



# MOBILE GANTRY TUTORIAL

An Introduction to DriveWorksXpress

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## INTRODUCTION TO DRIVEWORKSXPRESS

DriveWorksXpress is entry-level Design Automation software included in SOLIDWORKS. It is ideal if the designs and projects you work on are the **Same but Different**. It is widely used in many industries from trailers to conveyors, furniture to machinery, mechanical seals to pressure vessels, windows & doors.

You'll find it already installed and waiting for you to use under the SOLIDWORKS Tools menu. It is ideal for everyday repetitive design tasks. Use it to create multiple variations of SOLIDWORKS Parts, Assemblies and Drawings quickly and accurately.

This DriveWorksXpress tutorial is intended to provide a quick introduction to using DriveWorksXpress.

The Tutorial will show how DriveWorksXpress can:

- Reduce the cost of custom designs
- Create SOLIDWORKS assembly, parts and drawings quickly
- Enhance product quality
- Eliminate or reduce repetitive tasks

Upon successful completion of this tutorial, you will be able to:

- Drive SOLIDWORKS part and assembly geometry with DriveWorksXpress
- Create a DriveWorksXpress input form and link the input fields to the SOLIDWORKS model
- Write rules to configure and run your design projects
- Generate new parts, assemblies and drawings

## ABOUT THE TUTORIAL

In this tutorial, we will be automating the creation of a mobile gantry. Imagine you work for a company that designs and manufactures mobile gantries, where each mobile gantry you design is the same but different.

The height, width and Safe Working Load of the mobile gantry can be changed. This means a custom design needs to be produced for each sales enquiry or order. This could take a few hours and be very repetitive for you, the engineer. Time spent creating custom files manually could also delay the company's sales cycle.

However, by using DriveWorksXpress, it is possible to reduce both the lead time and the cost of custom designs to help companies to be more competitive and win more business.



## GETTING STARTED

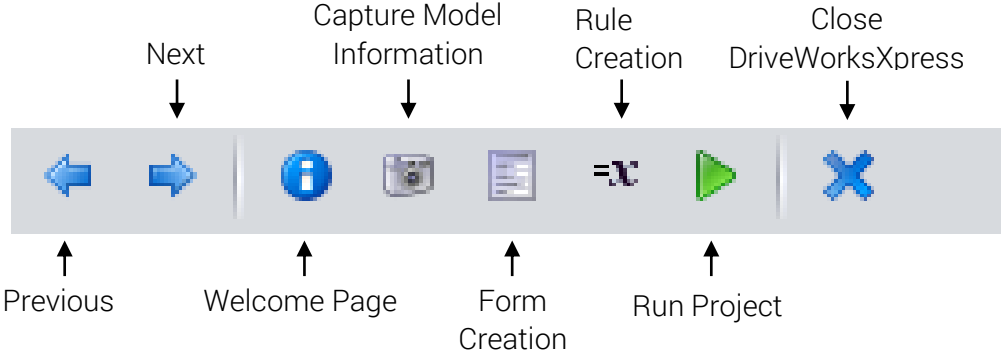
To begin this tutorial, you will need to download the SOLIDWORKS project files for the mobile gantry from the DriveWorksXpress website: [www.driveworksxpess.com](http://www.driveworksxpess.com)

The SOLIDWORKS files are contained within a zipped file.

Ensure you extract the files from this folder before beginning the training.

By following this DriveWorksXpress tutorial you will soon be automating your own designs in SOLIDWORKS.

# DRIVEWORKSXPRESS NAVIGATION BAR



## REGISTRATION AND BASIC SETUP

DriveWorksXpress is included in every seat of SOLIDWORKS. You'll find DriveWorksXpress by navigating to Tools > Xpress Products > DriveWorksXpress in the SOLIDWORKS tool bar.

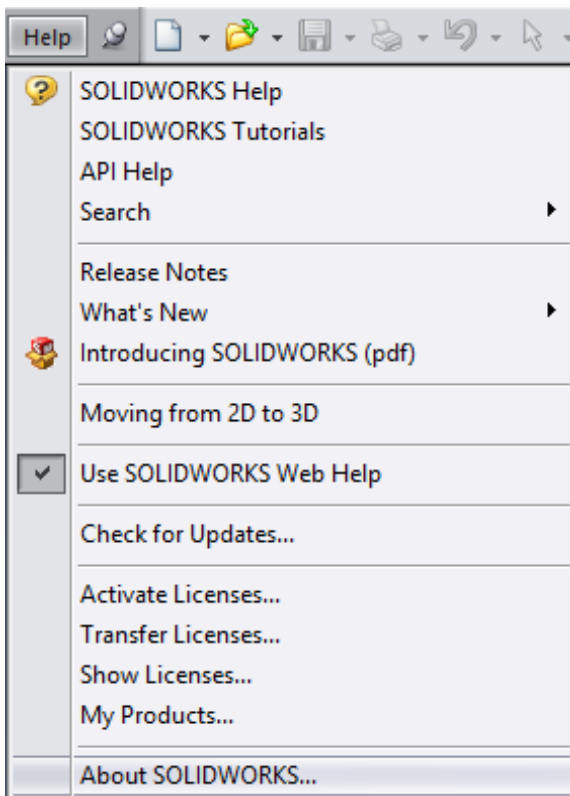
The first time you use DriveWorksXpress in SOLIDWORKS 2015, you will need to log into your SOLIDWORKS account and register DriveWorksXpress.

If you are using SOLIDWORKS 2014, you can skip directly to Basic Setup.

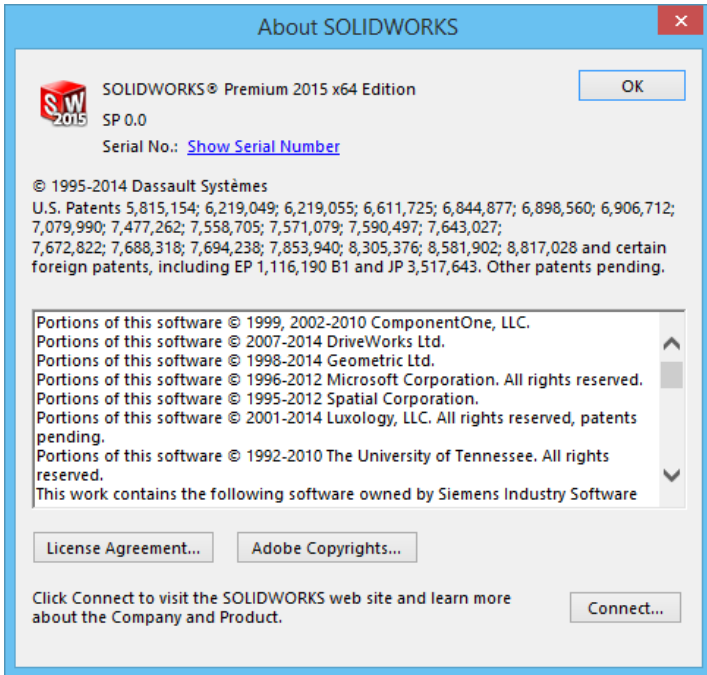
## DRIVEWORKSXPRESS 2015 REGISTRATION

### STEP 1

You'll need your SOLIDWORKS Serial Number. You can find this by navigating to: Help > About SOLIDWORKS.



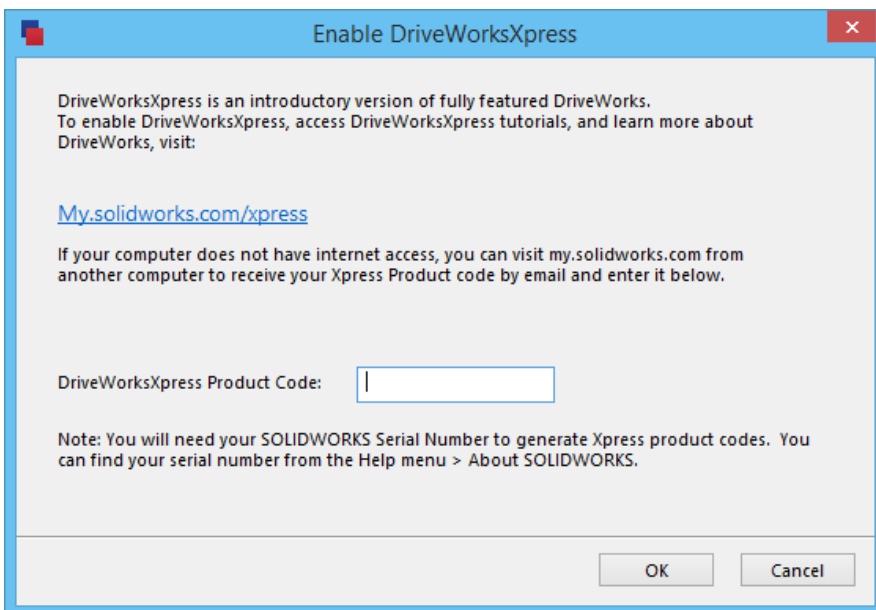
Click 'Show Serial Number' and copy it ready for step two.



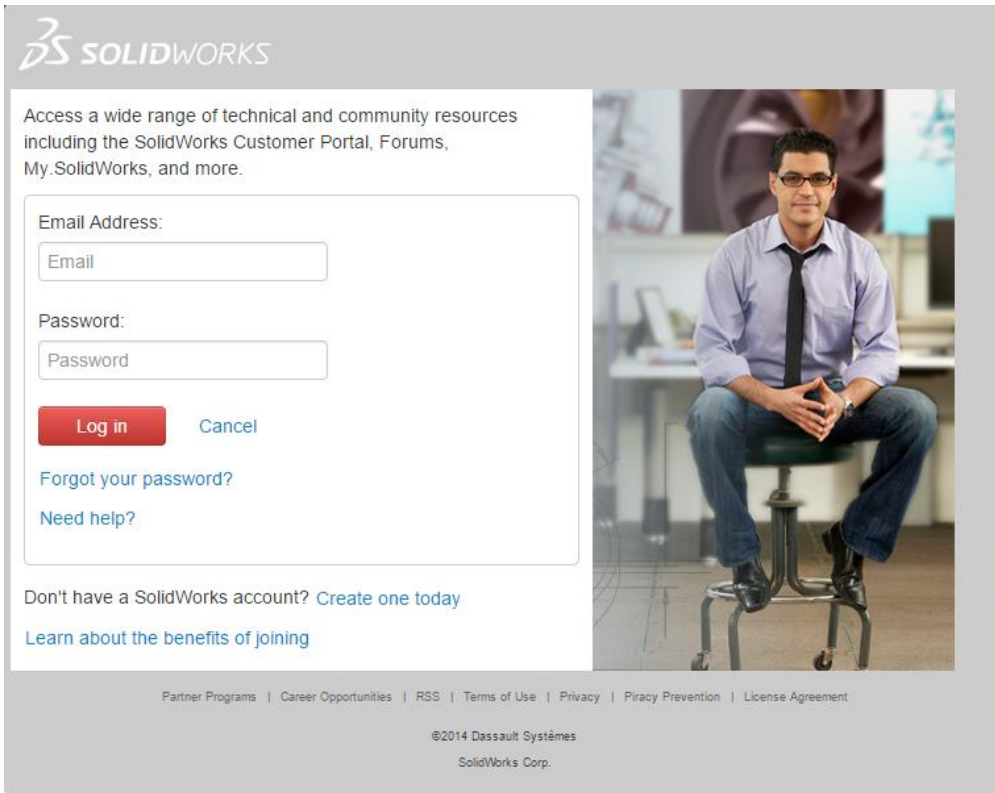
## STEP 2

Once you've got your SOLIDWORKS Serial Number, open DriveWorksXpress.

You will be asked to log into your My SOLIDWORKS account and register DriveWorksXpress with your SOLIDWORKS Serial Number.



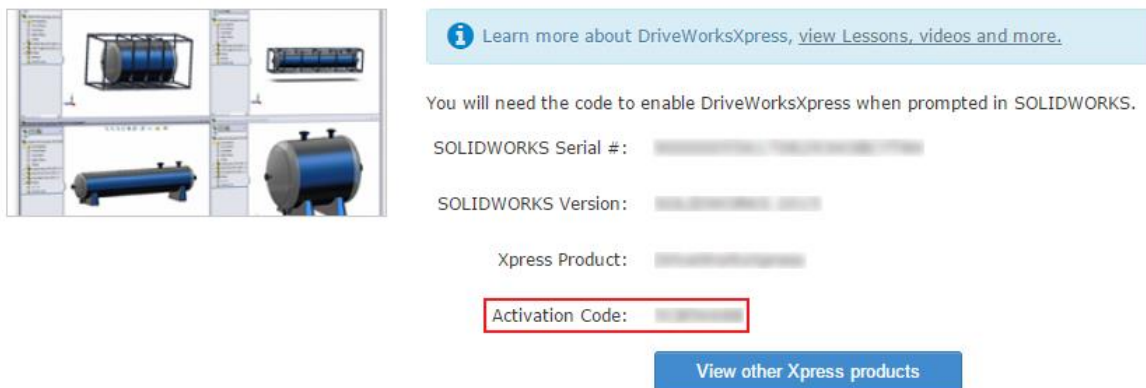
If you don't already have an account, you will need to create one with SOLIDWORKS. This is really easy, just click the link to create an account.



### STEP 3

Once you're logged in, you will get an Activation Code for DriveWorksXpress.

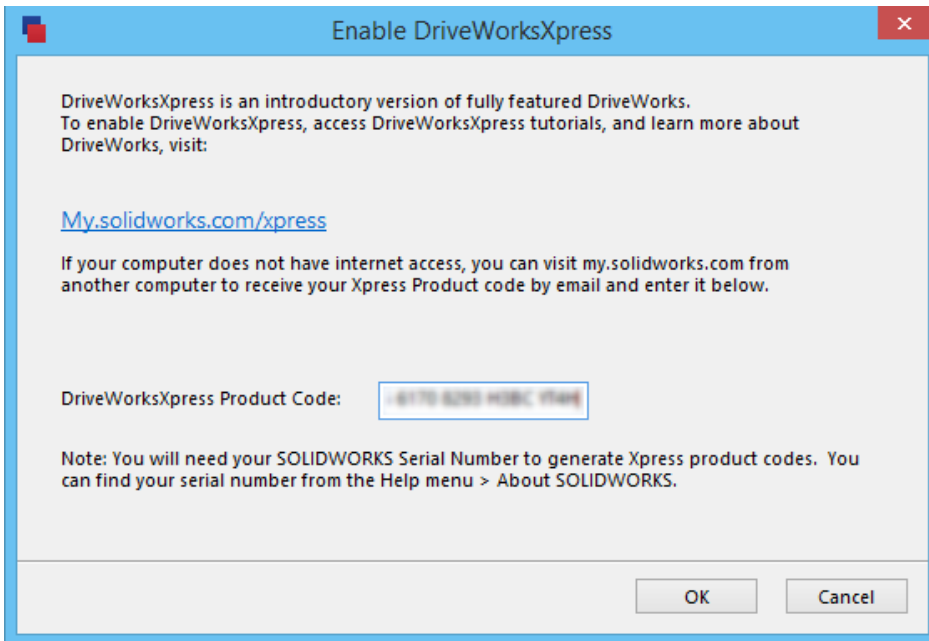
#### SOLIDWORKS 2015 DriveWorksXpress



Copy the Activation Code and return to SOLIDWORKS.



Paste the code into the activation window and click OK.

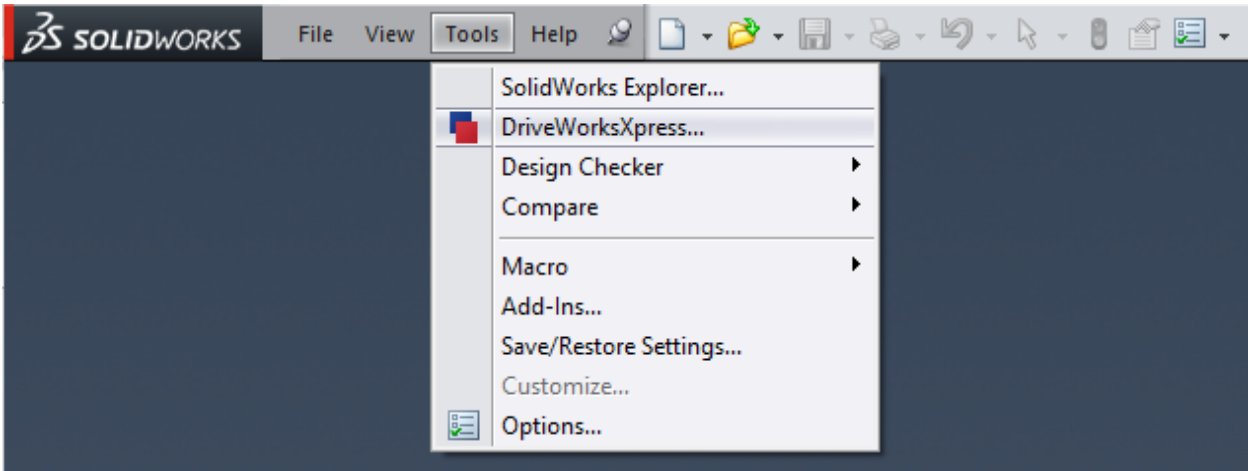


DriveWorksXpress will be activated and the task pane will open.  
You're now ready to automate your designs with DriveWorksXpress!

## BASIC SETUP

### LAUNCHING DRIVEWORKSXPRESS

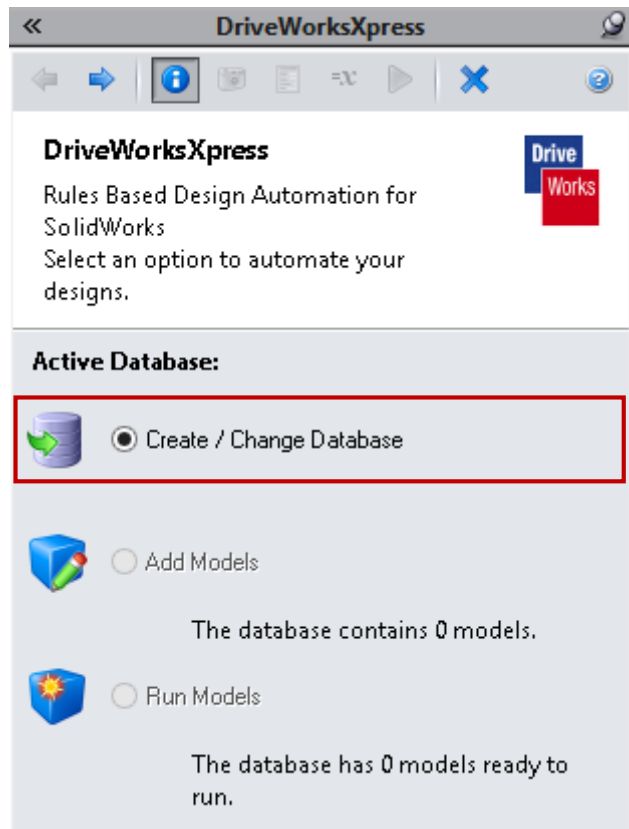
Click on the 'Tools' tab in the SOLIDWORKS menu bar and select DriveWorksXpress from the drop-down options.



This activates DriveWorksXpress, which will open on the right hand side of the screen.

The DriveWorksXpress Welcome Page gives you three options:

- **Create / Change Database**  
This allows you to create a new project or load and change an existing project
- **Add / Edit Models**  
Add more models to the existing project
- **Run Models**  
Jump directly to Run to specify a new variation using a completed project



## CREATE A NEW DATABASE

To create a new DriveWorksXpress Database, click the 'Create/Change Database' radio button.

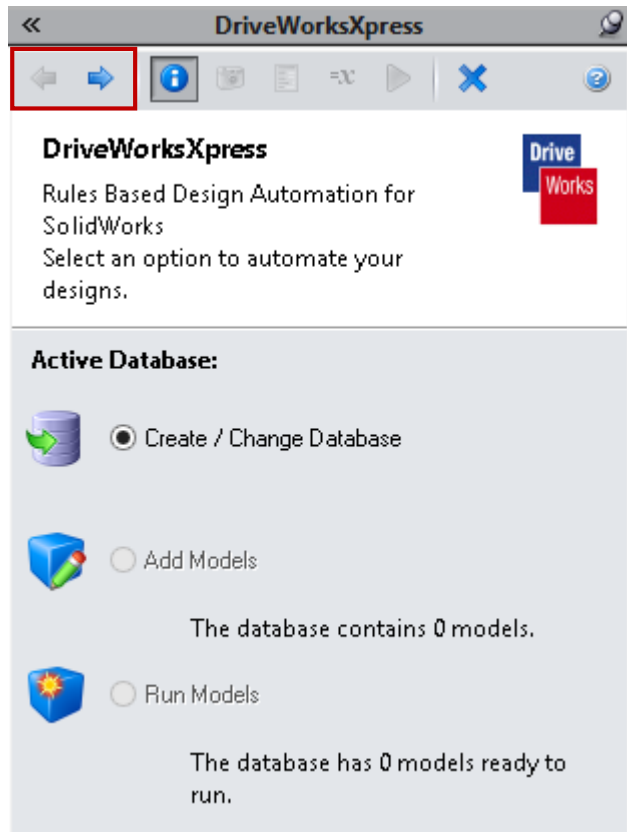
Click 'Next' in the DriveWorksXpress Task Pane.

You will automatically be asked to open a new database.

Browse to the location where you want to create your new database and name it "Mobile Gantry".

Click 'Open' to save the database and continue.

A new DriveWorksXpress database will be saved in your specified location.



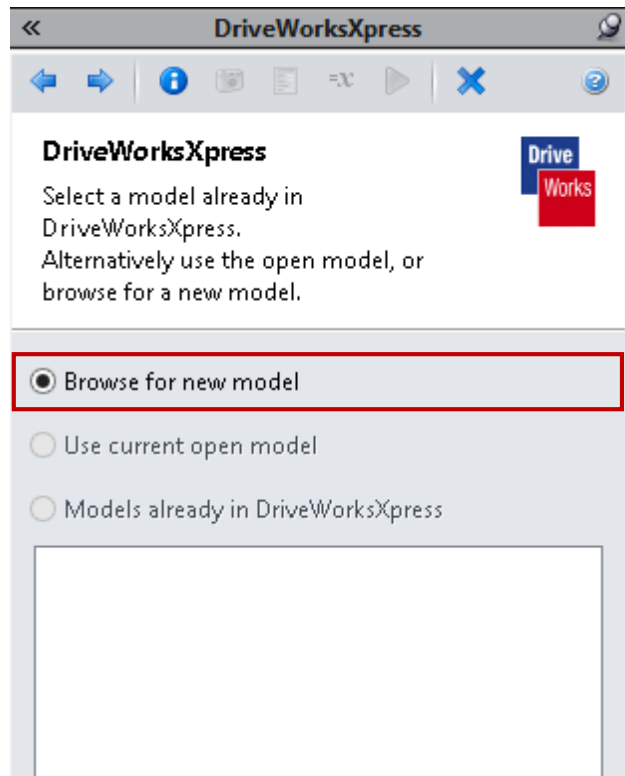
## CAPTURING MODELS AND DIMENSIONS

### CAPTURING SOLIDWORKS MODELS

**Click 'Next' to navigate to the next window within the DriveWorksXpress Task Pane.**

This will allow you to capture your models and the parameters that will be controlled. There are three ways to select which models are to be captured and driven using DriveWorksXpress:

- **Browse for new model**  
If no models are open in SOLIDWORKS, you can browse to the location of the files you would like to be driven and automated using DriveWorksXpress
- **Use current open model**  
If you currently have a part or assembly open in SOLIDWORKS, DriveWorksXpress can capture these models to be driven and automated
- **Models already in DriveWorksXpress**  
If you have previously captured models within DriveWorksXpress, these will be displayed in the DriveWorksXpress Task Pane



**Make sure 'Browse for new model' is selected and click 'Next'.**

**Browse to the location on your hard drive where you have saved your mobile gantry files, open the folder and select the SOLIDWORKS Assembly Document called 'Mobile Gantry.SLDASM'**

**Click 'Open'.**

The mobile gantry assembly will open in SOLIDWORKS.

Once DriveWorksXpress knows the location of the files, we'll need to tell it which components we want to capture dimensions and features from.



The DriveWorksXpress Task Pane will now show all of the options for capturing model information.

**NOTE** – It is possible for these tabs to be dragged and compressed into one line in order to create more work space in DriveWorksXpress.

So don't worry if you don't see the tabs displayed in the image above. It is possible that you may see the following at the bottom of the Task Pane:



- **Captured Models**

This shows the models that have been captured inside of DriveWorks.

- **Captured Assembly Structure**

This allows you to see all the models making up the structure of the assembly within a 'tree' formation. This option allows you to select which models within the assembly that you would like to capture.

- **Dimensions and Features**

Dimensions and features can be controlled by double clicking a model from the model list within the model tree above the Capture options and then clicking 'Dimensions and Features'.

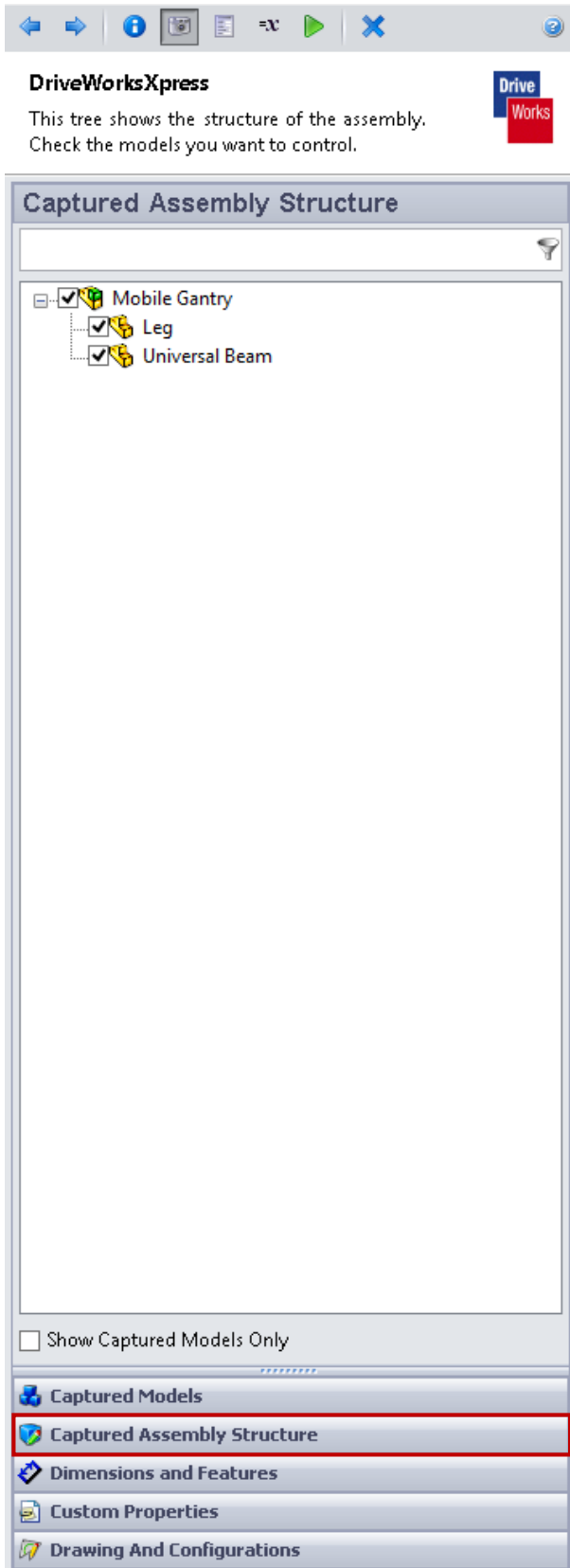
- **Custom Properties**

Any custom property that has been assigned in SOLIDWORKS can be captured and driven by DriveWorksXpress.

- **Drawings and Configurations**

If there are manufacturing drawings, they can be located and added to DriveWorksXpress by selecting this tab and hitting 'Browse' under the 'Drawings' heading.

If rules are required to drive which configuration of a part or assembly gets used, this can also be indicated in the 'Drawing and Configurations' option.



At the bottom of the Task Pane, select the 'Captured Assembly Structure' tab. This will display check boxes next to each model in the assembly. Select the parts/assemblies that you want DriveWorksXpress to control by checking the box next to each item.

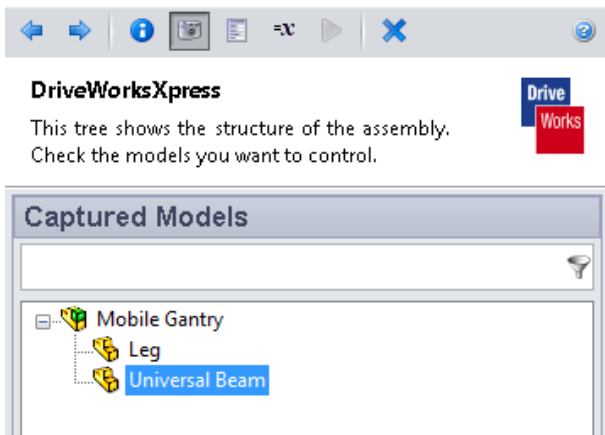
The top level assembly (Mobile Gantry) will already be checked. In this exercise, we will also control the Leg and Universal Beam.

**Capture the Leg and Universal Beam in the Captured Assembly Structure.**

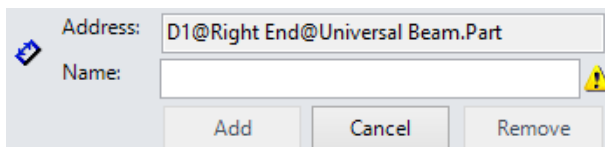
## CAPTURING DIMENSIONS AND FEATURES

The Dimensions and Features tab allows you to choose which parameters from a model or assembly you would like to capture and drive. You can then assign a descriptive name to the dimension or feature you have selected to make them easier to identify and create rules for.

A parameter is captured by selecting the 'Captured Models' tab and then double clicking on the model that the parameter exists in.



This will open the model in SOLIDWORKS allowing you to select the dimensions and features you wish to capture and control.



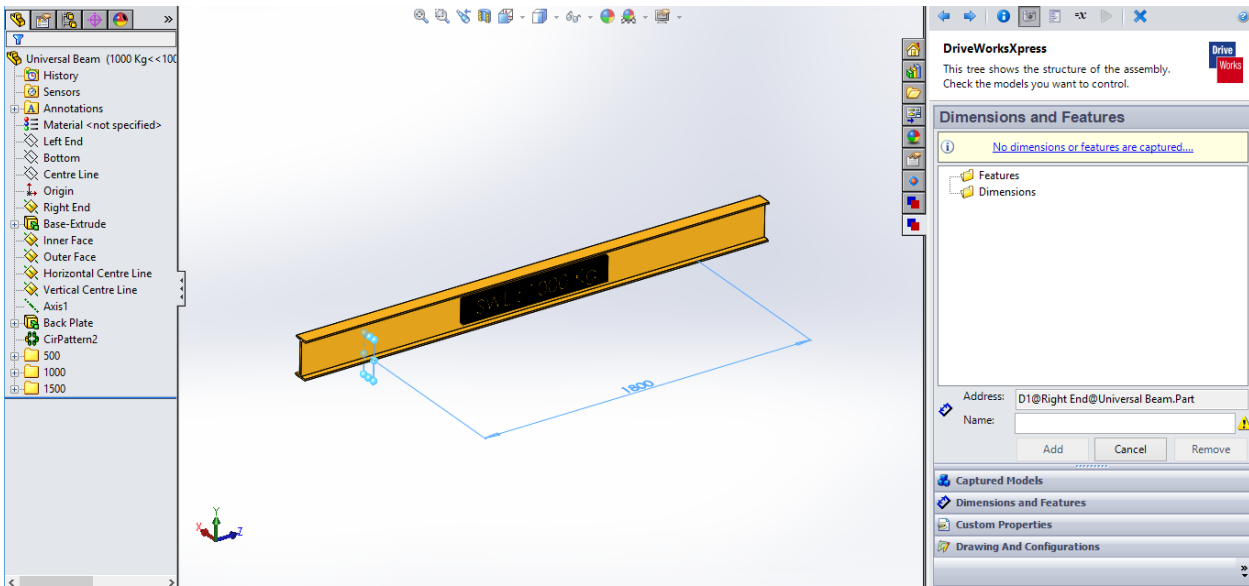
With the models captured, begin the process of capturing the parameters that you need to control. The following steps will guide you through the process of capturing dimensions and features in DriveWorksXpress.

## CAPTURING THE UNIVERSAL BEAM

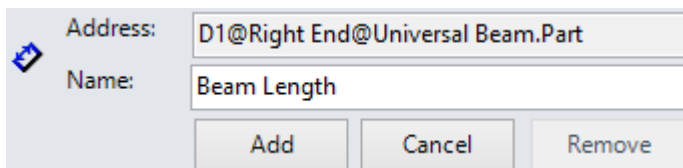
Double click on the Universal Beam in the 'Captured Models' tab and then select the 'Dimensions and Features' tab.

We need to capture the Length of the Universal Beam.

In the SOLIDWORKS Feature Manager double click the plane named 'Right End'. The dimension will appear on the model.



Select the dimension from the model by clicking on the dimension value.



The SOLIDWORKS name of the dimension will appear in the Address field in DriveWorksXpress.

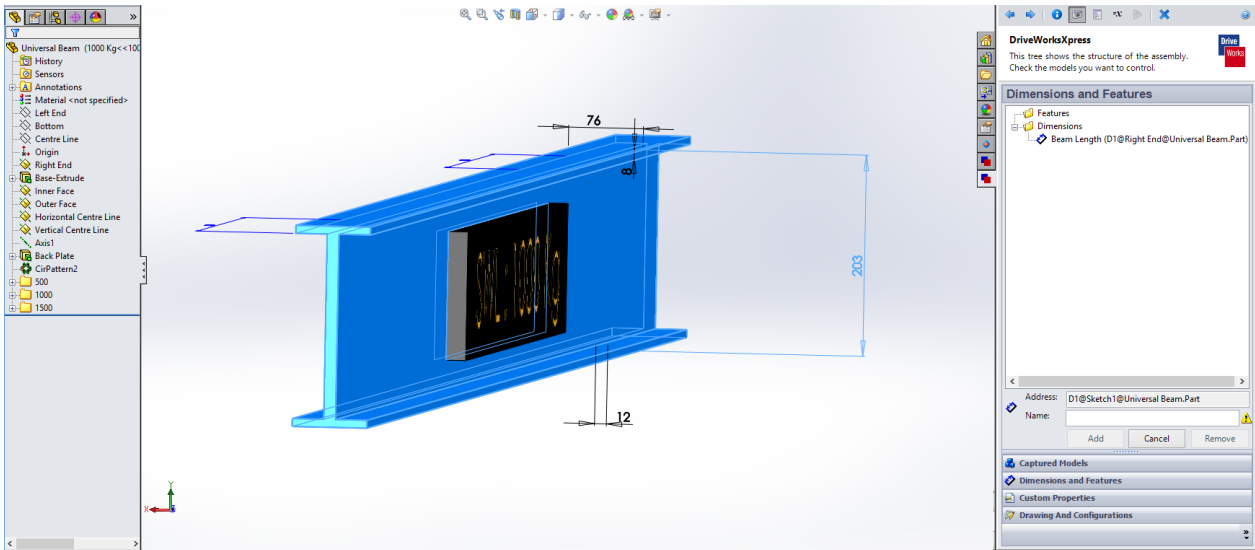
Enter a new DriveWorks Name. This should be something meaningful, for example 'Beam Length'.

Click 'Add'.

The captured dimension will be listed under Dimensions and Features in the DriveWorksXpress task pane.

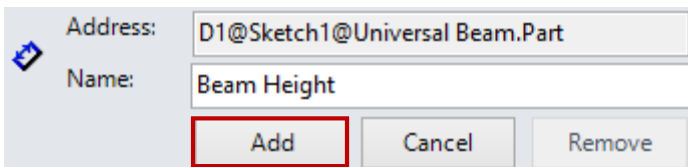


We need to capture and control the section height of the Universal Beam.



In the SOLIDWORKS Feature Manager double click the feature Base Extrude. The section height dimension will appear on the model.

Click the dimension and enter the new DriveWorks name 'Beam Height'.



Click 'Add'.

The next step is to capture the rest of the features and dimensions from each individual part of the Mobile Gantry assembly.

## CAPTURING THE LEG

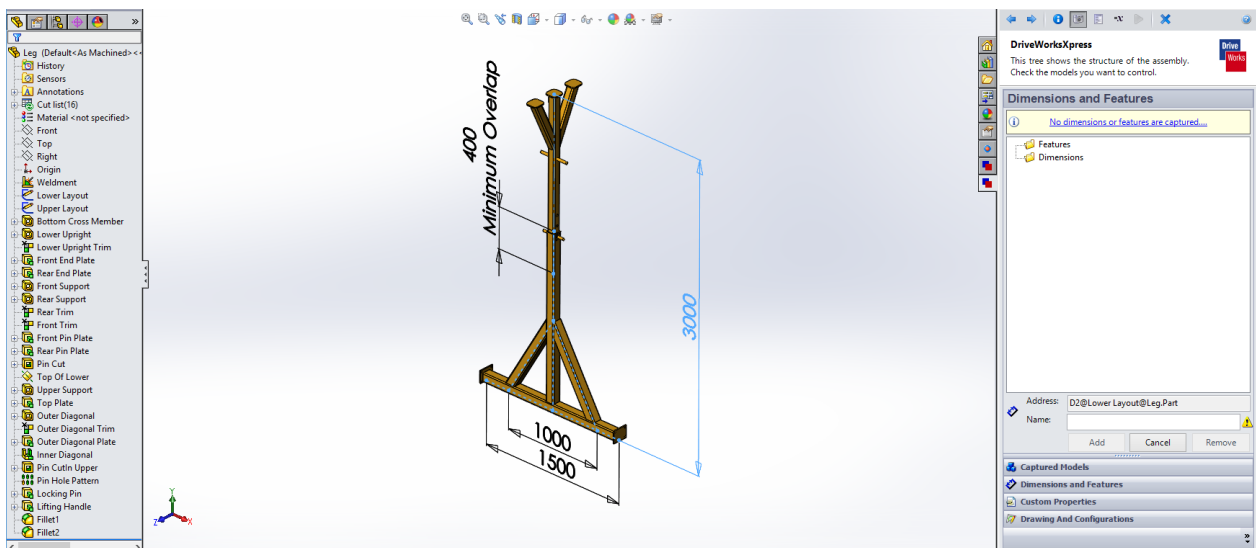
Navigate back to the original Mobile Gantry assembly window in SOLIDWORKS by clicking 'Back', clicking 'Captured Models' or by closing the open model and clicking 'Next'.



Double click the Leg from the tree view in the 'Captured Models' tab.

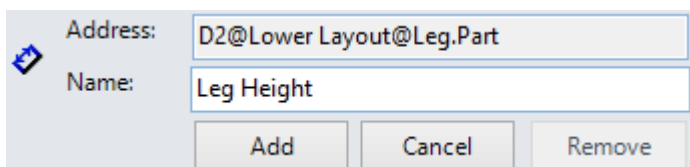
In the SOLIDWORKS Feature Manager double click the sketch Lower Layout.

The Leg height dimension will appear on the model.



Select the sketch 'Lower Layout' and capture the following dimension:

Sketch Name	Dimension Value	DriveWorks Name	Explanation
Lower Layout	3000	Leg Height	Controls the height of the leg

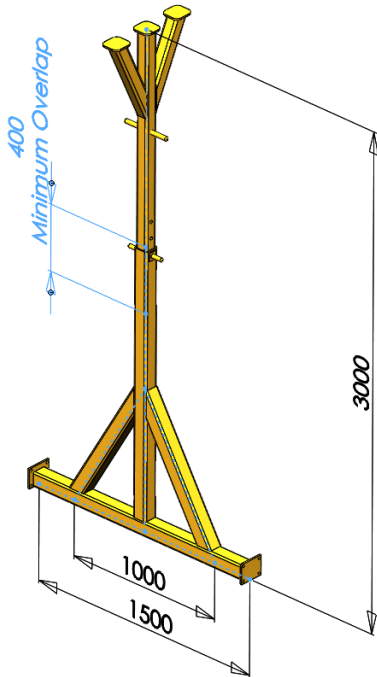


Enter a new DriveWorks Name, for example 'Leg Height'.

Click 'Add'.

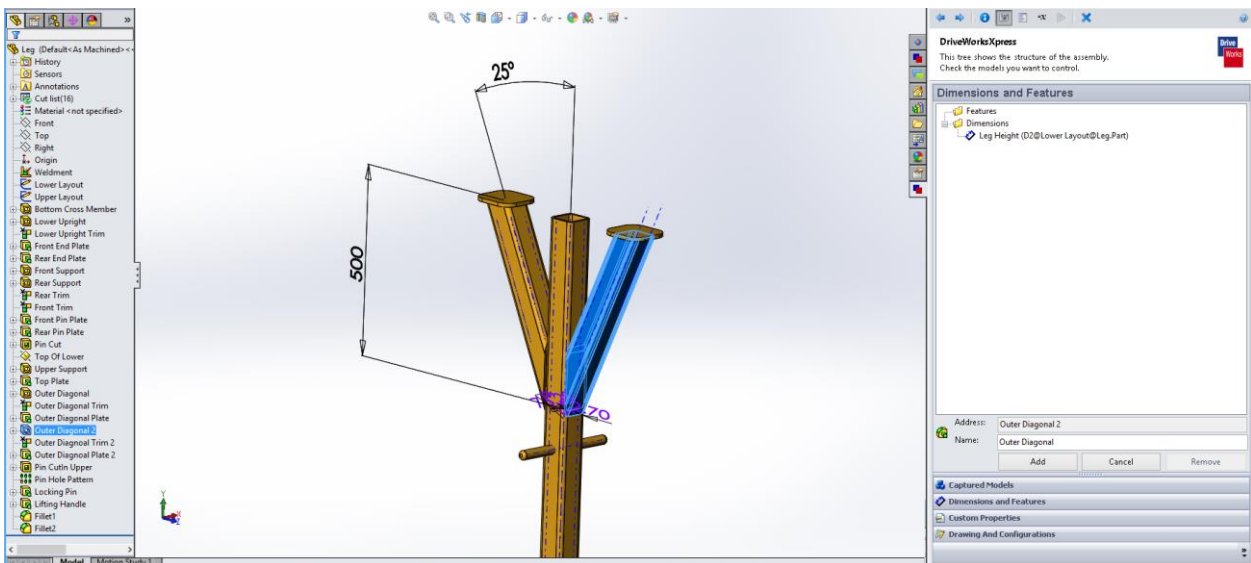
Capture the Minimum Overlap Dimension with the name 'Minimum Overlap'.

Sketch Name	Dimension Value	DriveWorks Name	Explanation
Lower Layout	400	Minimum Overlap	Controls the minimum overlap

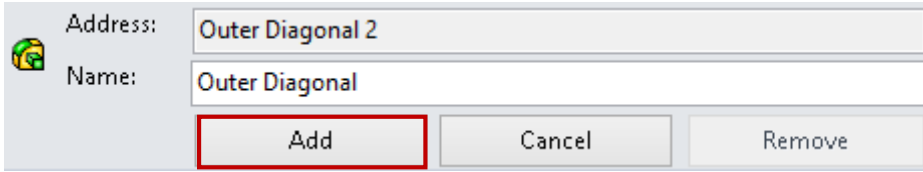


The overall width of the mobile gantry may also affect whether or not we need all the supporting members. DriveWorksXpress can control the suppression state of SOLIDWORKS sketches, planes, features etc.

To capture a SOLIDWORKS feature, select it in the SOLIDWORKS Feature Manager, name the feature in DriveWorksXpress and then click 'Add'.



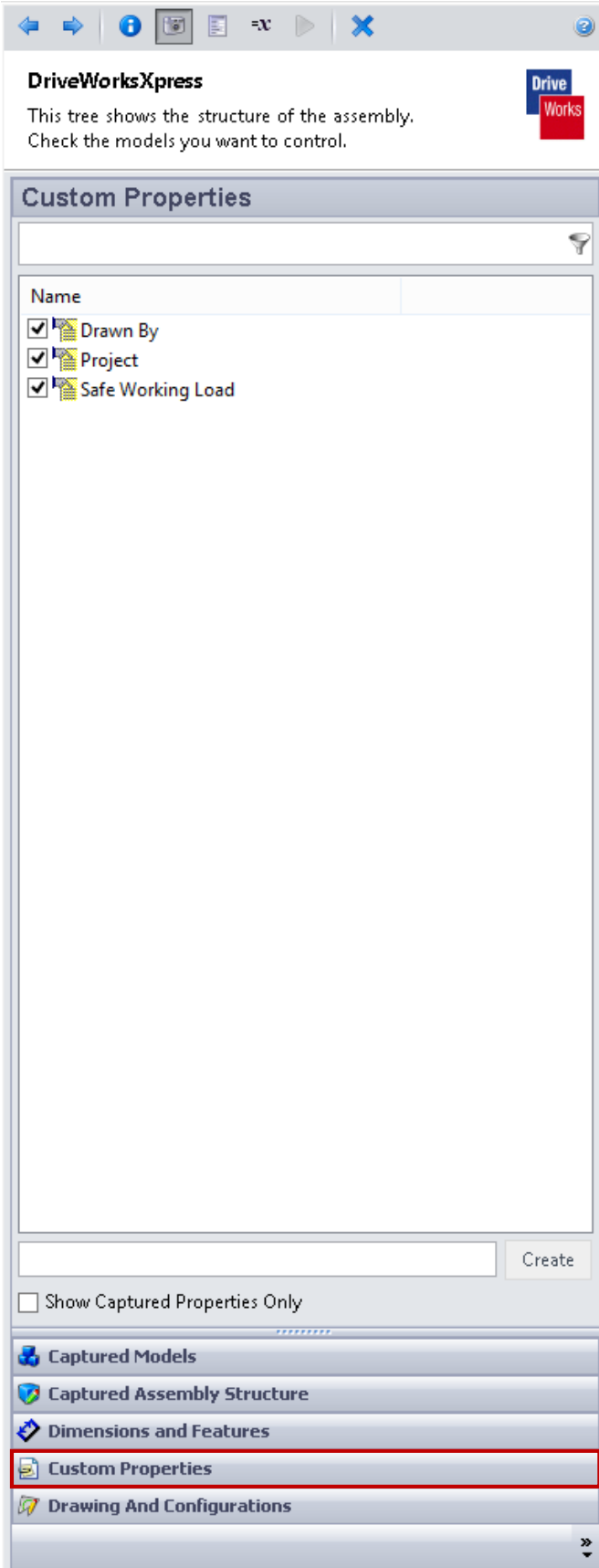
Capture the following SOLIDWORKS features in DriveWorksXpress:



A dialog box with a globe icon on the left. It has two text input fields: 'Address:' containing 'Outer Diagonal 2' and 'Name:' containing 'Outer Diagonal'. Below the fields are three buttons: 'Add' (highlighted with a red border), 'Cancel', and 'Remove'.

<b>SOLIDWORKS Feature Name</b>	<b>DriveWorks Name</b>
Outer Diagonal 2	Outer Diagonal
Outer Diagonal Trim 2	Outer Diagonal Trim
Outer Diagonal Plate 2	Outer Diagonal Plate

## CAPTURING CUSTOM PROPERTIES



DriveWorksXpress can also drive values to Custom Properties:

**Select the 'Captured Models' tab and double click 'Mobile Gantry'.**

**Select the 'Custom Properties' tab to start capturing Custom Properties.**

These are useful for linking to annotations in drawings to drive text on drawing borders or notes. They are also useful for acting as placeholders where complex rules can be broken down into more manageable portions.

Any existing Custom Properties will appear in the list which is now displayed.

In this example these are:

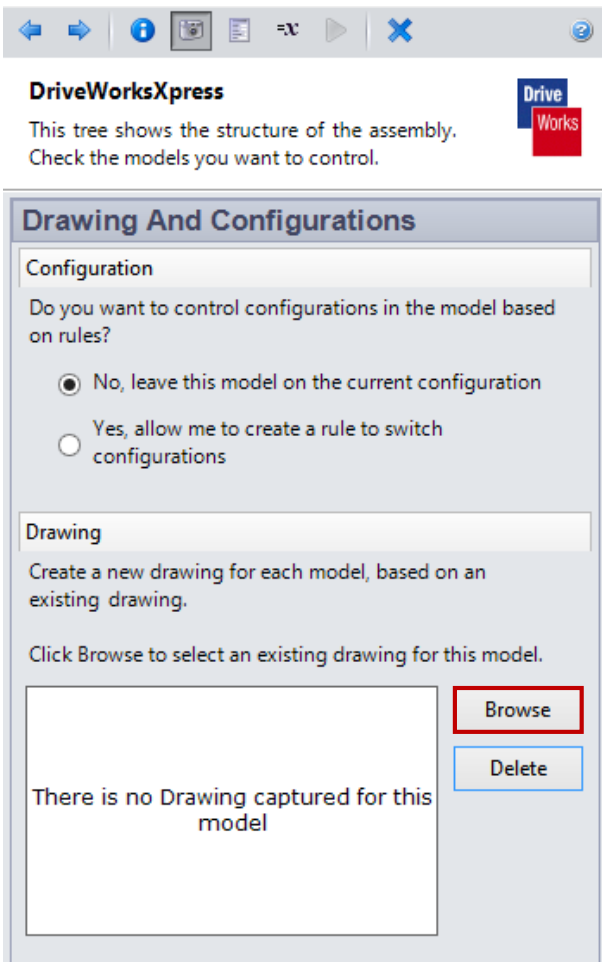
- Drawn by
- Safe Working Load
- Project

**We are going to use all of these custom properties. Check the boxes next to each property in order to capture it.**

## CAPTURING DRAWINGS

With DriveWorksXpress you can capture your SOLIDWORKS engineering drawings. This feature means that when a new version of the model is made using DriveWorksXpress, the engineering drawing of that component is also updated to match it.

To add a drawing, open the model or assembly using the tree view in the Captured Models tab and then browse to the Drawings and Configurations tab. Click the 'Browse' button to search your hard drive for the corresponding SOLIDWORKS drawing file.



**Open the Mobile Gantry assembly and browse for the drawing 'Mobile Gantry.SLDDRW'.**

**Click 'Open' to capture the drawing.**

It is possible to add one drawing per part or assembly. Repeat these steps for the Universal Beam and Leg.

The captured drawing will be updated and saved with a new name every time a specification is run.

**Capture the template drawings for the following parts:**

SOLIDWORKS Part Name	Drawing Name
Universal Beam	Universal Beam.SLDDRW
Leg	Leg.SLDDRW

## CAPTURING CONFIGURATIONS

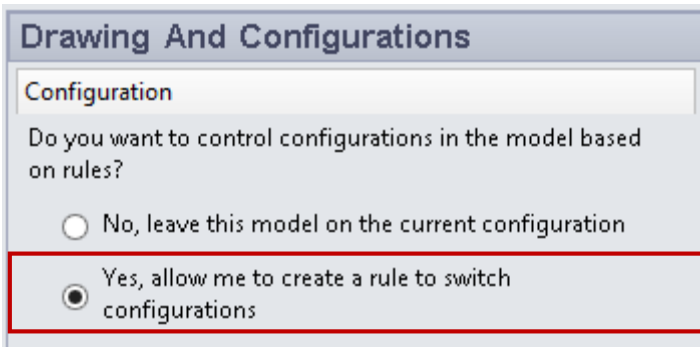
DriveWorksXpress allows you to build a rule to switch the configuration of your model to any other existing configuration.

To control configurations, you need to select the option 'Yes. Allow me to create a rule to switch configurations' in the 'Drawing and Configuration' tab.

**First, select the 'Captured Models' tab and open the 'Universal Beam'.**

**Select the 'Drawing and Configurations' tab.**

**Select the option 'Yes. Allow me to create a rule to switch configurations'.**



**Drawing And Configurations**

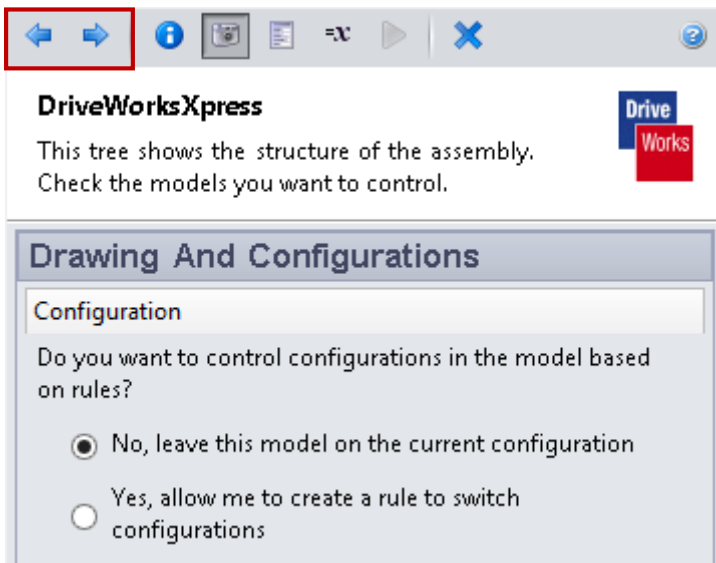
Configuration

Do you want to control configurations in the model based on rules?

No, leave this model on the current configuration

Yes, allow me to create a rule to switch configurations

**Click the 'Next' arrow and proceed from the Capture tab to the Form tab.**



← → ⓘ 📷 📄 =X ▶ ✕ ⓘ

**DriveWorksXpress**

This tree shows the structure of the assembly.  
Check the models you want to control.

**Drawing And Configurations**

Configuration

Do you want to control configurations in the model based on rules?

No, leave this model on the current configuration

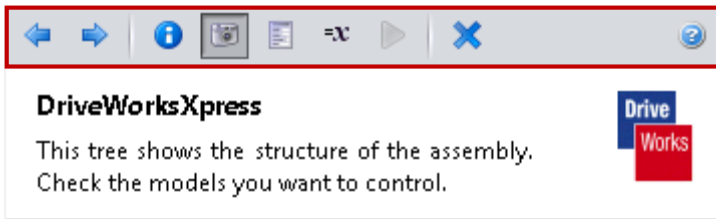
Yes, allow me to create a rule to switch configurations

## CREATING INPUT FORMS

In DriveWorksXpress you can create an input form for entering the values for your new parts and drawings. This form can be used again and again to specify and generate all the new parts and drawings, based on the rules you set and values you enter.

## ADDING CONTROLS

To access the Form Designer, click the 'Next' arrow at the top of the DriveWorksXpress Task Pane, or select the Form Creation Icon shown below.

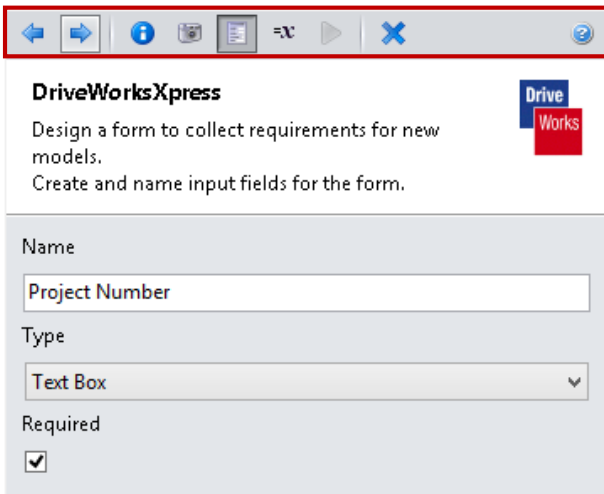


Each control requires three things:

- **Name** - You must provide a descriptive name for the form control. This name will be the title the user sees as they fill in your form i.e. Customer Name
- **Type** - Choose from five types of controls (inputs)
  - Text Box:** Input text directly by typing
  - Numeric Text Box:** Input numeric values and specify a minimum and maximum value
  - Drop Down:** Provides a list of options to choose from
  - Spin Button:** Users can select from a range of numeric values. A maximum and a minimum value, as well as the incremented value
  - Check Box:** Places a checkbox on the form
- **Required** - Enforces a value to be entered



Begin by adding a Text Box to the form to allow a Project Number to be entered.



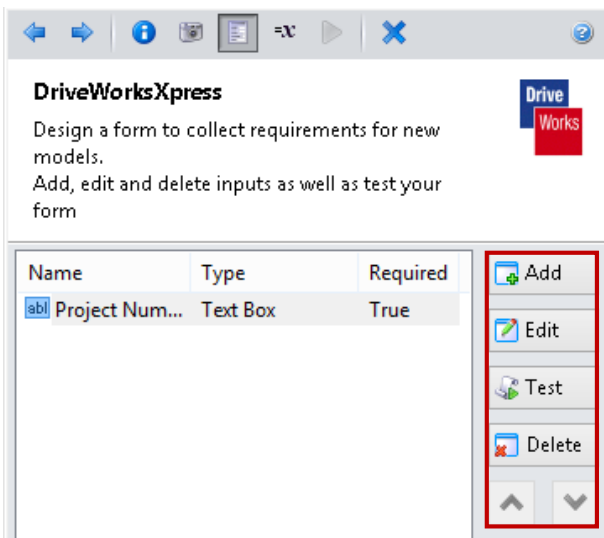
Add a new Text Box called Project Number:

Control Name	Control Type	Required
Project Number	Text Box	Yes

Type the name of the Control and then use the Drop Down to select the control type.

Tick the 'Required' check box to ensure a Customer Name is entered for each new specification.

Click 'Next' to register the control and display the Control List.



Notice that the form control appears in the form designer within the DriveWorksXpress Task Pane. As you create your form, you can edit and delete controls, as well as change the order by using the Up and Down arrows.

You can also test your form by clicking 'Test'.

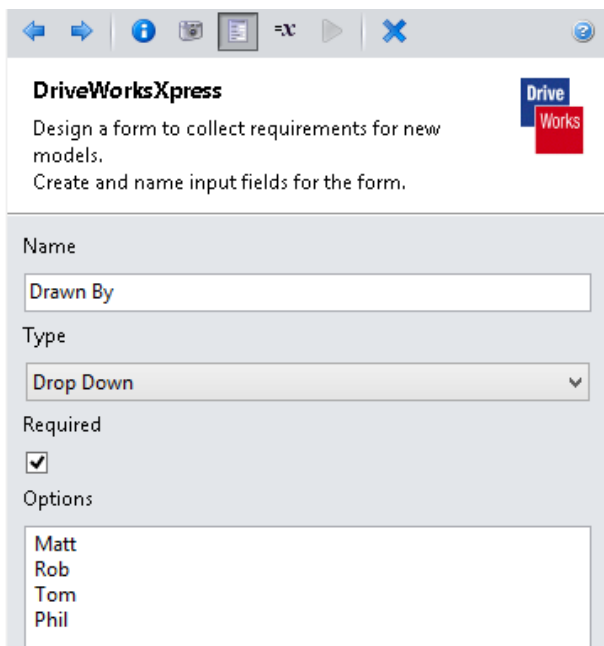
Click 'Add' and repeat the steps to add the following controls:

Add a new Text Box called Customer Name:

Control Name	Control Type	Required
Customer Name	Text Box	Yes

Add a new Drop Down called Drawn By:

Control Name	Control Type	Required	Options
Drawn By	Drop Down	Yes	Matt, Rob, Tom, Phil



NOTE: Separate items in the Options field of the Drop Down by using pipe bars (Matt|Rob) or by pressing Ctrl+Enter after each entry to add a new row.

**Add a new Drop Down called Safe Working Load:**

Control Name	Control Type	Required	Options
Safe Working Load	Drop Down	Yes	500 Kg, 1000 Kg 1500 Kg

The screenshot shows the DriveWorksXpress configuration interface. At the top, there is a toolbar with navigation icons. Below the toolbar, the application title 'DriveWorksXpress' is displayed along with a brief description: 'Design a form to collect requirements for new models. Create and name input fields for the form.' The main configuration area is divided into sections: 'Name' with a text field containing 'Safe Working Load'; 'Type' with a dropdown menu set to 'Drop Down'; 'Required' with a checked checkbox; and 'Options' with a text area containing '500 Kg', '1000 Kg', and '1500 Kg' on separate lines.

NOTE: These values will drive a configuration in the Universal Beam. Ensure that the entries are identical to those shown (spaces between 0 and K, upper case K and no spaces at the start or end of each text string.

**Add a new Spin Button called Opening Height:**

Control Name	Control Type	Min Value	Max Value	Increment
Opening Height	Spin Button	1500	2500	50

The screenshot shows the DriveWorksXpress configuration interface for a Spin Button control. It features the same toolbar and application title as the previous window. The configuration area includes: 'Name' with a text field containing 'Opening Height'; 'Type' with a dropdown menu set to 'Spin Button'; 'Minimum Value' with a text field containing '1500'; 'Maximum Value' with a text field containing '2500'; and 'Increment' with a text field containing '50'.

**Add a new Numeric Text Box called Opening Width:**

Control Name	Control Type	Min Value	Max Value
Opening Width	Numeric Text Box	1500	4000

**DriveWorksXpress**  
Design a form to collect requirements for new models.  
Create and name input fields for the form.

Name  
Opening Width

Type  
Numeric Text Box

Required

Minimum Value  
1500

Maximum Value  
4000

## TEST MODE

**DriveWorksXpress**

Enter information to test the form.  
Click on Set Defaults to see the current values when you fill out the form.

**Mobile Gantry**

Project Number  
MG-

Customer Name  
Type in a value for Customer Name

Dr  
Rob

Safe Working Load  
500 Kg

Opening Height  
1500

Opening Width  
1500

Clear Set Defaults

**Click 'Test' within the Form Designer to preview the form you have created and test it out for yourself.**

You will notice that as you fill out the forms with valid information, the background of the text boxes will change from pink to white and the yellow warning triangles will disappear.

If you hover over a control, information about the control will be shown in a tooltip.

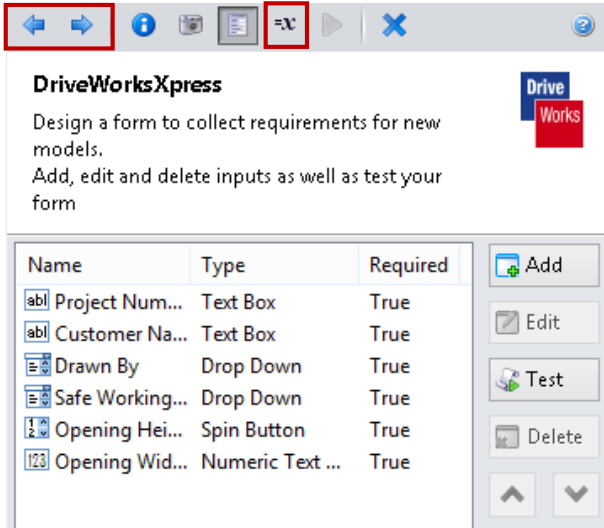
It's good practice to set default values for controls. Setting default values makes building rules easier because the controls have values.

To set a default value, enter values into the form controls and click 'Set Defaults'.

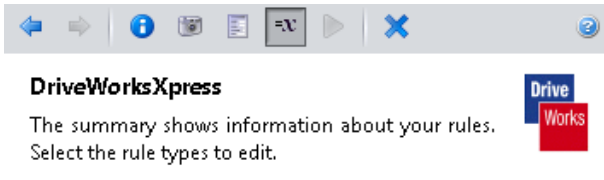
## RULES BUILDER

DriveWorksXpress lets you use Excel syntax to build rules to automate your SOLIDWORKS models.

Navigate to the Rules tab by clicking 'Next' or 'Rules' in the DriveWorksXpress Task Pane.



The Rules tab shows a summary of your rules and how many of each rule type there are. The summary also shows the number of unbuilt rules that must be completed before a new Specification can be created:



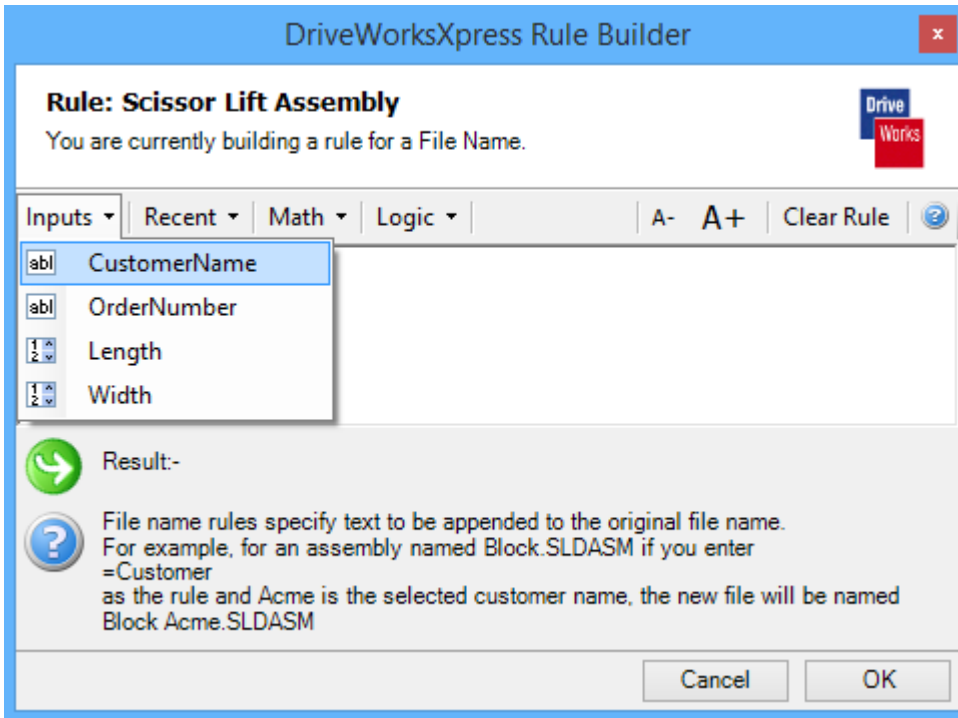
Selecting the check box against a Rule Type filters the rules by that type. It is possible to select more than one rule type at a time.

Rule Type	All	Missing	Edit
File Names	3	3	<input type="checkbox"/>
Configurations	1	1	<input type="checkbox"/>
Custom Properties	3	3	<input type="checkbox"/>
Dimensions	4	4	<input type="checkbox"/>
Features	3	3	<input type="checkbox"/>
<b>Total</b>	<b>14</b>	<b>14</b>	<input type="checkbox"/>

Filtering is helpful where there are large numbers of rules to be built. Where Rules are not required for a particular type, the check box will not be enabled.

The summary provides constant feedback on Total Number of Rules and Missing Rules (which still require rules to be built against them).

Before you begin to create rules within this tutorial, here is a quick summary of the DriveWorksXpress Rules Builder.



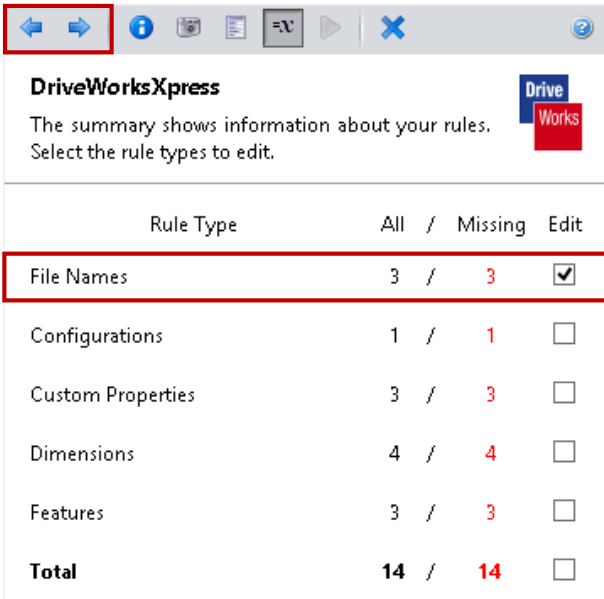
There are four drop-down menus within the DriveWorksXpress Rule Builder:

- **Inputs**  
Lists the available controls that can be used in rules
- **Recent**  
This can be populated with commonly used text strings or equations
- **Math**  
Mathematical operators (e.g. add, subtract, and divide)
- **Logic**  
Logical operators (e.g. IF, <, >, =)

## FILE NAME RULES

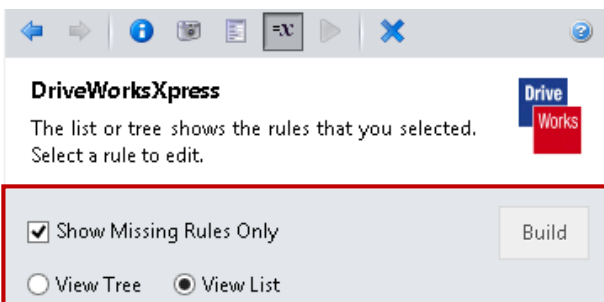
File Name rules allow different sets of files that are generated for each new specification of an automated design to be easily identifiable. Each of the files being driven will be for a unique project and therefore will require a unique set of file names.

**Check the File Name check box and click 'Next' in the DriveWorksXpress navigation.**



The captured components requiring a File Name rule will be listed.

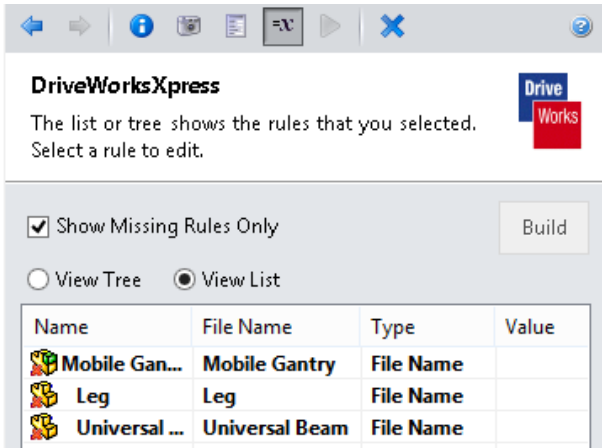
You can choose to show all rules or just missing rules that have not been built yet. You also have the option to view your files as a List or in a Tree View. The default is List View.





## BUILD A RULE FOR THE MOBILE GANTRY FILE NAME

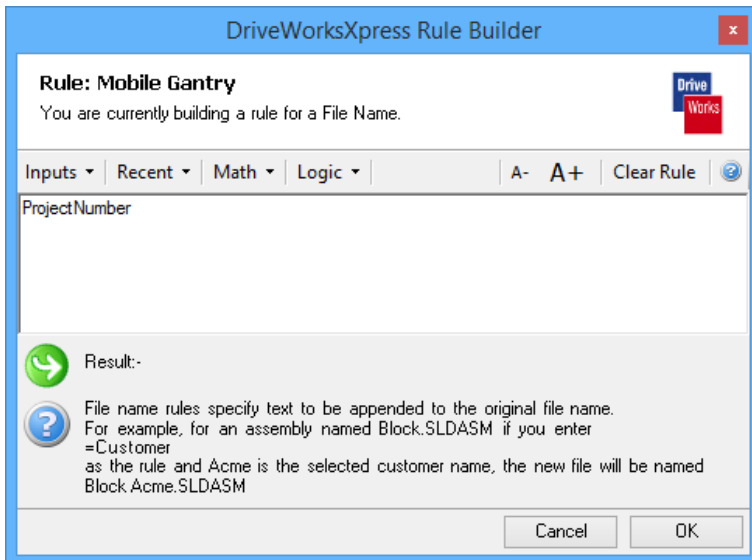
Double click Mobile Gantry, the DriveWorksXpress Rules Builder Wizard will open.



Use the value Project Number so that every time a new mobile gantry specification is created it will be named based on the Project Number.

Click on the Inputs Value and select Project Number:

Name	File Name Rule
Mobile Gantry	ProjectNumber



This rule will append the Project Number to the mobile gantry file name when you run your new specification.

Click 'OK' to return to the Rules Summary List.

## BUILD A RULE FOR THE UNIVERSAL BEAM FILE NAME

Create a File Name rule for the Universal Beam based on the Opening Width and Safe Working Load. For example, if the value entered on your form for Opening Width is 2000 and the Safe Working Load is 500 Kg, the result of the rule for the file name of the Beam Assembly will be 2000 Wide - 500 Kg Safe Working Load

**Double click Universal Beam and build the following File Name Rule:**

Name	File Name Rule
Universal Beam	OpeningWidth & " Wide - " & SafeWorkingLoad & " Safe Working Load"

## BUILD A RULE FOR THE LEG FILE NAME

As DriveWorks can reuse files previously created, you can build a library of standards. Use the height parameters to build up a text string as a means of identifying the file.

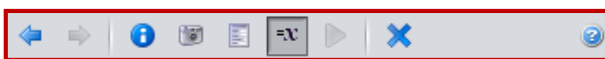
Use the Original File Name, then add the OpeningHeight & "high".

The completed rule should read: **OpeningHeight & " high"**

**Double click Leg and build the following File Name Rule:**

Name	File Name Rule
Universal Beam	OpeningHeight & "high"

**Click 'Back' in the DriveWorksXpress navigation to return to Rules Summary.**



### DriveWorksXpress

The list or tree shows the rules that you selected.  
Select a rule to edit.



## CONFIGURATIONS RULES

DriveWorksXpress does not create new configurations but it can be set to drive an existing file.

**Un-check File Names and check Configurations. Click next in the DriveWorksXpress navigation.**

The Universal Beam model has three configurations. The configurations allow the Safe Working Limit of the mobile gantry to be switched between 1500 Kg, 1000 Kg and 500Kg.

In order for DriveWorks to switch the configuration the exact name of the configuration must be entered in to the configuration rule.

**Build a Rule for the Universal Beam Configuration:**

Name	Rule
Configuration	SafeWorkingLoad

**Click 'Back' in the DriveWorksXpress navigation to return to Rules Summary.**

## CUSTOM PROPERTY RULES

You can capture and control Custom Properties in models using DriveWorksXpress. By linking drawing annotations to these Custom Properties, you can control drawing borders and notes.

**Un-check Configurations and check Custom Properties. Click Next in the DriveWorksXpress Navigation.**

**Build a Rule for Drawn By using the Input Drawn By:**

Name	Rule
Drawn By	DrawnBy

**Build a Rule for Safe Working Load using the Input Safe Working Load:**

Name	Rule
Safe Working Load	SafeWorkingLoad

**Build a Rule for Project Number By using the Input Project Number:**

Name	Rule
Project Number	ProjectNumber

**Click 'Back' in the DriveWorksXpress Navigation to return to Rules Summary.**

## DIMENSION RULES

Dimension rules allow you to automate your SOLIDWORKS models by taking information entered on the Form, calculating a result and then sending it to the SOLIDWORKS model. This allows you to control multiple dimensions at the same time using only a few inputs.

**Un-check 'Custom Properties' and check 'Dimensions'. Click next in the DriveWorksXpress navigation.**

The tables below show the name of each dimension and the rule that should be created for that dimension.

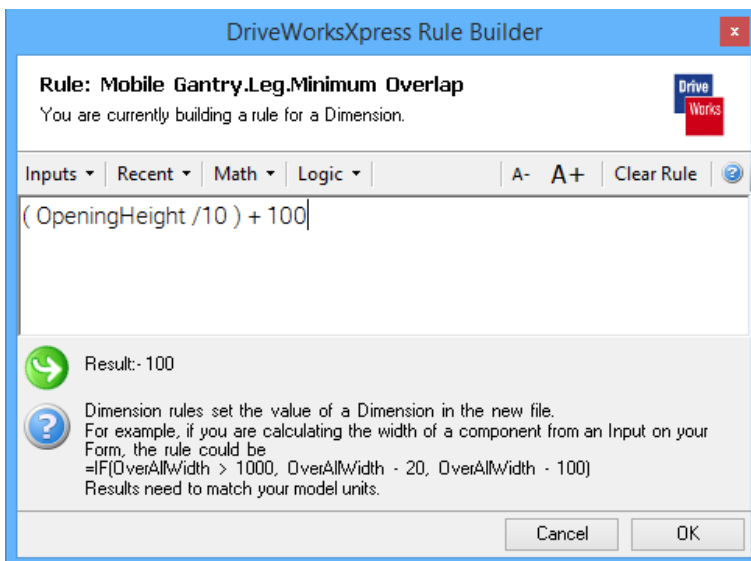
### Build a Rule for Leg Height using the Input OpeningHeight:

Name	Rule
Leg Height	OpeningHeight

### Build a Rule for Minimum Overlap:

Name	Rule
Minimum Overlap	$(\text{OpeningHeight}/10) + 100$

The formula is based on the opening height of the mobile gantry. This needs to make sure that the overlap is always one tenth of the overall height plus 100mm.



**Build a Rule for Beam Length:**

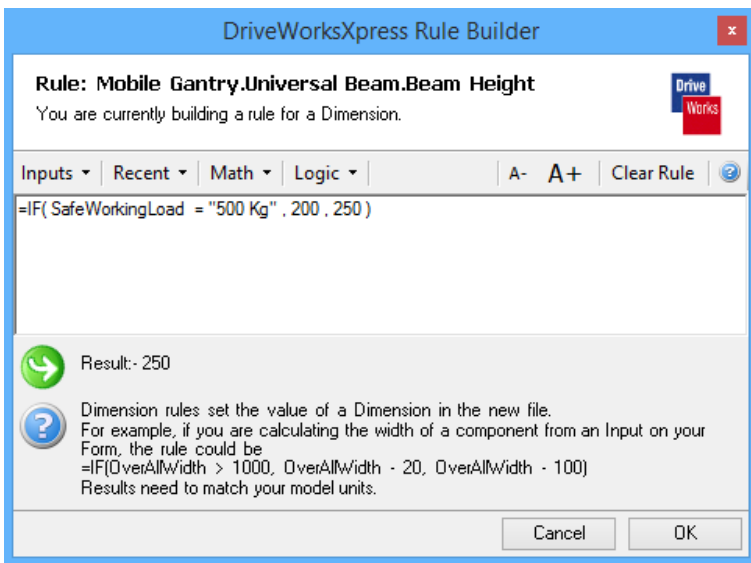
Name	Rule
Beam Length	OpeningWidth

**Build a Rule for Beam Height:**

Name	Rule
Beam Height	IF( SafeWorkingLoad = "500 Kg" , 200 , 250 )

The formula uses an IF() statement to select a value for the Beam Height based on the selection in the 'Safe Working Limit' Input.

**NOTE:** The value used in the expression must be identical to the input that can be selected. For example, if the user can select a value of **500 Kg** from the Input control for Safe Working Load, this text string must be used in the expression. All alpha or alpha-numeric text strings must be presented within "speech marks".



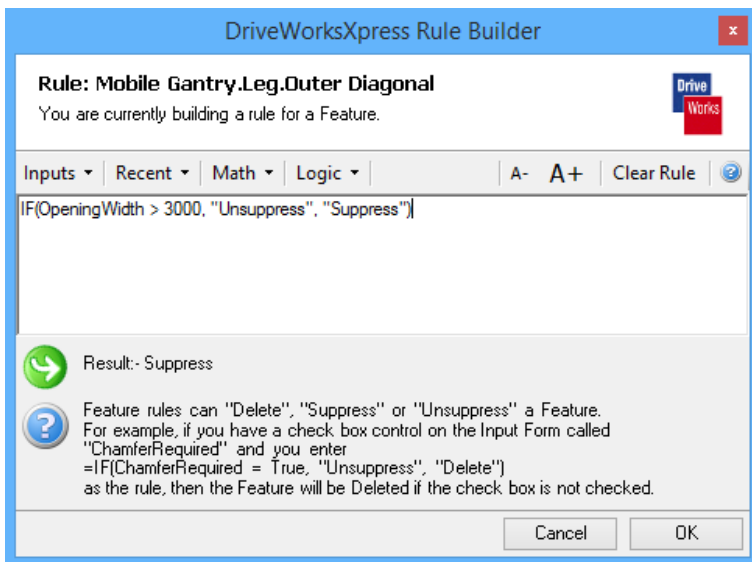
## BUILD RULES FOR FEATURE

Un-check 'Dimensions' and check 'Features'. Click next in the DriveWorksXpress navigation.

Multi-select the features Outer Diagonal, Outer Diagonal Trim and Outer Diagonal Plate and build the following Rule:

Name	Rule
Outer Diagonal Outer Diagonal Trim Outer Diagonal Plate	IF(OpeningWidth > 3000, "Unsuppress", "Suppress")

This IF() statement controls the suppression state of the features. If the Opening Width is greater than 3000mm, the features in the generated model remain unsuppressed. If the Opening Width is less than 3000mm, the features will be suppressed.



Remember all alpha or alpha-numeric text strings must be presented within speech marks " ". Numerical values do not require speech marks.

Click 'Back' in the DriveWorksXpress navigation to return to Rules Summary.

There are now 0 rules missing for the captured dimensions.

## RUNNING THE PROJECT

Click 'Next' or 'Run' in the DriveWorksXpress navigation, which will take you to the 'Run' Task Pane.

DriveWorksXpress

Enter the required values in the form below.  
Complete the form to generate a new version of Mobile Gantry.

Defaults Last Used

**Mobile Gantry**

Project Number  
MG1

Customer Name  
DW

Drawn By  
Rob

Safe Working Load  
500 Kg

Opening Height  
1500

Opening Width  
1500

Clear Create

Now that all of the rules are written for the project, new Specifications can be created.

Within the Run Task Pane, you will be able to see the Form Controls you created earlier in the project.

Follow the Tool Tips and complete the Form.

All of the controls which require a value will appear with a pink background which will turn white once a suitable value is entered.

There are three methods of completing the Form. You can use the Default control values, Last Used values or enter new details.

**Click 'Create'. DriveWorksXpress will now generate your new models and drawings.**

A generation report is produced which shows activity on all of the driven values. Any errors will appear with a red cross, and all successful values will appear with a green tick.

To view the modified SOLIDWORKS Drawing File for this new model, open the folder where all the files have been saved to.





**Congratulations! You have now completed this DriveWorksXpress Tutorial.**

There is lots more downloadable content available at:

[www.driveworksxpess.com](http://www.driveworksxpess.com)

Now you've tried DriveWorksXpress, GO AUTOMATE your own SOLIDWORKS projects!