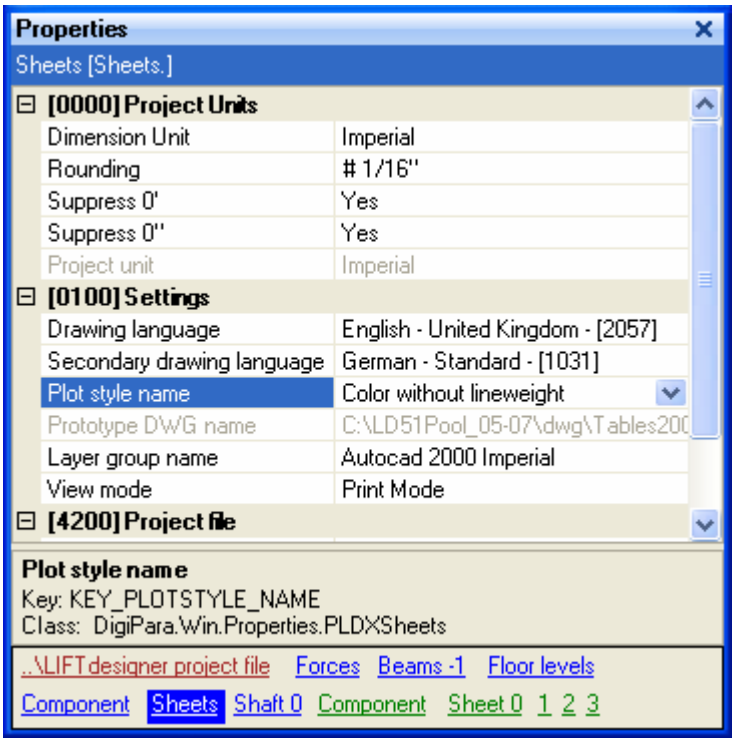
4.9.3. Configure Line Weights / Layers

There are two ways to change the line weight / color and background color:

Click on the appropriate status buttons in the **Project** toolbar.

a: Switch the background color from black to white and reverse.
b: Switch the line weight to thin / thick and reverse.
c: Switch the foreground color from colored to monochrome and reverse.

Another way is to select **Sheet Properties...** in the **Sheet** pull-down menu to display the sheets properties. Now click on the **Sheet** component in the **Quick Component Link** box to display the global sheet properties.



When you select another **Plot style** value or change the status of the buttons in the **Project** toolbar, to change the line weight, the fore- and background color, these changes affect all of the LIFTdesigner frames and sheets in the current document.

4.9.4. Saving your Settings

You can now save these settings in the project file and in a sheet template file for use with other similar projects.

Saving the settings within the current project: Click on the Sheet properties... button in the Sheet toolbar to display the sheet properties in the Properties window.

Change the sheet name under **General -> Page Name** from **Work Area** to **Plan CWL**, for example.

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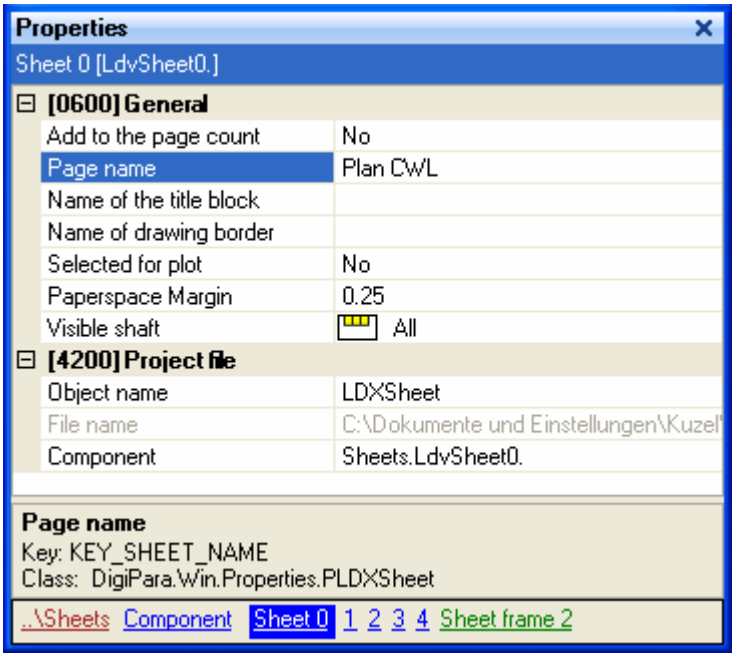


4.9.5. Saving the Settings in an External Template file:

Select **Save sheet template** from the **Sheet** pull-down menu. In the dialog displayed, enter *Plan CWL* as the filename. You can now use this configuration file to load the same settings for other projects. To do this, go into the **Sheet** menu and select **Load sheet template.** This will load the file *Plan CWL.LDS*.

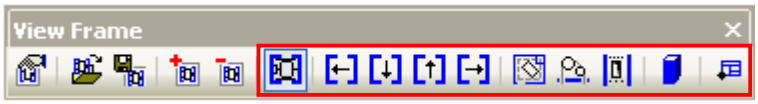
The filename *Plan CWL* indicates that the sheet file contains settings for a **Plan** view with the configuration **C**ounter **W**eight **L**eft. If you need other view configurations, you can save them in additional sheet files with a different sets of plan view settings.

5. Sectional Vertical View

5.1. Changing Views

⌨ Switch back to the sheet "**Work Area**".

The buttons in the **Views** selection toolbar enable you to directly switch between the available views of the elevator.



From left to right:

1. View Frame Properties:
2. Load View Frame
3. Save View Frame
4. Add View Frame
5. Remove View Frame
6. Switch view frame to Plan view
7. Switch view frame to Vertical sections facing left / front / rear / right shaft walls; Switch view frame to Machine Room view
8. Switch view frame to Roller arrangement view
9. Switch view frame to Entrance view
10. Switch view frame to 3D view
11. Switch view frame to External drawing block

⌨ Switch to the *Work Area* template, then click on the button for the vertical section facing the left shaft wall or select **Vertical section – View from right** in the **View frame** menu.

☞ **WARNING:** Any changes made to the current view settings – for example: scale, dimension display or component visibility – will be lost if you don't save them in a sheet template before switching to another view!

5.2. Building Floor Levels

Now we want to make some changes to the landing and travel parameters in the floor level list. To do this, select **Project > Floor Levels…** from the pull-down menu to open the **Floor Level** configuration window.

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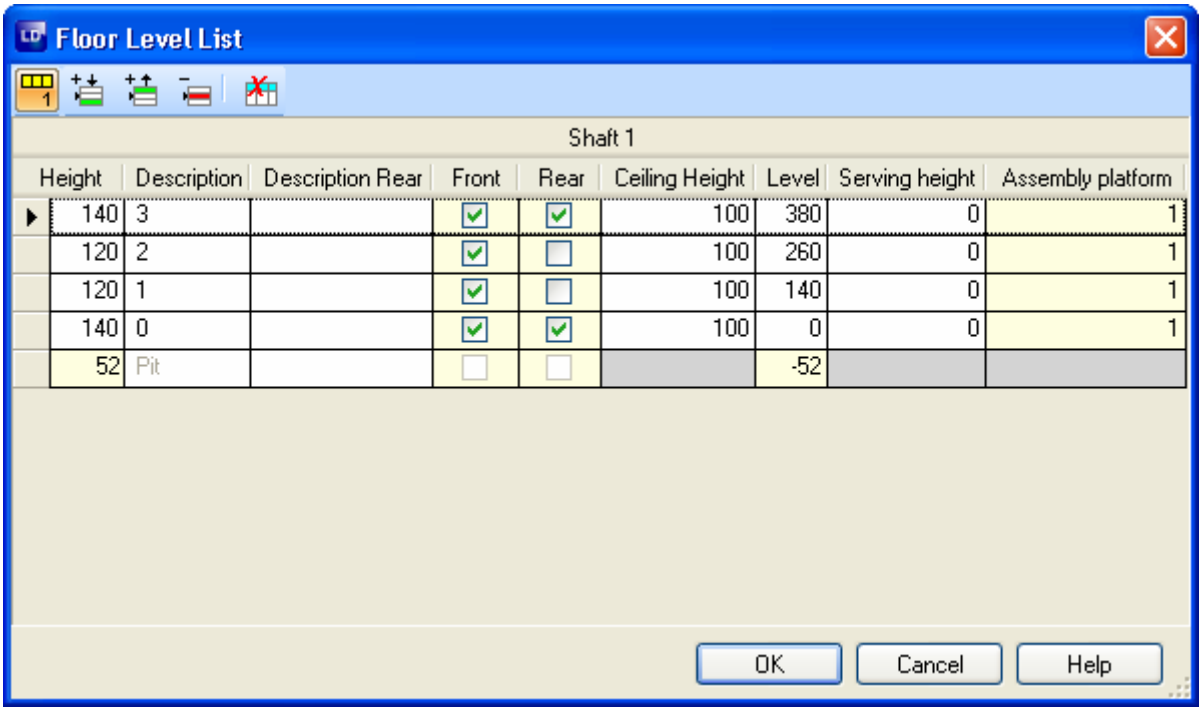


Make the changes shown above then click on **OK** to exit the dialog. The drawing will be updated automatically.

You can add and remove floor levels by using the appropriate buttons. Add two new floor levels and edit their parameters by clicking in the corresponding fields. Then enter the necessary values and description. You can activate and deactivate entrances on individual floors by clicking on the corresponding fields in the **Front** and **Rear** columns.

Column description:

Height:	Distance between landings or distance to shaft pit (bottom) or shaft head (top)
Description:	Landing description
Front/Rear:	Front and rear entrances
Ceiling:	Vertical distance from finished floor to lower surface of floor level (e.g. for suspended ceilings).
Level:	Enables you to enter the exact height as shown in the architectural drawing
Assembly Platform:	Number of Assembly platforms on the selected floor level

5.3. Rail Bracket

Select a rail bracket to display its vertical dimensions.

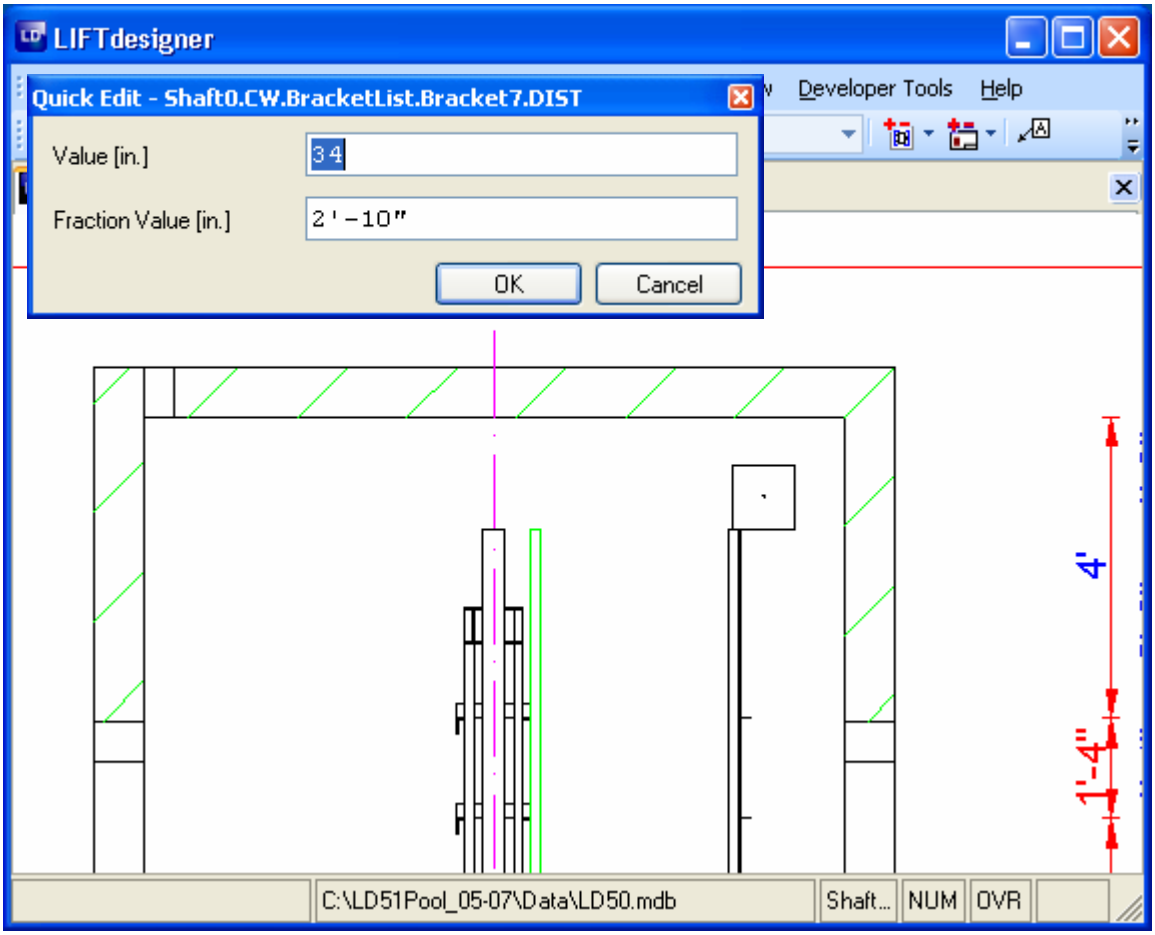
⌨ Change the rail bracket span to **80”**.

⌨ Confirm the following prompts with **Yes** to perform the same changes for all rail bracket spans. Activate the rail calculation module to check that the maximum stress will not be exceeded with these spans.

⌨ Change the span between the pit and the first bracket to **20”**.

☞ **Caution**: Confirm the prompt displayed after entering the new value with No, otherwise all rail brackets spans will be set to 20’’.

⌨ Change the span between the last bracket and the preceding bracket from **16”** to **34”** as shown in the example below.



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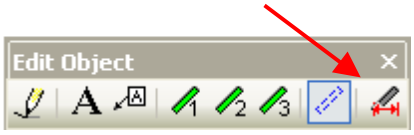
5.4. Configure and Save the view

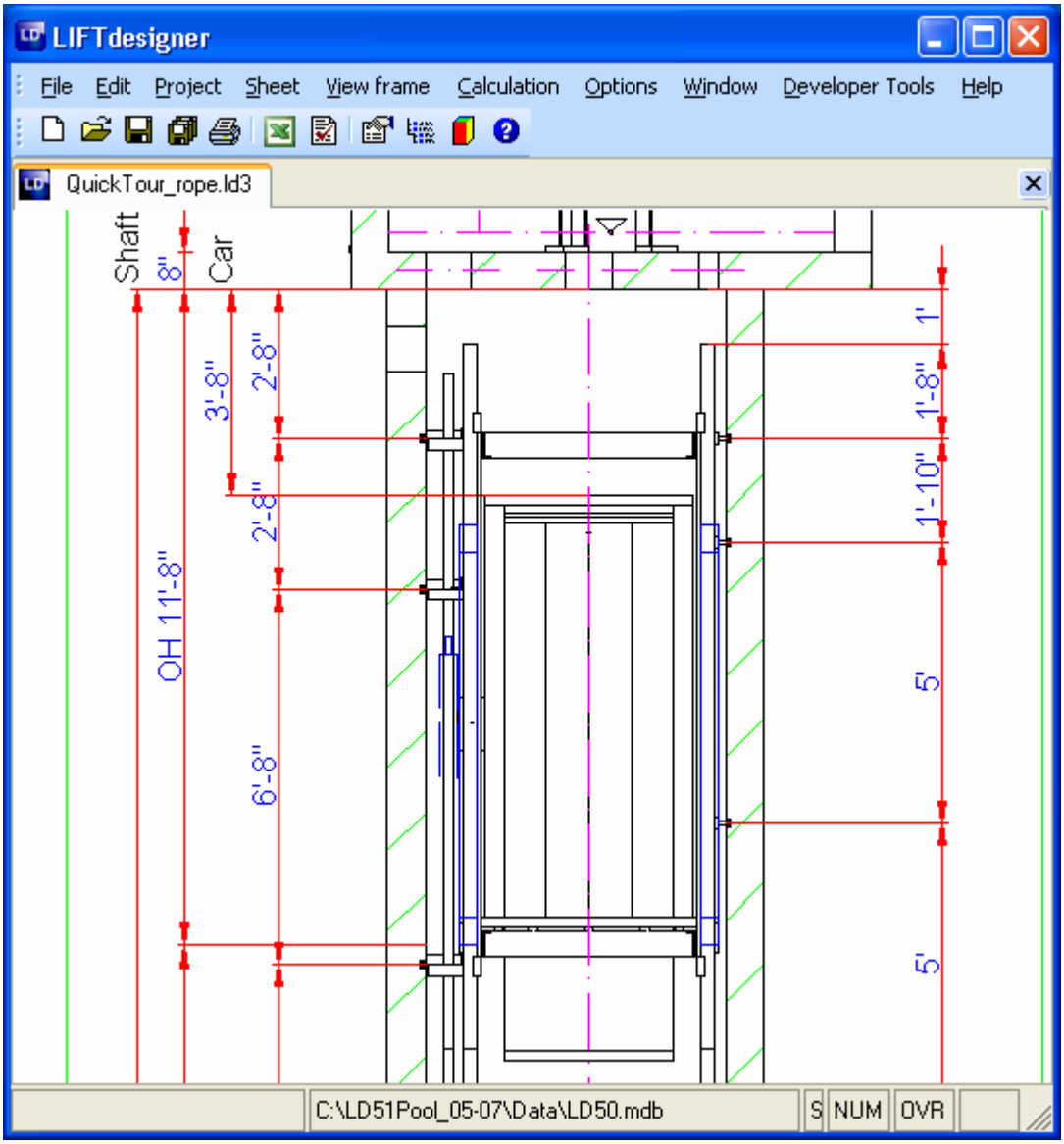
5.4.1. Dimensions, Scale, Hatching and Components

The basic procedures here are the same as those described in the Plan View chapter.

When you activate the view, you will notice that some dimensions do not seem to be there. For example, the rail bracket and guide rail dimensions. Click on the component, then click on the toolbar icon shown below to set the dimensions in this view to “always display”.

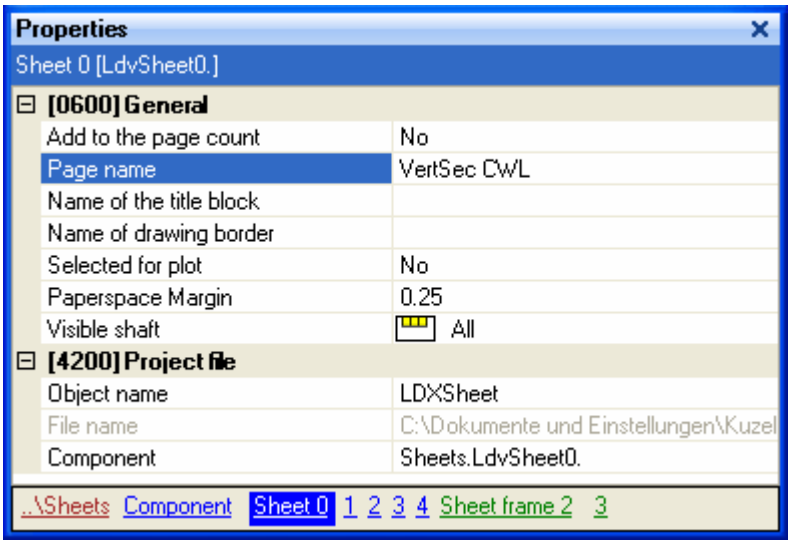


After making a few of these changes, your drawing will look something like this:



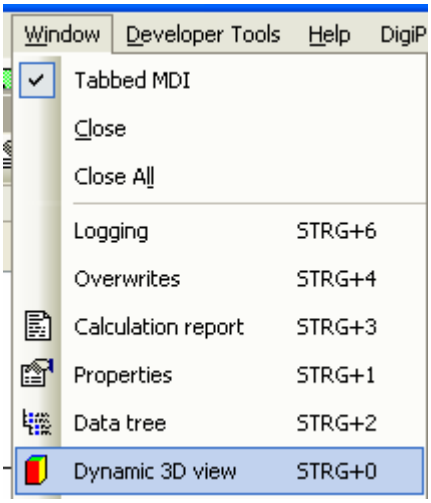
5.4.2. Saving the Settings

Select the plan view frame, if it is still on your drawing sheet. Then delete the view frame from your drawing by clicking on **View Frame** then select **Remove View Frame** in the **View frame** pull-down menu. Proceed as described in the Plan View chapter and give the sheet template the name *VertSec CWL.*



6. Dynamic 3D view

This feature is part of the 3D Render module. You can always display the current view in dynamic 3D. Click on the **Dynamic 3D View** button in the **Standard** toolbar or select **Dynamic 3D View** from the **Window** pull-down menu.



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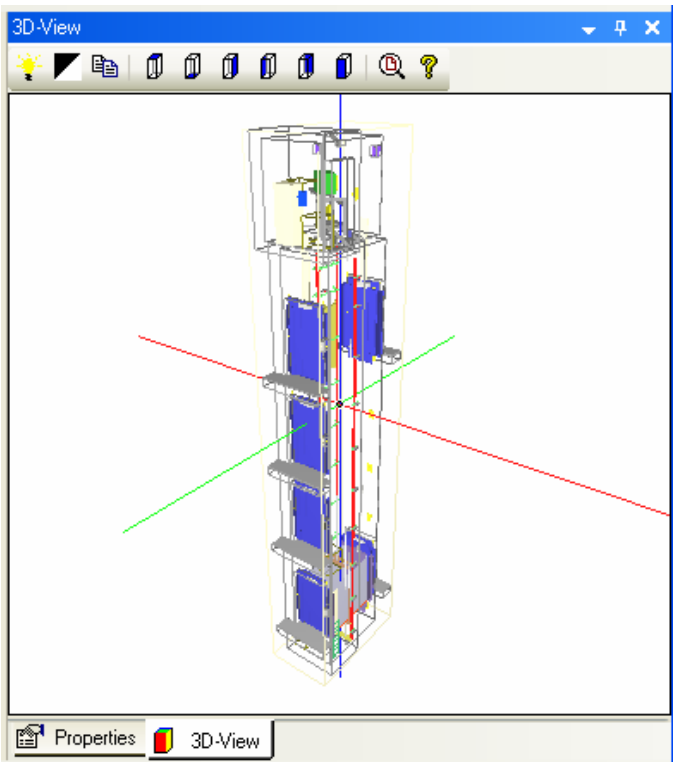
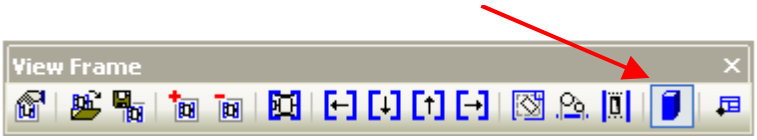
You can rotate the view around a defined point by dragging it with the left mouse button. Dragging it with the right mouse button moves the view within the window.

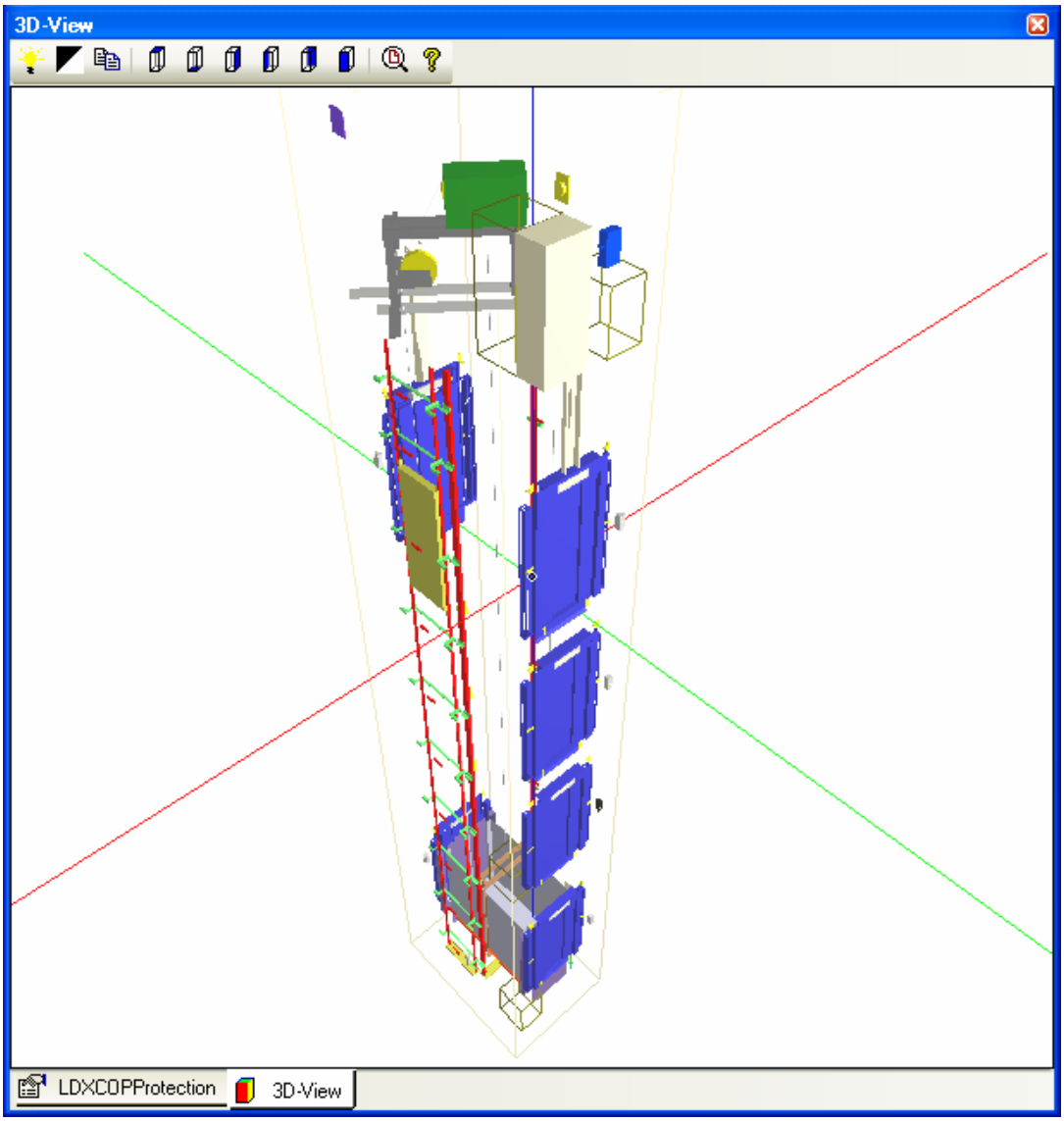


You can define the center point of rotation by switching to one of the orthogonal views (with the icons at the right-hand side of the toolbar) and shifting the model as required.

To display a 3D view of the entire elevator , close the current view and select the **3D View** from the **View Frame** toolbar:



If you like, you can also disable the display of the shaft and the machine room in the 3D mode. Just click on the icons on the right-hand side of the toolbar as shown below.



7. Machine room

7.1. Size and Position

Activate the machine room view and check that the work area is activated.
The dimensions shown below determine the machine room location. The position is defined in relation to the lower left edge of the shaft ceiling.

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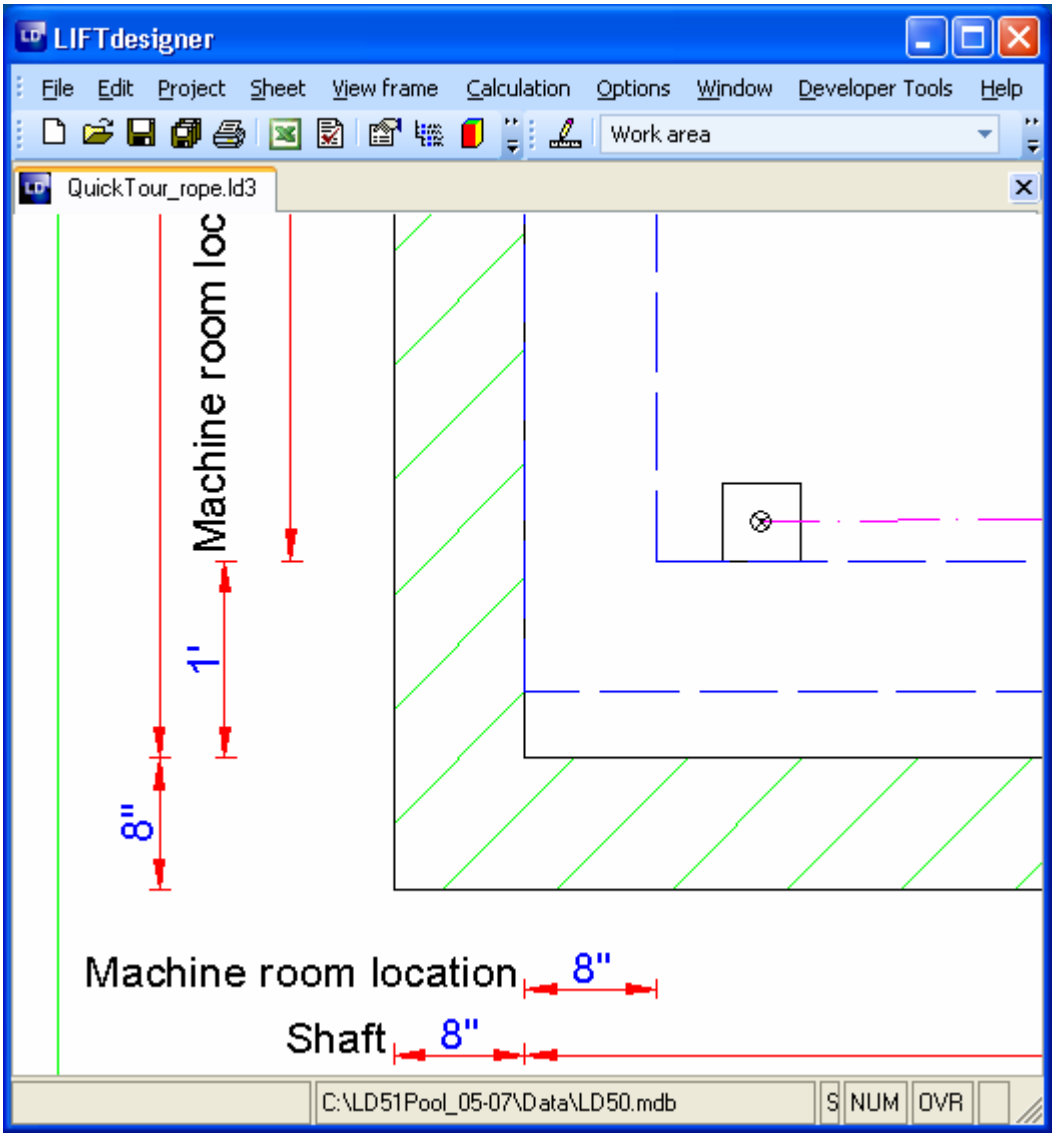


Enter **20”** for the vertical dimension and **40”** for the horizontal dimension. The position of the machine room will be shifted accordingly.

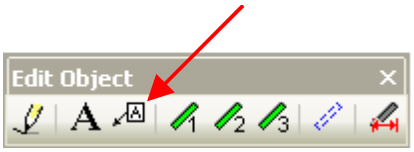
The dimensions for the size of the machine room are clearly visible. Enter a value of **160”** along the vertical shaft axis and **120”** along the horizontal shaft axis.

7.2. Openings

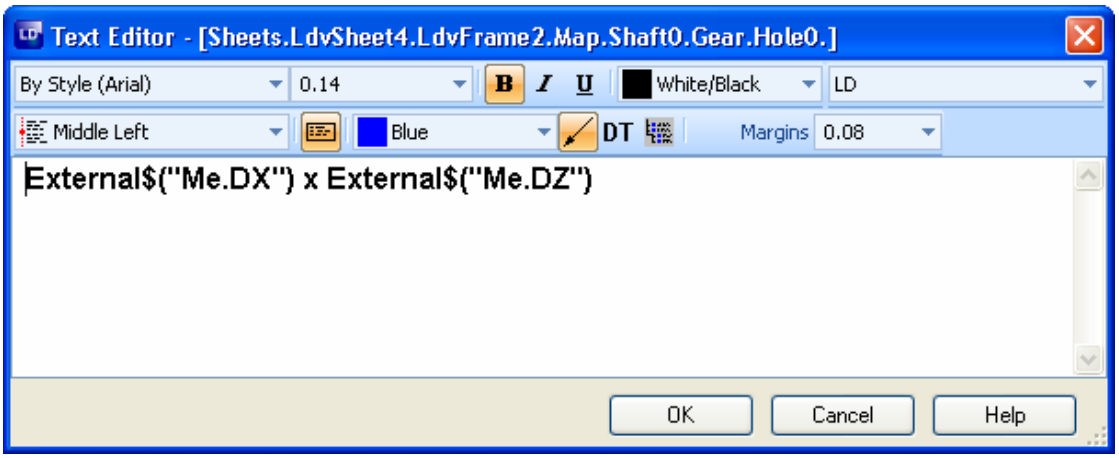
Turn off the machinery display by clicking on the sheaves icon in the components toolbar. Then select a rope opening – this displays some additional dimensions.

Change the opening dimensions for both ropes to **8 x 8”**.

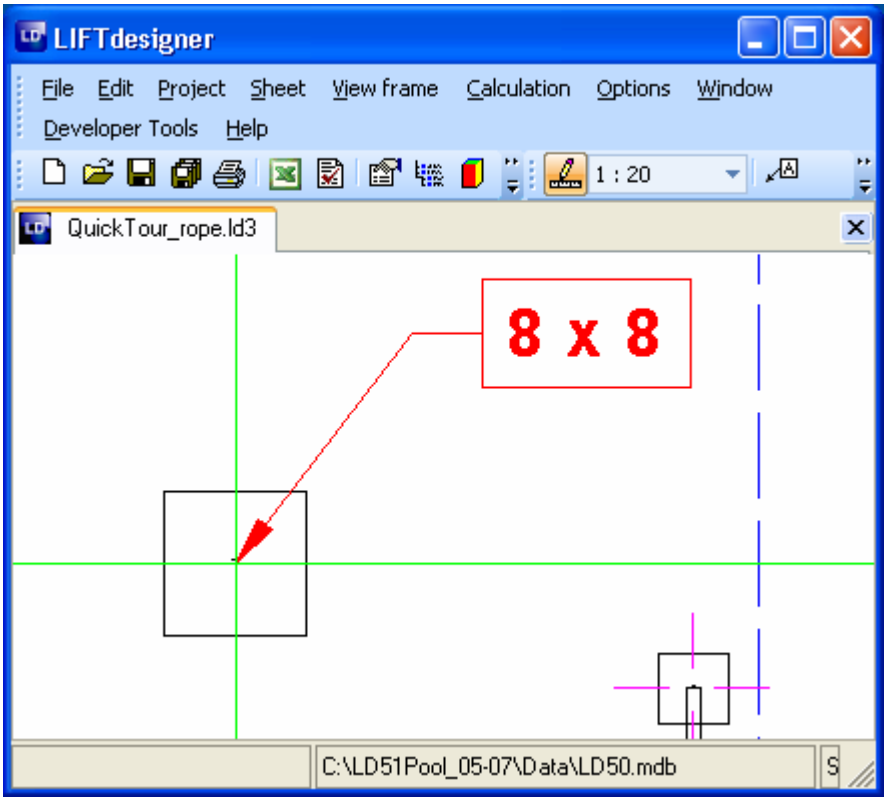
You can also adjust the opening dimensions with the guide dimensions. To do this, select an opening and display its properties. Then click on the Component annotation button in the **Edit Object** toolbar.



In the dialog, click on the **DT** button to display the default text for the component.



This displays the guide dimensions, which you can adjust by selecting and dragging it with the left mouse button.



Repeat this procedure for all the other rope openings, including those for the governor (you will need to disable the governor display to do this).

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7.3. Other Machine room Components

You can make rough adjustments to the position of the switchgear cabinets, doors, ventilation openings, etc. by selecting them and changing the values in their properties dialog boxes.

☞ Fine adjustments are made with the additional dimensions that are displayed in the drawing when the components are selected.

7.4. Configuration and Saving the view

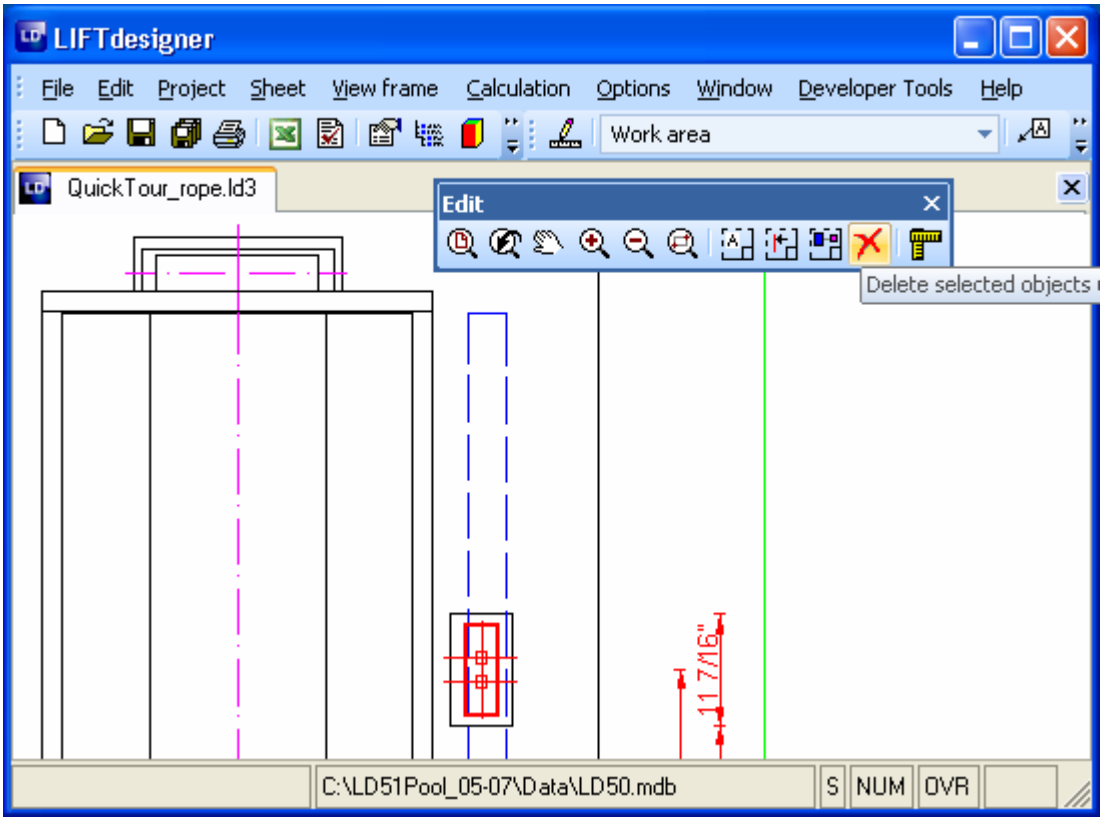
Proceed as described in the chapters regarding the other view types. Name the sheet template *Machine Room CWL* and use the configuration methods described above.

8. Wall Opening

8.1. Hall Button and Position Indicator

Create a new drawing sheet by clicking on the **Sheet** pull-down menu then selecting **Add sheet** and switch it to a wall opening view.

⌨ Select one of the panels and delete it, by clicking on the **Delete selected Object** button in the **Edit** toolbar.

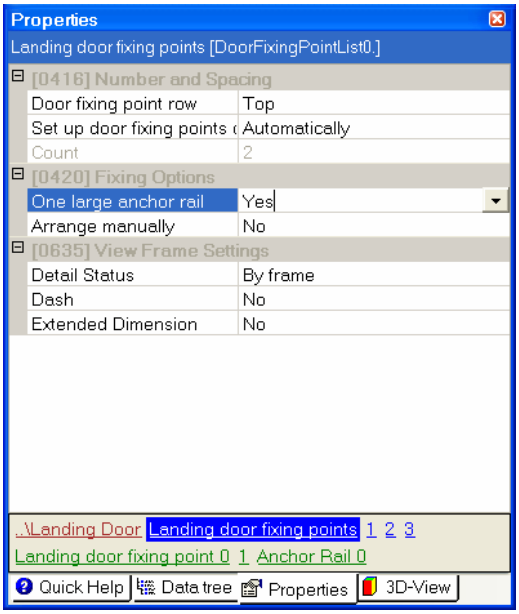


8.2. Fixing

Add a new view frame and switch it to an "**Entrance**" view. Select one of the door's upper fixing points and display its properties.

⌨ In the **Quick Component Link** box select the parent **"Landing Door Fixing Points"**.

⌨ Switch the **"One large anchor rail"** and the **"Arrange manually"** option in the property window to **"Yes"** to activate the anchor rails for the upper door fixing points.



Repeat this procedure for the lower fixing points. Then disable the door/car display by clicking on the first icon in the component's toolbar.

⌨ Change the length of the upper and lower rails to **60"**.

8.3. Configure and Save the view

Using the methods you are now familiar with, change the view settings so that your drawing looks like the example below and save your sheet template as *Wall Opening CWL*.

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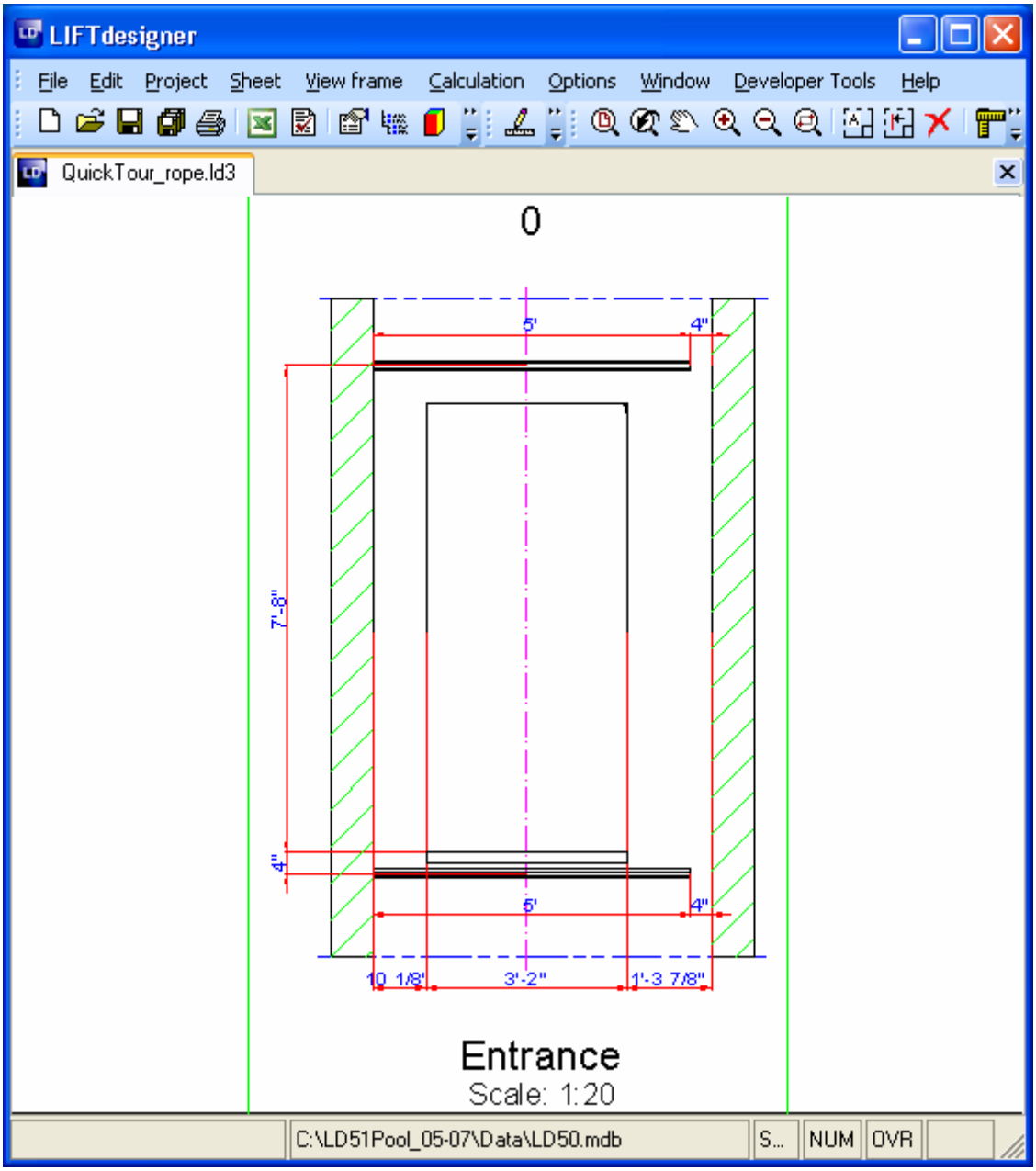


9. Creating an Assembly Drawing

9.1. Combining the Prepared Views

Now we are going to combine all the views we have configured into an assembly drawing:

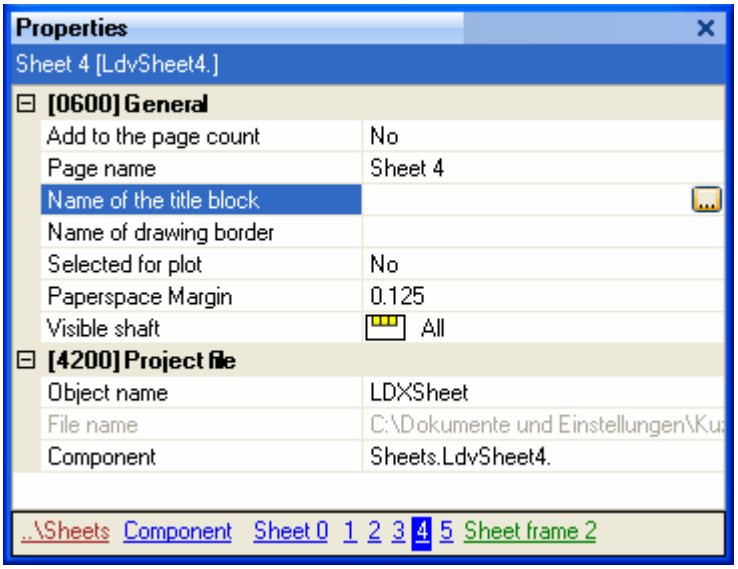
- Add a new sheet by clicking on the **Sheet** menu and selecting **Add Sheet**. Give the sheet the name *Assembly A1 CWL*.
- Switch to the template Plan CWL and select the view frame.

Press **Ctrl + C** to copy the contents of the view frame to the clipboard. Switch to sheet template *Assembly A1 CWL* and paste the contents of the clipboard by pressing **Ctrl + V**.

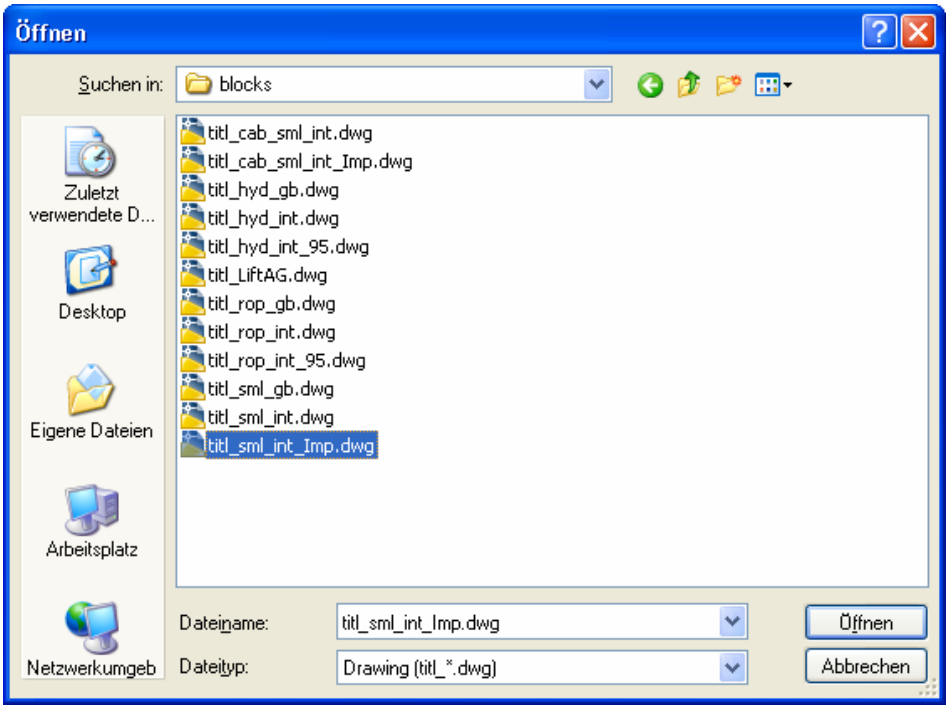
Repeat steps 2 through 4 for all your other sheet templates.

9.2. Frame and Title Block

Click on one of the view frame borders and then select the parent **"..\Sheet x"** component in the **Quick Component Link** box to display the sheet's properties.



Click on the button in the **Name of title block** value field and select the **titl_sml_int_Imp.dwg** title block.



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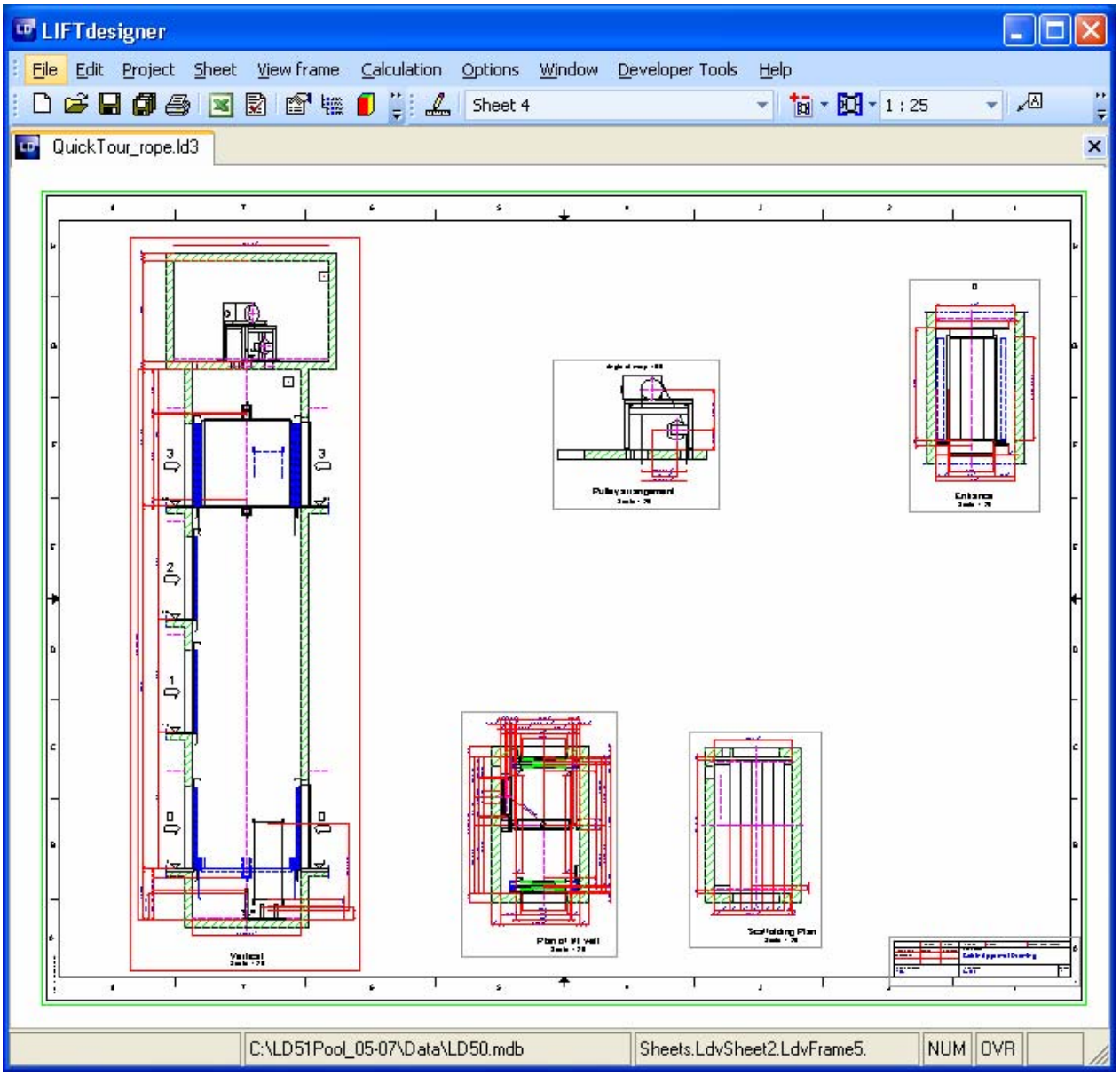
The texts in the **titl_x_int.dwg** title blocks will switch automatically according to the selected drawing language. By contrast, the texts in the **titl_x_gb.dwg** title blocks will always remain English, independent from the selected drawing language.

Repeat this procedure for the **Name of drawing border** value and load the file **bord_ANSI_E_Imp.dwg** as the drawing border.

Select the individual view frames and change their positions as required. The final result will look something like the example shown below.



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