

### 1 Project 4 - Use FindRow Excel Snippet

#### 1.1 Parameter Setup

In this section of the project, you will retrieve data from Excel to set a multi-value list for a parameter, then identify which row will be used when using the FindRow snippet.

- 1. Using the Intro to CAD & CAE.ipj
- 2. Open CFR 2RS.ipt.



- 3. Modify the parameter in Sketch1.
  - Change d1 to RD



4. On the Ribbon, go to the Manage Tab > iLogic Panel > Add Rule



- The Rule Name dialog appears.
- Enter **Cam Follower**.

Rule Name		X
Name:		
Cam Follower		
	ок	Cancel

- Click OK
- 5. In the Edit Rule: Cam Follower dialog box, use the If...Then...End If conditional statement from the panel above the program space to insert conditions in the rule.
  - Place a If...Then...End If statement.
  - Change My\_Expression to Units = "Metric"
  - Under the Model tab, click on User Parameters to display them in the Parameters tab
  - Under the Parameters tab, above the program space, double-click on UnitMultiplier to add it below your If statement
  - Set UnitMultiplier equal to 1.0 mm
  - Place an **Elself...Then** statement using the pull down menu next to the **If...Then...End If** button
  - Change My\_Expression to Units = "Inch"
  - Under the Parameters tab, above the program space, double-click on UnitMultiplier to add it below your Elself statement
  - Set UnitMultiplier equal to 1.0 in

```
If Units = "Metric" Then
    UnitMultiplier = 1.0 mm
ElseIf Units = "Inch" Then
    UnitMultiplier = 1.0 in
End If
```



### Project 4 – iLogic Part 3

- 6. Open Cam Follower.xls.
  - Note the Title row •
  - Under METRIC SERIES, they are in Row 2 •
  - Under INCH SERIES, they are in Row 12 •

	А	В	С	D	E	F	G	Н	1
1	METRIC SERIES								
2	Bearing Number	Roller Diameter RD	Roller Width WD	Stud Diameter SD	Stud Length SL	Min Thread Length TL	Endplate Extension EL	Fine Threads	Hex Socket HEX
3	CFR 2RS-25	25	16	10	25	14	0.8	M10x1.25	5
4	CFR 2RS-40	40	25	16	30	17	0.8	M16x1.5	8
5	CFR 2RS-50	50	30	20	40	22	0.8	M20x1.5	10
6	CFR 2RS-60	60	35	24	50	27	0.8	M24x2	12
7	CFR 2RS-80	80	45	30	60	32	0.8	M30x2	14
8	CFR 2RS-100	100	50	36	80	42	0.8	M36x3	17
9									

10 11 INCH SERIES

12	Bearing Number	Roller Diameter RD	Roller Width WD	Stud Diameter SD	Stud Length SL	Min Thread Length TL	Endplate Extension EL	Fine Threads	Hex Socket HEX
13	CFR 2RS-1	1	0.625	0.4375	1	0.5	0.03125	7/16-20 UNF	<b>0.1</b> 875
14	CFR 2RS-1 1/2	1.5	0.875	0.625	1.5	0.75	0.03125	5/8-18 UNF	0.25
15	CFR 2RS-1 3/4	1.75	1	0.75	1.75	0.875	0.03125	3/4-16 UNF	0.25
16	CFR 2RS-2	2	1.25	0.875	2	1	0.03125	7/8-14 UNF	<b>0.37</b> 5
17	CFR 2RS-2 1/2	2.5	1.5	1	2.25	1.125	0.03125	1-14 UNF	<b>0.4</b> 375
18	CFR 2RS-3	3	1.75	1.25	2.5	1.25	0.03125	1 1/14-12 UNF	<b>0.4</b> 375
19	CFR 2RS-4	4	2.25	1.5	3.5	1.5	0.03125	11/2-12 UNF	

#### 7. Add a TitleRow snippet

In the System Snippets tab, expand Excel Data Links and scrub over TitleRow to see • the description

-TitleRow -- FindRowStart

-- FindRow Set the number of the column title (headings) row (for FindRow)

··· DisplayAl

- Applicatic GoExcel.TitleRow = 1

- Double-click on TitleRow to add the snippet below the If statement and repeat it under • the ElselF statement
- Set the snippet under the If statement equal to 2 •
- Set the snippet under the Elself statement equal to 12

```
If Units = "Metric" Then
      UnitMultiplier = 1.0 mm
      GoExcel.TitleRow = 2
ElseIf Units = "Inch" Then
      UnitMultiplier = 1.0 in
      GoExcel.TitleRow = 12
End If
```



# Project 4 – iLogic Part 3

#### 8. Set the MultiValue List for BearingNumber

• Double-click on **MultiValue list from Excel** to add the snippet below the **If** statement and repeat it under the **ElselF** statement



### Project 4 – iLogic Part 3

9. Under the System Snippets, expand Parameters and add SetValueOptions (on) before the If statement.

SetValueOptions (on SetValueOptions (off		Metric Thread	-	
Get List Set List from ArrayLi	After settin value of the	g this, MultiValue.SetList parameter to be change	t (or assigning to M ed to a value from t	ultiValue.List) will cause the he list.
List from Excel (1) List from Excel (2)	MultiValue.S	etValueOptions(True, Defau	ultIndex := 0)	



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- **10.** Under the **Parameters** tab, above the program space, double-click on **RowNumber** to add it below your statements
- 11. Set RowNumber equal to the FindRow snippet under the Excel Data Links

FindRow	MuitiValue.List("BearingNumber") = GoExcel
FindRow (embedded)	
FindRow Find a row in an external	spreadsheet that meets the criteria for one or more
CurrentR columns.	
CellValue	maula" "Chast1" "salumatiana" "<-" 0.2 "salumatiana" "<-"
CellValue 4.1)	ame.xis, Sneet1, columnivame, <= , 0.2, columnivame, <= ,
CellValue	

Row	Number = GoEx	cel.FindRow(	"Cam Follow	er.xls", "Sh	eetl", "Bea	ring Number	", "=", В	earingNumber	r)
	🛃 🄊 • (° -   =	,		Cam Follower.xl	s [Compatibility	Mode] - Microso	oft Excel	-	
	File Home	Insert Page La	yout Formu	ilas Deca	Review View				
	A2	• (n	fx Bearing N	lumber	/				
1	A	В	c	0	E	F	G	н	
1	METRIC SERIES								
	Bearing	Roller	Roller Width	Stud Diameter	Stud Length	Min Thread	Endplate		Hex
	Number	DiametersD	WD	SD	SI	Length TI	Extension	Fine Threads	Socke
2	Number	Utathe		50	50	cenguire	EL		HEX
3	CFR 2RS-25	25	16	10	25	14	0.8	M10x1.25	5

```
MultiValue.SetValueOptions(True, DefaultIndex := 0)

If Units = "Metric" Then
    UnitMultiplier = 1.0 mm
    GoExcel.TitleRow = 2
    MultiValue.List("BearingNumber") = GoExcel.CellValues("Cam
    Follower.xls", "Sheet1", "A3", "A8")

ElseIf Units = "Inch" Then
    UnitMultiplier = 1.0 in
    GoExcel.TitleRow = 12
    MultiValue.List("BearingNumber") = GoExcel.CellValues("Cam
    Follower.xls", "Sheet1", "A13", "A19")

End If
RowNumber = GoExcel.FindRow("Cam Follower.xls", "Sheet1",
"Bearing Number", "=", BearingNumber)
```

- 12. Click OK in the Edit Rule dialog box.
  - The rule will run.
- **13.** From the Ribbon **Manage** Tab > **Parameters** Panel < select **Parameters**.

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# Project 4 – iLogic Part 3

- 14. In the Parameters dialog box, change the **Units** and **BearingNumber** parameters in the **Parameters** dialog Box.
  - Select **INCH** from the **Units** pull down menu.
  - Select CFR 2RS-2 from the BearingNumber pull down menu.
  - Verify **RowNumber = 16 u**l and that it is the correct row in the spreadsheet.

Parameters			
Parameter Name	Unit	Equation	Nomina Dri
Model Parameters			
Reference Parameters			
User Parameters			
Units	Text	Inch	<b>•</b>
RowNumber	ш	16 ul	16.00 C
BearingNumber	Text	CFR 2RS-2	<b>-</b>
$\Delta \delta_{utiverse} > 0$		200	AS ST >1
$c = mc^*$		🚽 🔊 • (°' -   =	
	i i	ile Home	Insert Page La
$E = mc^*$ $P + \rho$		A20	<b>-</b> (*
$\nabla \times F = -\frac{\partial B}{\partial B}$		А	В
ði -	11	INCH SERIES	
$F = G \times M \times n \div d$		Bearing	Roller
	12	Number	Diameter RD
$\Delta S > 0$	13	CFR 2RS-1	1
$E = mc^2$	14	CFR 2RS-1 1/2	1.5
	15	CFR 2RS-1 3/4	1.75
	16	CFR 2RS-2	2
Add Numeric 💌 Updat	e 17	CFR 2RS-2 1/2	2.5
	18	CFR 2RS-3	3
Link Immed	19	CFR 2RS-4	4



### Project 4 – iLogic Part 3

#### 1.2 Set Parameters from Row

This section of the project you will retrieve data from Excel to set values for parameters using the **CurrentRowValue** snippet.

- 15. Right click on Cam Follower and select Edit Rule.
- 16. Set the parameter RD equal to CurrentRowValue
  - Double click on the RD parameter from the Model Parameters to add it to the program space.

NOTE: This code must be added after the FindRow snippet in the program space.

	Model	Options	Search and Replac	e Wizards			
		CFR 2RS.	ipt	Para	meters Names	5	
		$f_{\chi}$ Mode	Parameters		amatar		
		J <sub>X</sub> Refer	ence Parameters	Par	ameter		
		View	Master	RD			
Revolution 1					,		
				1 30			
	Currer	tPow/Jalue	1101	- Tole	1	11.1	u20
	· CellVal	ue		⊕ Extru	sion4		d21
	CellVal	ue (embei					FI
	CellVal	ue (curre	Get a value from	the row th	at was just fo	und using t	he FindRow function
	- CellVal	ues	= GoExcel.Current	RowValue("co	lumnName")		
	. CellVal	ues (currei		11 1 <b>70</b> 70			
ī							
	RowNu	umber = G	oExcel.FindRow	"Cam Follo	wer.xls", "S	heet1", "Be	
	RD =	GoExcel.	CurrentRowValue	("Roller D	iameter RD")		
I		¥7 - (≈ -	∓ Cam F	ollower.xlg [Co	mpatibility Mode]	- Microsoft Exc	
I	File Home Insert Page Layout Formulas Data Review View						
I		A20	<b>▼</b> (°	f			
I	1	А	В	С	D	E	
	11	NCH SERIES	s				
		Bearing	Roller	Roller Width	Stud Diameter	Stud Length	
- <b>1</b>							

0.625

0.875

1

1.25

1.5

1

1.5

1.75

2

2.5

0.4375

0.625

0.75

0.875

1

1

1.5

1.75

2

2.25

CFR 2RS-1

CFR 2RS-1 3/4

CFR 2RS-2

CFR 2RS-2 1/2

14 CFR 2RS-1 1/2

13

15

16



#### 17. Convert the Units

 Multiply the results from Excel by UnitMultiplier
 RowNumber = GoExcel.FindRow("Cam Follower.xls", "Sheet1", "Bearing Number", "=", BearingNumber)
 RD = GoExcel.CurrentRowValue("Roller Diameter RD") \* UnitMultiplier

18. Repeat the previous two steps for WD, SD, SL, EL, HEX.

```
RowNumber = GoExcel.FindRow("Cam Follower.xls", "Sheetl", "Bearing
Number", "=", BearingNumber)
RD = GoExcel.CurrentRowValue("Roller Diameter RD")* UnitMultiplier
WD = GoExcel.CurrentRowValue("Roller Width WD")* UnitMultiplier
SD = GoExcel.CurrentRowValue("Stud Diameter SD")* UnitMultiplier
SL = GoExcel.CurrentRowValue("Stud Length SL")* UnitMultiplier
EL = GoExcel.CurrentRowValue("Endplate Extension EL")* UnitMultiplier
HEX = GoExcel.CurrentRowValue("Hex Socket HEX")* UnitMultiplier
```

- 19. Click OK in the Edit Rule dialog box.
- 20. Change the Units and BearingNumber parameter in the Parameters dialog box using the pull down box.





# Project 4 – iLogic Part 3

### 1.3 Set Parameters from Row

This section of the project you use iLogic to suppress and unsuppressed features.

#### 21. Add a Thread feature

- Uncheck the Full Length check box
- Set and name the Length parameter TL=10mm

	Location Specification
I.	Face I Display in Model
L	Thread Length
L	Full Length
I.	Offset Length
	Cancel

Right click on the feature and select Suppress Features

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#### 22. Add another Thread feature

•

- Set the Length parameter equal to TL •
  - On the Specification tab under Thread Type select ANSI Unified Screw Threads

Thread : Metric Thread	Thread : Metric Thread
Location Specification	Location Specification
Face V Display in Model	Thread Type
	ANSI Unified Screw Threads
	Size Designation
Full Length	0.4375 • 7/16-14 UNC •
Offset Length	Class
0 mm	2A V Right hand
OK Cancel	OK Cancel

- Rename the feature Inch Thread •
- 23. Right-click on Cam Follower and select Edit Rule.
- 24. Suppress the Inch Thread and unsuppress Metric Thread when the units are "Metric"
  - Under the If statement, right-click on the Metric Thread feature and select Capture • **Current State**

	Metric Thread	
ł	Inch Thread	Capture Current State

- All the Parameters referenced by the thread are added to the rule.
- Delete everything but the Feature.IsActive line and set it equal to True

If Units = "Metric" Then
UnitMultiplier = 1.0 mm
GoExcel.TitleRow = 2
MultiValue.List("BearingNumber") = GoExcel.CellValues("Cam
Follower.xls", "Sheet1", "A3", "A8")
<pre>/ ***Metric Thread*** Feature.IsActive("Metric Thread") = True</pre>

25. Repeat the previous step for the Inch Thread but set it equal to False

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26. Under the Elself statement repeat the previous two steps but set Metric Thread = False and the Inch Thread = True. Copy and paste can also be used.

```
ElseIf Units = "Inch" Then
     UnitMultiplier = 1.0 in
     GoExcel.TitleRow = 12
     MultiValue.List("BearingNumber") = GoExcel.CellValues("Cam
     Follower.xls", "Sheet1", "A13", "A19")
            ' ***Metric Thread***
      Feature.IsActive("Metric Thread") = False
      ' ***Inch Thread***
      Feature.IsActive("Inch Thread") = True
```

27. Add If statements for both the Inch Thread and the Metric Thread at the bottom of the rule.

```
If Feature.IsActive("Inch Thread") Then
      Feature.ThreadDesignation("Inch Thread") =
GoExcel.CurrentRowValue("Fine Threads")
End If
If Feature.IsActive("Metric Thread") Then
     Feature.ThreadDesignation("Metric Thread") =
GoExcel.CurrentRowValue("Fine Threads")
End If
```

- 28. Click OK in the Edit Rule dialog box.
- 29. Change the Units parameter in the Parameters dialog box using the pull down box.

•					and the second second for the second
				1	Inch Thread
-1.000	G O -1.		r	L	- O End of Part
•		<b>T</b>			
	-1.000	-1.000_ Ca O -1.	-1.000 Ca O -1. F	-1.000_Ca O -1. 77 Г	

OI

- 30. Close the file. Do NOT save.
- 31. The File result has been provided... it is named CFR 2RS\_with\_rule.ipt