

# Geomet

## Q-DAS Menu System

Version 7  
2010

Covering:

Geomet 301 with Q-DAS Support

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# Geomet

## Universal CMM Software

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# Appendix 3 – Q-DAS Menus

## Introduction: Geomet with Q-DAS Menu Support

What is Geomet with Q-DAS support?

Q-DAS is an internationally recognized leader in SPC software. The company's main focus is on management applications supporting small, large and global businesses.



Helmel has developed a Geomet User Interface to implement the Q-DAS export file structure and the GM workflow model based on the document:

### **GM Casting Engine Transmission Center Global Machinery and Equipment Specification SP-Q-GCR Version 2.0 January 2010**

The concept behind the menu system is to produce a repeatable and consistent method of inspection program execution and data capture while eliminating transient errors of incorrectly entered data.

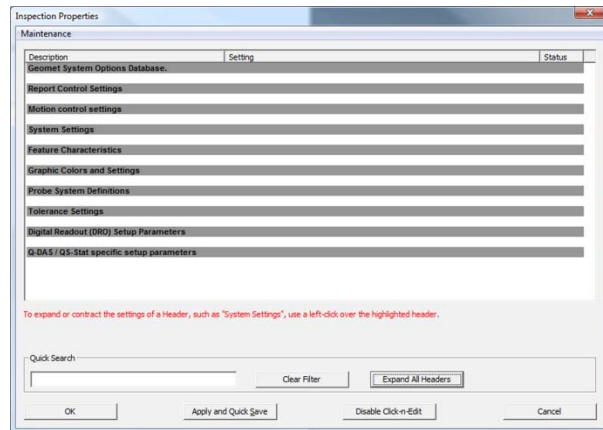
## Activating Q-DAS Services in Geomet

By default, Q-DAS services are not active. These services are available only in Geomet 301.

Q-DAS requires that EZ-Launch is active. To activate the service, launch the Geomet System Option by pressing function F9:



F9

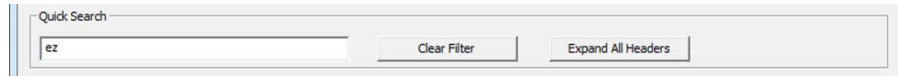


Or through the menu commands:

System→System Options

Geomet System Options has hundreds of settings that control the behavior of Geomet. Navigating the System Options to locate a setting can be a laborious task.

## Appendix 3 – Q-DAS Menus

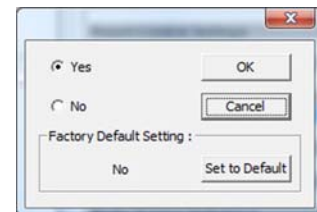
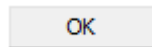


To assist in navigation there is a filtering system called "Quick Search". This searches every setting looking for a match to the text entered in the Quick Search data field. Then displays only those items.



To locate the EZ Launch activation, enter 'ez' into the Quick Search. The System Options then displays the only setting required.

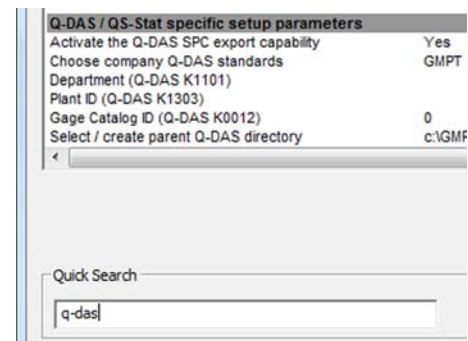
Editing the current setting is accomplished by left-clicking over the listing "Use EZ Launch menu system" which pops up an edit tool. Choose the "Yes" option and press the button:



### Activating Q-DAS Services

The next setting required is to activate Q-DAS services. Enter 'q-das' into quick search and locate the setting for "Activate the Q-DAS SPC export capability"

Modify its setting to 'Yes'.

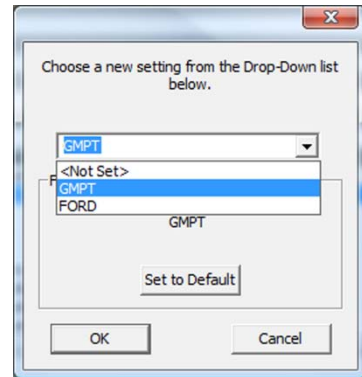


## Appendix 3 – Q-DAS Menus

### Setting Company Standards

Locate the System Options entry "Choose company Q-DAS standards". Left-click over the entry and choose the proper company from the drop-down control.

When you select a company, all associated changes to file paths and will be updated.



### Q-DAS Global Settings

There are K-Field values that are considered Global in their use. These setting are made one-time in Geomet System Options.

To locate these entries in System Options, enter the K-Field into the Quick Search and then only that entry will be shown. The data entered is generally defined in the company supplied K-Field catalog.

K-Field	Description
K0012	Gage number.
K1101	Department
K1303	Plant ID
K2022	Export decimal places
K2402	Gage description
K2404	Gage resolution
K2406	Gage manufacturer
K8500	Subgroup size
K8501	Subgroup type (0=fixed / 1=moving)

## Appendix 3 – Q-DAS Menus

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### **Company Specific K-Field Behavior**

Some companies modify or extend the K-Field assignments that are designated in the "Automotive Quality Data Exchange Format - AQDEF" or company specific specifications.

Those supported in Geomet are:

#### **St. Catharine (GMPT)**

Use K0014 Part Number Field in place of K1001

#### **Rayong, Thailand (GMPT)**

Use K0014 Part Number Field in place of K1001

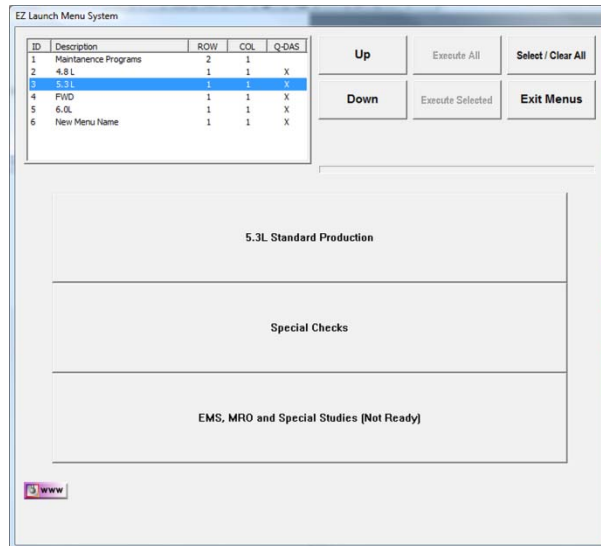
Activate K0009 for Fixture/Palette Serial Numbers



# Appendix 3 – Q-DAS Menus

## Q-DAS Menu Overview

The Q-DAS menu structure is built upon the Geomet EZ Launch menu system, a simplified user interface Helmel developed for unskilled operators, production environments, and mixed production runs. The EZ Launch main page contains the individual menu structures for both the EZ Launch and Q-DAS structures.



EZ Launch menu structures allow for one level of customized buttons which access the inspection programs.

Q-DAS menu structures have multiple levels of customized buttons that are configured for the inspection program. Through this method, each button is assigned an access level such as manufacturing Mod selection, fixture selection and even operation selections. Each is then configured to populate the proper process trace information and K-Field data.

This section of the guide only refers to the Q-DAS structures and information regarding EZ Launch can be found in chapter 8.

## Configuring the Q-DAS Menu Structure

Building the Q-DAS Menu Structure involves an intuitive tree structure common to many Windows applications. The main components of the structure are:

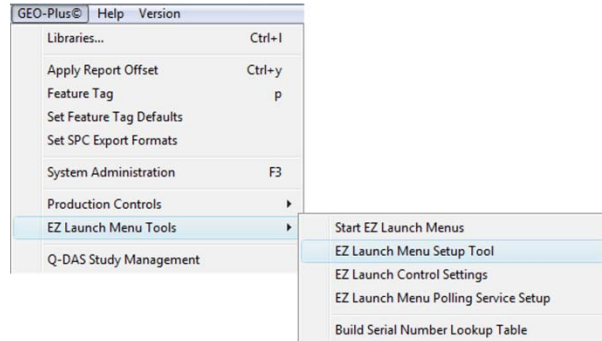
- EZ Launch Fixture Base Definitions
- EZ Launch Fixture Cradle Definition
- Q-DAS Page Builder

# Appendix 3 – Q-DAS Menus

## Launch Edit Tool for the EZ-Launch Menus

Access to the EZ Launch menu setup tools is accomplished by using the drop-down Geomet menus. Choose:

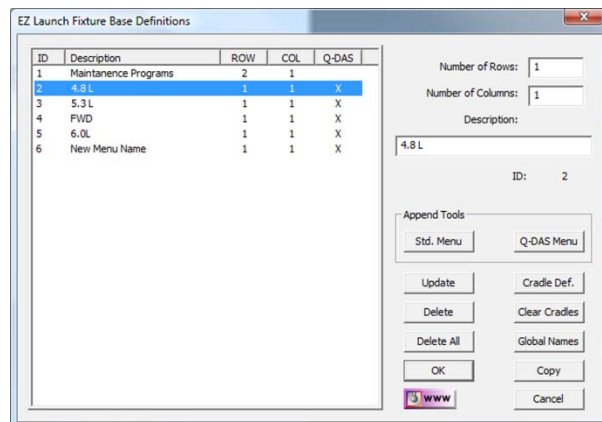
GeoPlus©→  
EZ Launch Menu Tools→  
EZ Launch Menu Setup Tool



## EZ Launch Menu Setup Tool

EZ Launch can contain several menu structures based on your organization's needs. Menus can be created to support specific needs such as:

- Stamping Projects
- 4.8 L
- General Motors



Organizing your menus allows common inspections to be located easily in a clean and concise manner.

A Base Definition is a single record in the Geomet.gcs database that contains all data required for one menu structure. It has a user defined name which is displayed on the main EZ Launch Menu and in the list selection of the 'EZ Launch Fixture Base Definition' tool shown above.

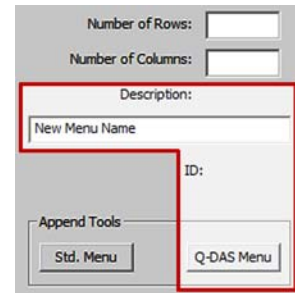
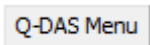
*NOTE: Geomet System Options database is located in the program folder and has an extension \*.gcs.*

# Appendix 3 – Q-DAS Menus

## Create a Q-DAS Base Definition

To create a new Q-DAS Base Definition record enter a name in the data field labeled "Description:". In this example we used the name "New Menu Name".

Attach the new Base Definition record to the setup tool by pressing the button:



*\* NOTE: The data fields for Rows and Columns are not required for a Q-DAS Menu*

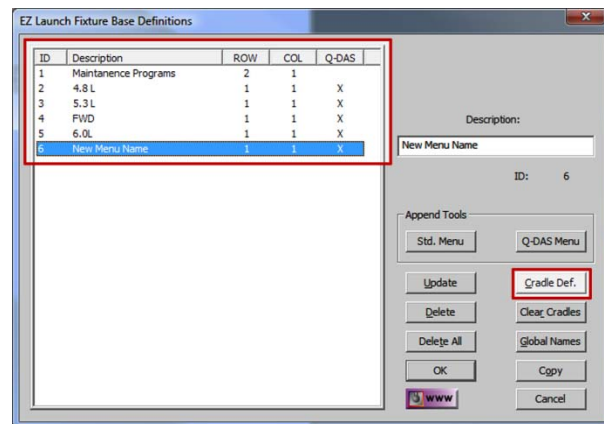
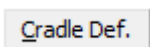
The new Base Definition will appear in the list as shown. All Base Definitions that are associated with the Q-DAS menu are tagged with an 'X' for quick identification.

ID	Description	ROW	COL	Q-DAS
1	Maintenance Programs	2	1	
2	4.8 L	1	1	X
3	5.3 L	1	1	X
4	FWD	1	1	X
5	6.0L	1	1	X
6	New Menu Name	1	1	X

## Edit the Q-DAS Page Tree

Creating a new or editing an existing Q-DAS Page Tree is accessed through the button <Cradle Def.>.

Highlight the Base Definition in the displayed listing and press:

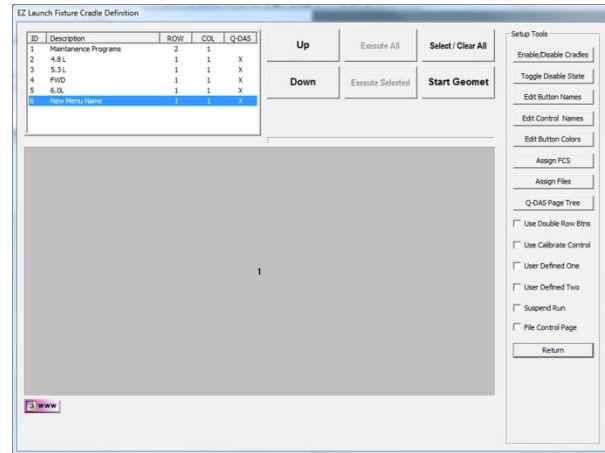


# Appendix 3 – Q-DAS Menus

## EZ-Launch Fixture Cradle Definition Tool

This definition tool provides access to various settings that affect both EZ-Launch and Q-DAS menus. Not all settings are available for use with the Q-DAS menus. Those that are include:

- Use Calibration Control
- User Defined One
- User Defined Two
- Suspend Run
- File Control Page



All other controls are used only for E-Z Launch style menus.

To access the Q-DAS Page Tree, highlight the Base Definition and press:

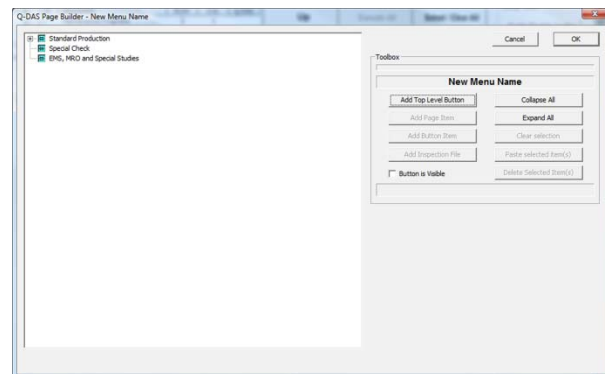
Q-DAS Page Tree

In the figure above, the Base Definition highlighted is "New Menu Name".

## Q-DAS Page Builder

When a new Q-DAS Page Definition is created, the three mandatory categories are added. These are:

- Standard Production
- Special Check
- EMS, MRO and Special Studies



Each of these categories is the top of a tree structure that define the pages, user buttons, file assignments and K-Fields.

## Appendix 3 – Q-DAS Menus

Understanding the individual components within a tree structure is important in building the menu system to suite your needs. The tree structure consists of three basic components.

- **Page:** A placeholder that contains all the buttons required for the designated level within the tree.
- **Button:** Attaches to a page and carries the K-Field assignment. Points either to a Page element or an inspection file. NOTE: only one page can be attached to a button.
- **Inspection File:** Attached to a button and contains K-Field assignments and a file path to the inspection program.

In addition to the basic components, the tree structure has four major levels each consisting of one page. Based on the level of assignment, specific K-Fields are assigned to the page and populated by the button. The levels are:

ID:	Description	K-Fields
Level 1	Front page consisting of the category buttons; Standard Production, Special Checks and EMS, MRO and Special Studies.	K1001 (or K0014*) K1002
Level 2	"Mod" - Line or Module/Leg. Example 'Mod1'.	K0008
Level 3	Operation. Example 'Op010'.	K0053
Level 4	Machine, Station, Fixture/Spindle and File Location.	K0010 K0007

*\*Denotes a system/company specific setting within Geomet System Options.*

# Appendix 3 – Q-DAS Menus

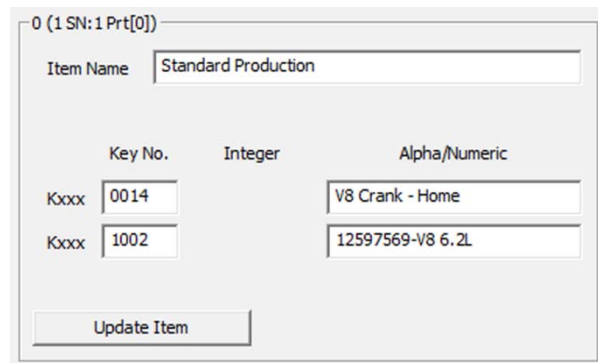
## Using the Page Builder

Choose one of the main categories from the list in the Page Builder.



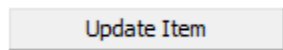
NOTE: These first three buttons are also referred to as Top Level Buttons.

**Step 1:** This will configure the K-Field data display group. Enter the assigned data for K1001 (or K0014) and K1002 from the company supplied K-Field catalog.

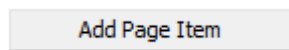


The Item Name can be edited and is the text displayed on the button during usage.

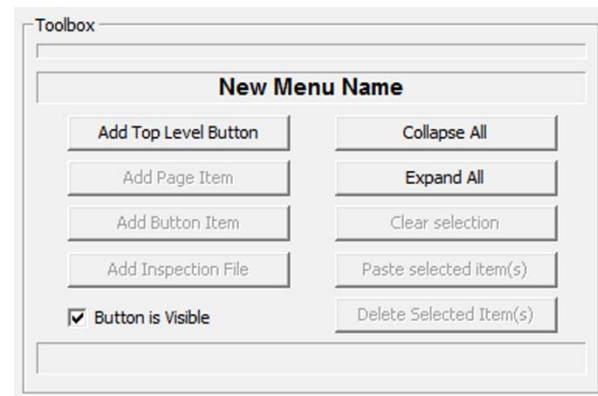
To attach this data to the button record, press:



**Step 2:** The top level button will point to a Page element. To create this page, press:



The tree will start to expand showing the addition of the page attached to the Top Level Button.



## Appendix 3 – Q-DAS Menus

In the Edit Page Characteristics group enter a description for this page. The text will not display in the

menu, but is a convenient method to organize during tree building. To attach your name change, press:

Update Item



**Step 3:** Highlight the page created in step 2. Add buttons to this page by clicking:

Add Button Item

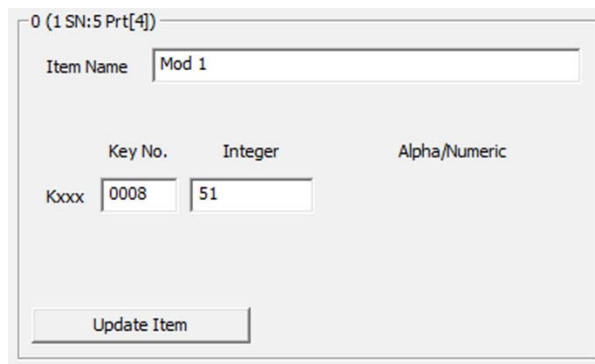


Multiple buttons can be added by clicking repeatedly. The default name "Button 1" is used and the number is incremented with each new added button. Add all the buttons required for the "Mod", however buttons can be added, edited or deleted at any time.

Edit the characteristics for the button. The data is provided in the company supplied K-Field catalog.

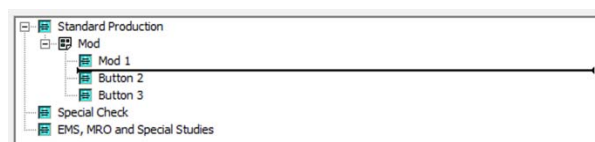
Press:

Update Item



to attach the changes to the button record.

**Step 4:** Buttons assigned for the selection of the Mod Line, point to another page that is used to choose the Operation.



Highlight the button, shown at right as "Mod 1" and attach a page by pressing:

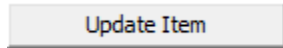
Add Page Item

## Appendix 3 – Q-DAS Menus

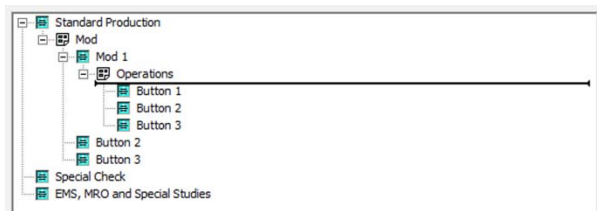
The tree updates to show the addition of the page.



Edit the page name. Level 2 is considered "Operations", Press:



**Step 5:** Add button elements that will be used to identify the Operations associated with this page.

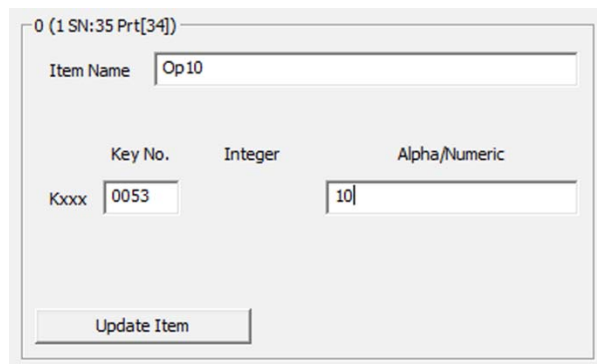
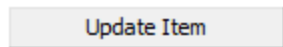


The K-Field support on this level are:

K0053

Update the Button characteristics from the data supplied on the company supplied K-Field catalog.

When finished, press:



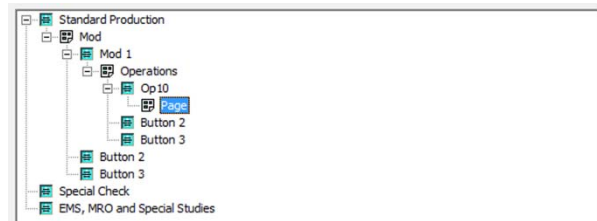
Key No.	Integer	Alpha/Numeric
Kxxx 0053	10	



## Appendix 3 – Q-DAS Menus

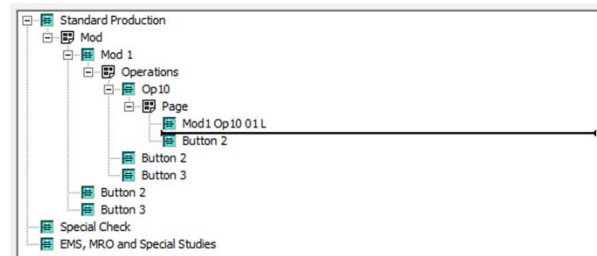
**Step 6:** Highlight the button, shown at right as "Op10" and attach a page by pressing:

Add Page Item



This page will contain the buttons required for Op10. For example, there may exist several Op10 inspections based on the need to isolate the production based on the K-Fields K0007 and K0010.

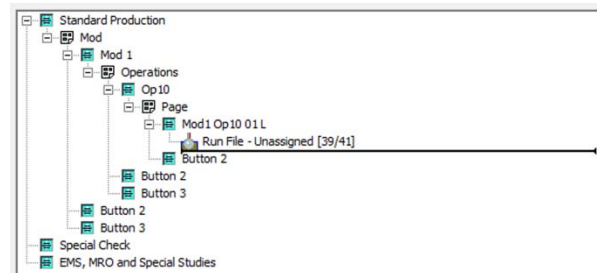
Attach buttons to the Op10 page. These buttons represent the individual Op10 inspection files. Based on the company supplied K-Field catalog, there may be several Op10 buttons based on the combination of values set in K0010 and K0007.



Edit button's characteristic only for the button name. The actual K0010 and K0007 will be edited in the next step.

**Step 7:** Highlight the button 'Mod1 Op10 01 L' and attach the Inspection File element to the button by pressing:

Add Inspection File



This File element contains the K-Fields K0010 and K0007 and the full path / file name to the inspection report.

Edit the K0010 and K0007 data fields based on the values in the company supplied K-Field catalog.

A screenshot of the 'Add Inspection File' dialog box. The title bar reads '0 (2 SN:41 Prt[39])'. The dialog contains the following fields:

- Item Name: H010 LS SF NTC GEO CENTER VQXX
- File Name: C:\My Documents\Geomet 101\Part Inspections\H010 L
- Key No. Integer: 0010 8608
- Key No. Alpha/Numeric: 0007 61
- Use GM Style Serial Number:
- Buttons: Update Item, Assign File

## Appendix 3 – Q-DAS Menus

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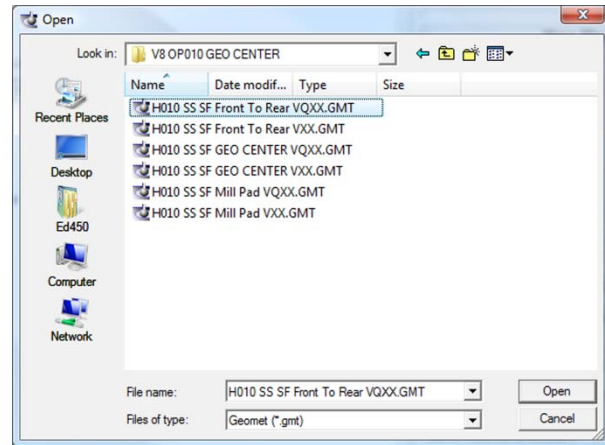
Assigning the inspection file is accomplished by pressing the button:

Add Inspection File

Navigate to the file location and press:

Open

When the correct file has been highlighted.



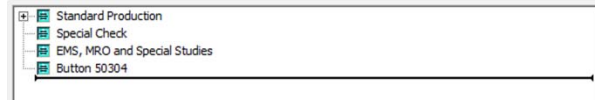
There is also a GM site specific requirement for the handling of part serial numbers. When installed at a GM facility that utilizes the 1+8 format, place a check next to "Use GM Style Serial Number".

NOTE: 1+8 format refers to a serial number such as 'A43972476' where the 'A' is from a lookup table defined by the GM Engineer assigned to the project. The +8 is the actual serial of the part. This is a tested length and leading zeros may be needed to reach the width of 8. There is a complete section on the use of the GM 1+8 Serial Number tool at the end of this Appendix.

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## Q-DAS Page Builder Additional Tools

### Add Top Level Button



By default, a new Q-DAS Base Definition starts with the base three categories. You can assign a new category by pressing the button:

Add Top Level Button

As shown in the example, a button is added with a default name "Button xxxxx" where the xxxxx is an internal serial number used by the page tree.

The additional top level button utilizes the Standard Production path structure for storing results.

### Collapse All / Expand All

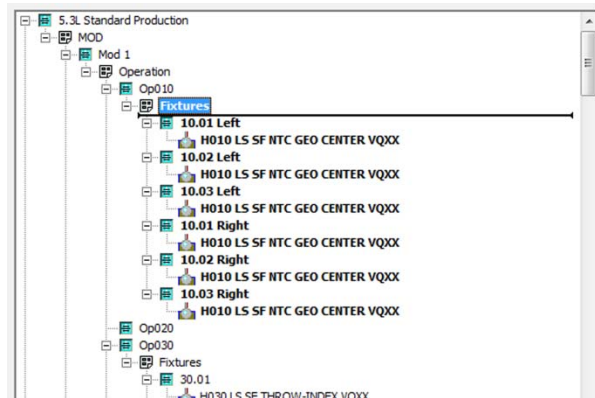
As the names suggest, these commands open or close the full tree structure on all items.

Collapse All

Expand All

### Selecting Tree Elements

Some tools require the use of selecting tree elements. To select tree elements use the right mouse button while hovering over a tree element.



This highlighted element is referred to as the 'Parent'. Selected elements are displayed as bold text. All 'Children' elements attached to the Parent will also be displayed as bold.

The process of selecting elements will activate tools for your use.

### Clear Selection

Clear Selection removes the selected state from all elements in the page tree.

Clear selection

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## Delete Selected Item(s)

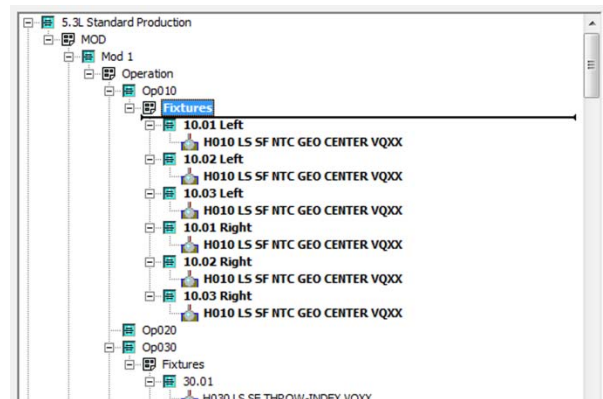
Pressing the Delete Selected Item(s) button will permanently remove the selected elements from the page tree and database. There is no Undo once the delete operation has been done.

Delete Selected Item(s)

## Paste Selected Item(s)

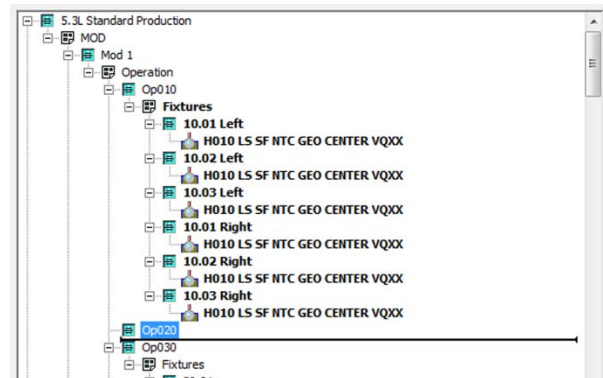
Creating copies of tree elements is a two step process consisting of selecting the tree elements then choosing an anchor position for pasting.

**Selecting:** Care must be taken when selecting tree elements. It is suggested to select elements in one continuous group. In the example here, the selected group starts with page element "Fixtures" under the Op10 button.



The selection tool then selects all page tree elements that are connected to "Fixtures" which is the parent item for the selection.

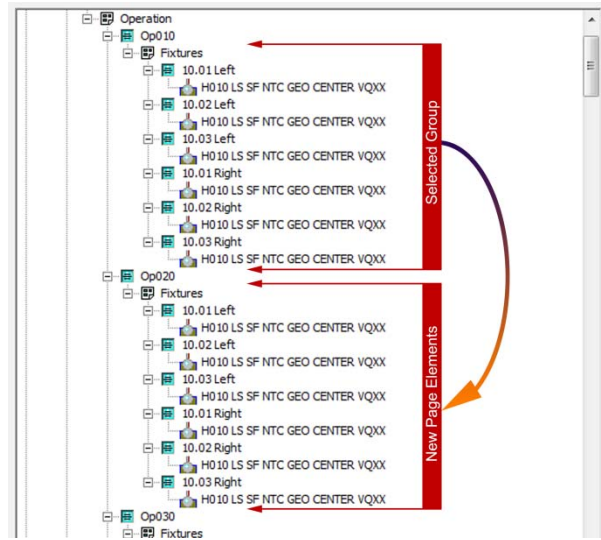
**Pasting:** To maintain page level discipline as described in the beginning of this Appendix, selecting an anchor should be on the same level in the tree.



In this example we have selected the 'Op20' button to receive a copy of the selected records. The resulting operation will create a copy of the 13 selected elements starting with the 'Fixtures' page and attach the copies to the Op20 button.

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When the Paste operation is completed, your tree structure will look like the example at the right.

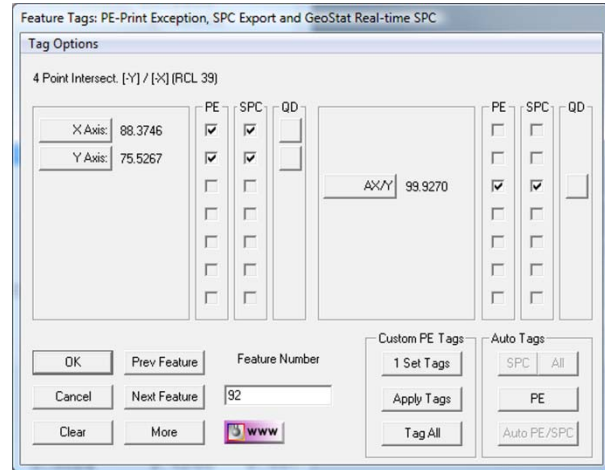


# Appendix 3 – Q-DAS Menus

## Preparing the Geomet Inspection File for Q-DAS

Q-DAS specific data can be added to an existing inspection file. This is done through the Feature Tag Tool in Geomet.

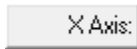
Activate the Feature Tagging by highlighting the feature in the inspection report, right-click and choose "Feature Tags". You can read detailed instruction on the use of Feature Tags in Chapter 8.



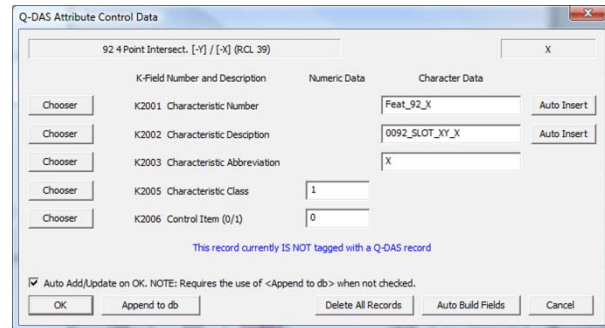
## Populating Q-DAS K-Fields on a feature characteristic

Choose the characteristic from the Feature Tags tool by clicking the button next to the displayed actual value.

In this example, the X-Axis was chosen:



The Q-DAS Attribute Control Data tool appears. On a new application, default data is created and all data fields are populated.



Depending on the setting of

"Auto Add/Update on Ok..."

the next step is to press the <Ok> button. The behavior of this local setting is as follows:

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**Checked:** Pressing the <Ok> button automatically appends the data for the five K-Fields to the database and closes the Q-DAS Attribute Control Data tool. Using this process streamlines the K-Field population to just one-click. To activate the tool, press the enter key is all that is required.

Care should be taken! For example, if you clear the five K-Field assignments by using the <Release Q-DAS> button, then press the <Ok> button to close the tool, new assignments are generated. In this example, clear the assignments and then press <Cancel>.

**Unchecked:** Changes the behavior of the <Ok> button to that of a typical Accept/Close operation. When the Q-DAS Attribute Control Data tool is displayed, the five K-Fields are pre-populated with default values and it then requires the use of the <Append to db> button to attach the data to the database. Conversely, if you press the <Release Q-DAS> button, all data fields are cleared from the db and pressing <Ok> accepts those changes without adding the record back into the db.

Delete All Records

Unless you are working with a one-characteristic feature, there are several db records that contain the five K-Fields. In the example of a Cylinder there could be up to 8 records attached to the feature. When you access a single characteristics with the Q-DAS Attribute Control Data tool, pressing the <Delete All Records> button will remove all assigned K-Field data for the full selected feature.

Auto Build Fields

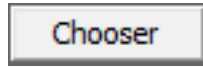
Overrides the five existing data fields with Geomet generated default values. This is a convenient method to return to defaults. This operation works with the current displayed characteristic.

Release Q-DAS [5]

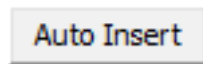
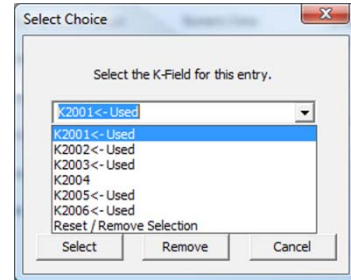
When there is a K-Field record attached to the characteristic being viewed, this button removes the record effectively removing that characteristic from being exported.

## Appendix 3 – Q-DAS Menus

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Under normal operations, the K-Fields are pre-populated with default values. The Chooser option allows you to override the K-Field.  
NOTE: This is implemented for future use.



Feature and characteristic names are automatically generated when visiting the Q-DAS Attribute Control Data tool.

Feature names (K2001) are formatted as follows:

### **Feat\_92\_X**

'Feat'            Base name for all records in the Inspection Report.  
'92'             Represents the Feature number.  
'X'               Represents the reporting of the X-Component of the results.

Characteristic (K2002) are formatted as follows:

### **0092\_SLOT\_XY\_X**

'0092'           Represents the Feature number.  
'SLOT"          Short name of the feature.  
'XY'            Full reported feature type, ei: IR, XYZ, 1D, etc.  
'X'               Represents the reporting of the X-Component of the results.

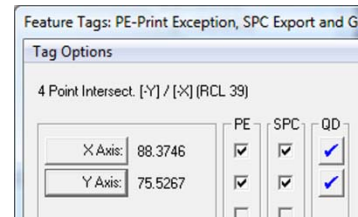
The user can override these names for K2001 and K2002. To return to the Geomet default names, press the <Auto Insert> next to the data filed. The Auto Insert only works with the single data field in the same row.



## Appendix 3 – Q-DAS Menus

### Q-DAS Characteristic Export

In the Feature Tag tool there are two columns of checks required for Q-DAS export. These are the columns 'SPC' and 'QD'.



By default, both columns are marked as checked when accepting the K-Field assignments in the Q-DAS Attribute Control Data tool. Both columns are required for proper export. The SPC column controls the export capability and the QD column indicates whether K-Field data is assigned.

In certain cases, the SPC column may be checked and the QD is unchecked. This condition switches the export tool to use the standard Geomet \*.csv format.

# Appendix 3 – Q-DAS Menus

## GM Specific Serial Number Tool

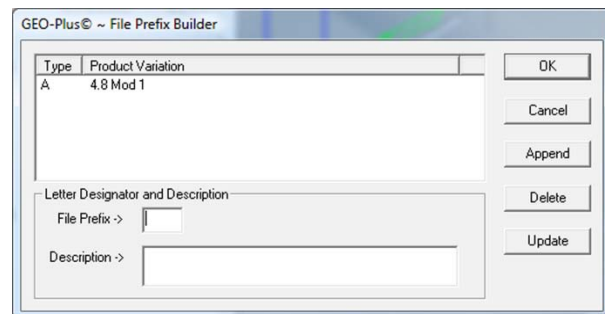
Geomet in cooperation with GM St. Catharines has developed a constrained Serial Number entry system. Every part being inspected has a 8-digit numerical serial number that is included in all inspections. Due to the number of inspections, tracking the serial number is aided by a defined single letter called the File Prefix.

The ME assigned to the project builds up a table of lookup values that are used to identify information such as what Mod, Line etc.

### Building the File Prefix Table

To activate the File Prefix Edit tool, from the menu choose:

GeoPlus©→  
EZ Launch Menu Tools→  
Build Serial Number Lookup  
Table



To add a new entry, choose a file prefix letter and fill in the data field "File Prefix". Add a brief description in the appropriate data field. Press the button:



### Using the Serial Number tool

When the operator is navigating the EZ Launch / Q-DAS menus and reaches the inspection file button, the Serial Number tool appears as shown here.

Enter the appropriate File Prefix followed by the 8-digit serial number. The tool proceeds only when these two data fields are complete and validated against the File Prefix lookup table and the serial number has a length of 8.

