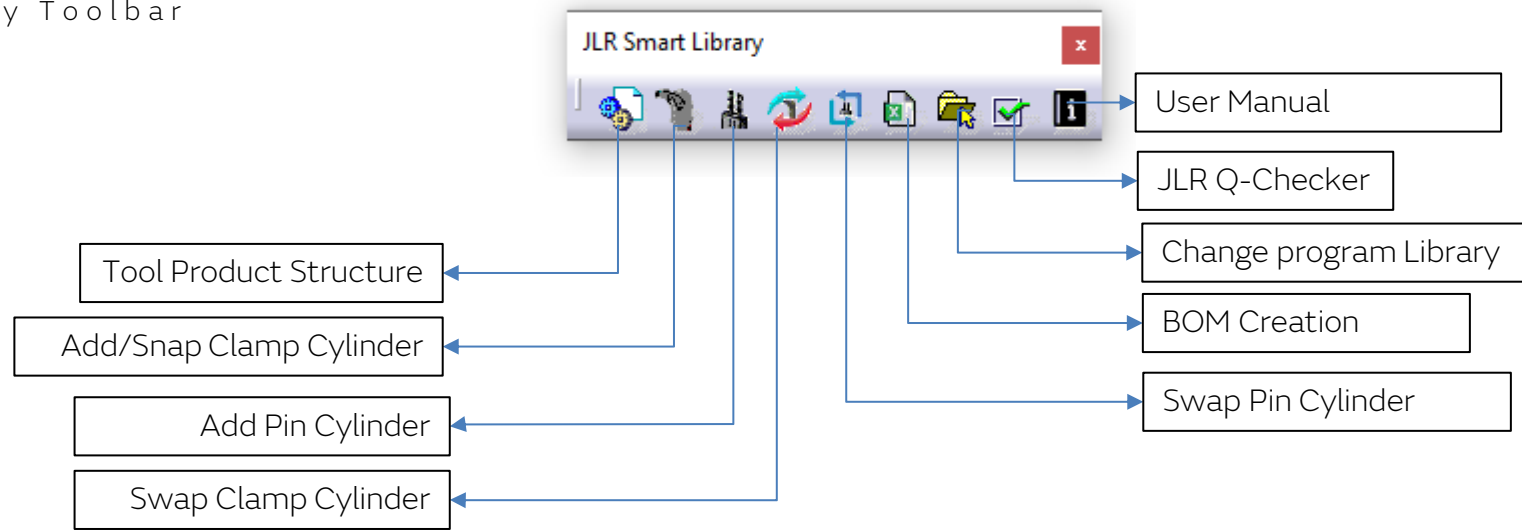


JLR Smart Library v2.0 User Manual

17/01/2025

Agenda :

- [JLR Smart library toolbar](#)
- [Tool product structure](#)
- [Add clamp cylinder](#)
- [Add pin cylinder](#)
- [Swap clamp cylinder](#)
- [Swap pin cylinder](#)
- [BOM creation](#)
- [Change Program Library](#)
- [JLR Q-Checker](#)



- Tool Product Structure - To create the JLR product structure and save it according to the JLR folder structure
- Add/Snap Clamp Cylinder - To add/Snap a Clamp cylinder along with an arm and shim plate
- Add Pin Cylinder - To add/Snap an inline pin cylinder or double rod pin cylinder along with pin retainer
- Swap Clamp Cylinder - To interchange an existing clamp cylinder or arm or the whole assembly
- Swap Pin Cylinder - To interchange an existing pin cylinder
- BOM Creation - To create the BOM in an Excel file according to the JLR structure for both tool and unit levels
- Change Program Library - To Interchange the Library path for different Programs.
- JLR Q-Checker - To run JLR Q-Checker optimize the review time for JLR.
- User Manual - To open this document which has user instructions for the above macros.

Tool Product Structure

- To create the JLR product structure and save it according to the JLR folder structure including Zone folder creation.

User Interface

When the user clicks 'Tool product structure icon' below user interface(UI) appears.

Details of tool structure

The screenshot shows the 'JLR Smart Library - Tool Product Structure' dialog box. It contains two main sections: 'Tool Structure' and 'Unit Structure'. The 'Tool Structure' section has fields for Project Name, Tool Type, Zone No, Suffix, ST. No., Variant, Side of car, REV., and buttons for Rename and Create. The 'Unit Structure' section has fields for Unit Type, Unit No, Variant, Unit Side, REV., Qty., and buttons for Rename and Add. A 'Save' section with 'CleanUp' and 'Save' buttons is also present. Callouts provide instructions for each field and button.

Tool Structure

Project Name	Tool Type	Zone No	Suffix	ST. No.	Variant	Side of car	REV.
T2L2	FX	02	-	200	COM	TR	U000 A

Tool Name : T2L2_FX02_200_COM_TR_U000A

☐ Create Ergonomics

Unit Structure

Unit Type	Unit No	Variant	Unit Side	REV.	Qty.
		COM	T	A	1

Unit Name :

Save

☒ CleanUp

Buttons: Rename, Create, Add

Callouts:

- To enter the station number
- To enter the zone suffix
- To enter the project name
- To choose the tool type
- To choose the zone type
- To choose the variant (for gripper enter robot and Gun/Gripper number)
- To choose the side of car
- To create the ergonomics product.
- To enter the revision
- To rename the tool structure
- To create the new tool structure
- To clean the unwanted files in the folder
- To save the tool as per the JLR folder structure
- Displaying the tool name.

User Interface

When the user clicks 'Tool product structure icon' user interface(UI) appears.

Details of Unit structure



JLR Smart Library - Tool Product Structure

Tool Structure

Project Name	Tool Type	Zone No	Suffix	ST. No.	Variant	Side of car	REV.	
T2L2	FX	02	_	200	COM	TR	U000	A

Tool Name : T2L2_FX02__200_COM_TR_U000A

☐ Create Ergonomics

Unit Structure

Unit Type	Unit No	Variant	Unit Side	REV.	Qty.	
		COM	T	A	1	

Unit Name :

Save

☒ CleanUp

To select the unit type

To enter unit no

To choose the variant

To enter the quantity

To enter the revision

To choose the unit side

Unit name will be automatically updated based on the active tool.

To rename the Unit Structure

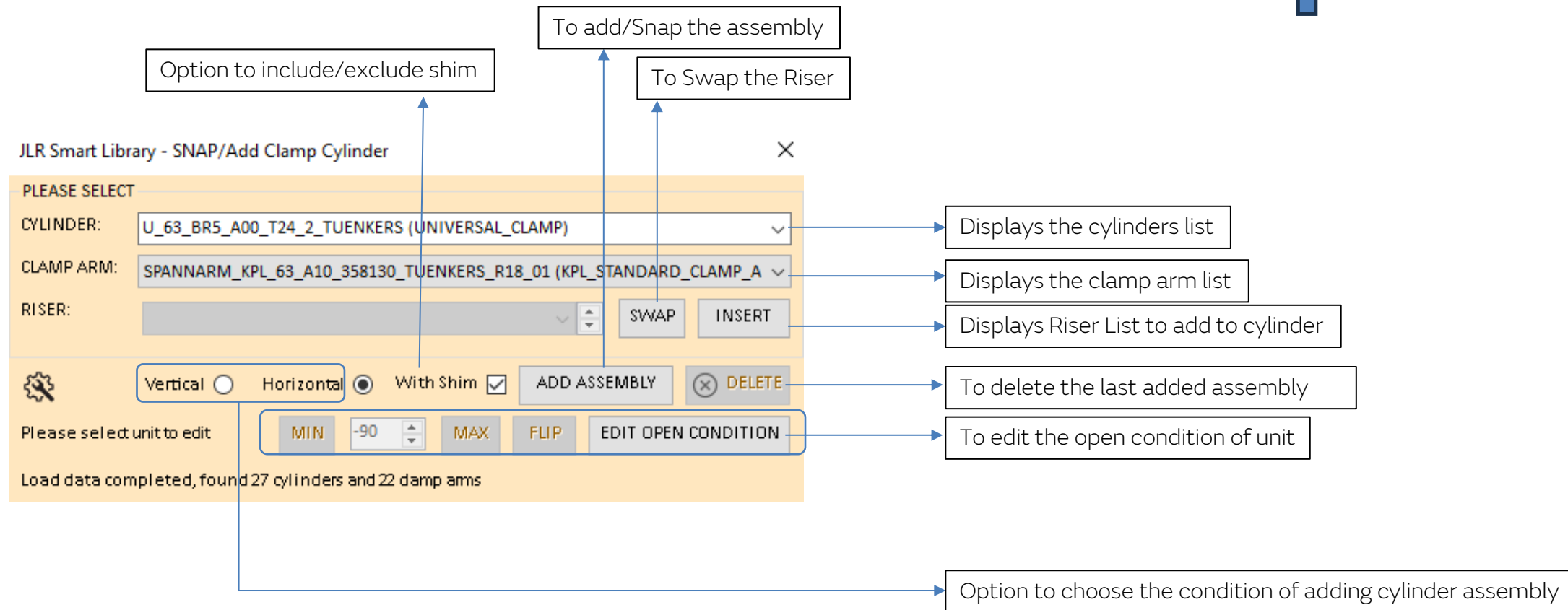
To add the unit

Add Clamp Cylinder

- To add/Snap a Clamp cylinder along with an arm

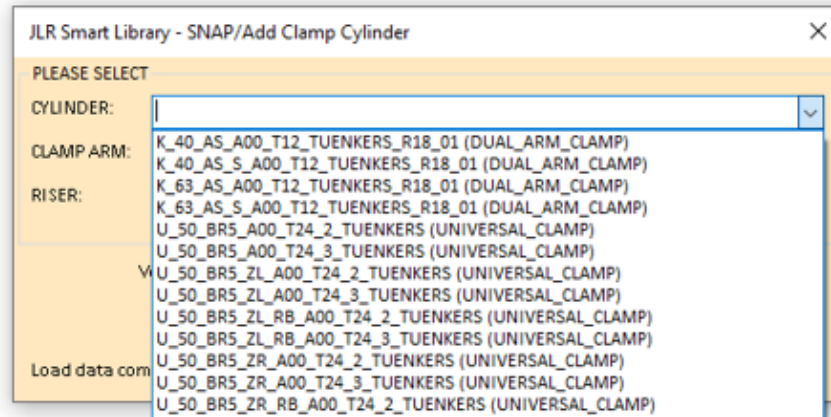
User Interface

When the user clicks 'Add Clamp Cylinder Icon', below user interface(UI) appears.



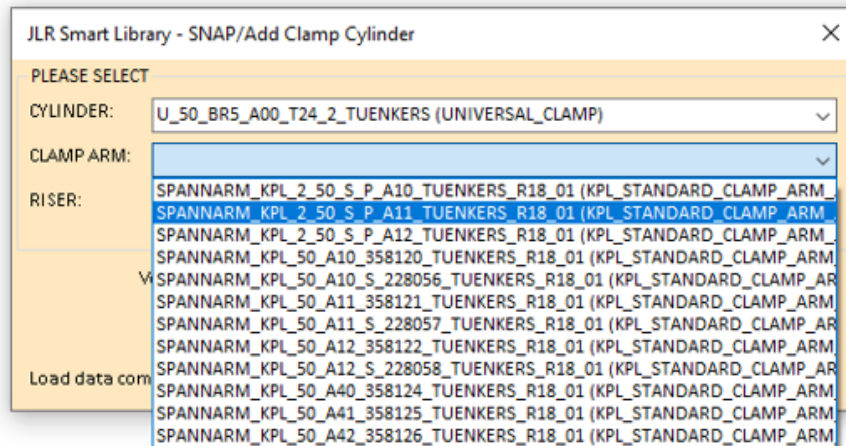
Steps to add the clamp cylinder

- Select a cylinder from the cylinder list

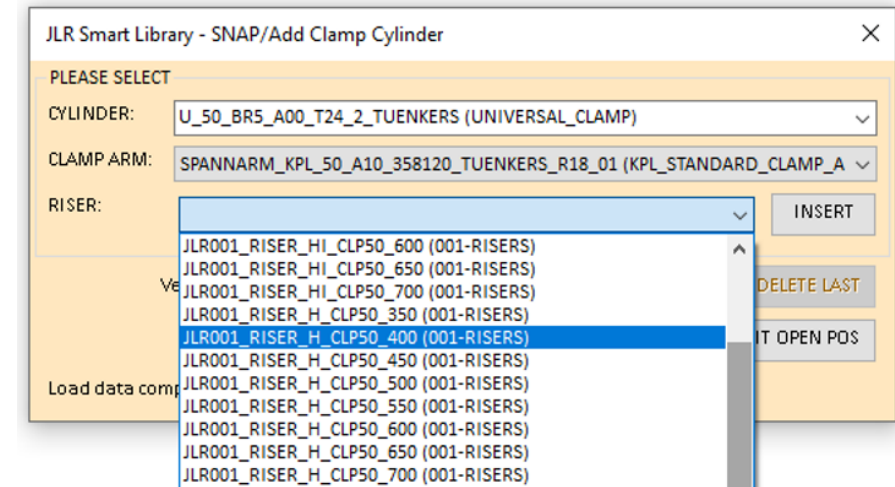


- Select an arm from the arm list

Note : The arm list will automatically update as per the selected cylinder bore



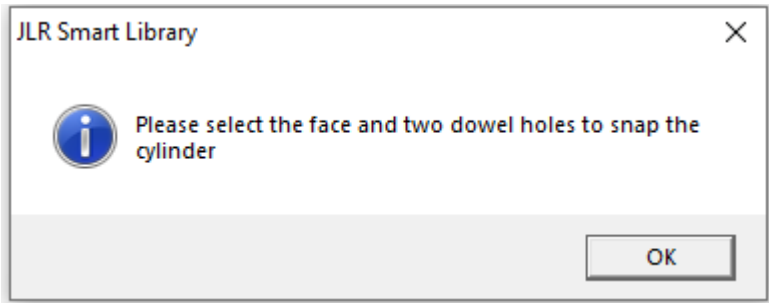
- Select a Riser for the list



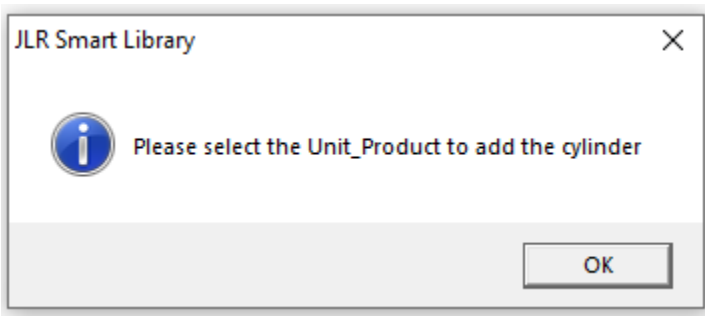
Note : The Riser will automatically update as per the cylinder size.

Steps to add the clamp cylinder

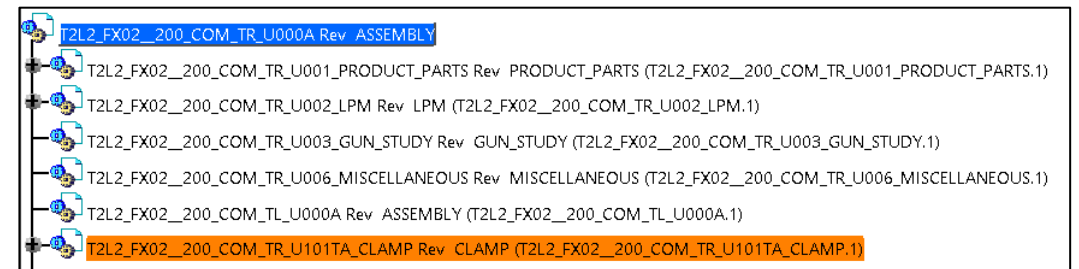
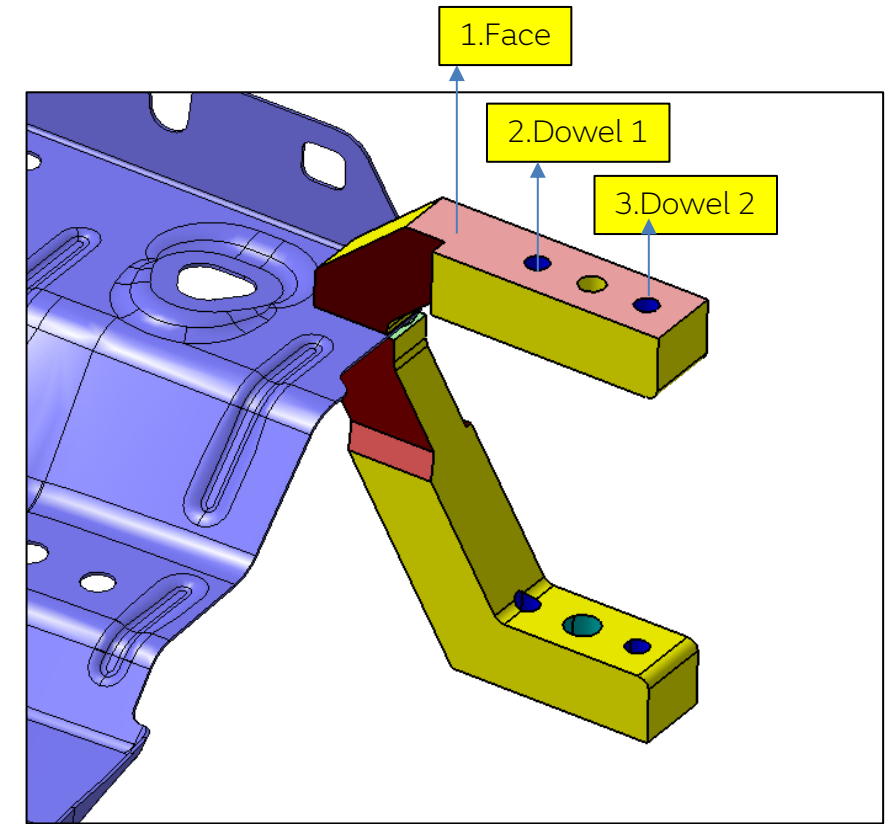
- Check or uncheck 'with shim' option to include/exclude the shim respectively
- Check or uncheck 'Horizontal/Vertical' option to add the condition of the cylinder
- Click 'Add assembly' to add/Snap the assembly
- A message box will be displayed to select the face and two dowel holes to add the cylinder.
- Click Ok



- Select the face and two dowels (Please refer the image on the right)
- A message box will be displayed to select the unit product to Add the Cylinder



- Click Ok and choose the unit product (Please refer the image on the right)



Output

The Cylinder will be added to the “Fixed_Parts” product and Arm & Shim will be added to the “Mobile_Parts” product as shown below.



Add Pin Cylinder

- To add/Snap an inline pin cylinder or double rod pin cylinder along with pin retainer

User Interface

When the user clicks 'Add pin Cylinder Icon' below user interface(UI) appears.



JLR Smart Library - SNAP/Add Pin

PLEASE SELECT

CYLINDER:

PIN RETAINER:

LBLOCK/PINBLOCK SWAP LBLOCK INSERT

RISER/CYLINDER SWAP RISER INSERT

LBLOCK/CYLINDER INSERT LBLOCK SWAP LBLOCK INSERT RISER SWAP RISER

ADD ASSEMBLY DELETE

Load data completed, found 35 cylinders and 9 pin retainers

Displays the cylinders list

Displays the pin retainer list

Displays the L Block for Pin retainer

Displays the Riser list

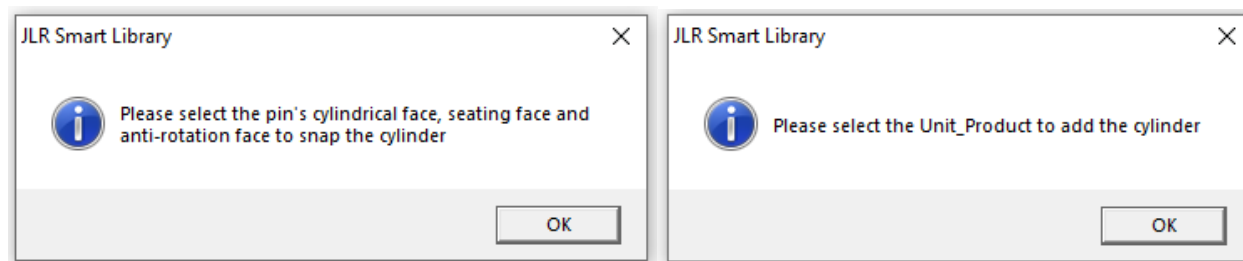
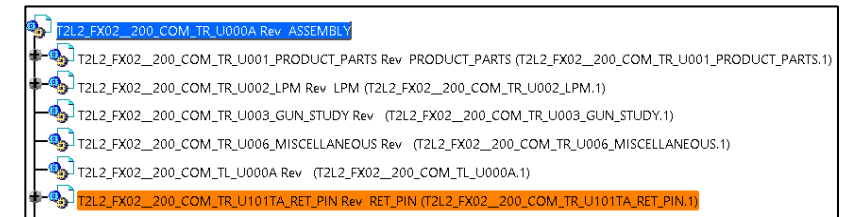
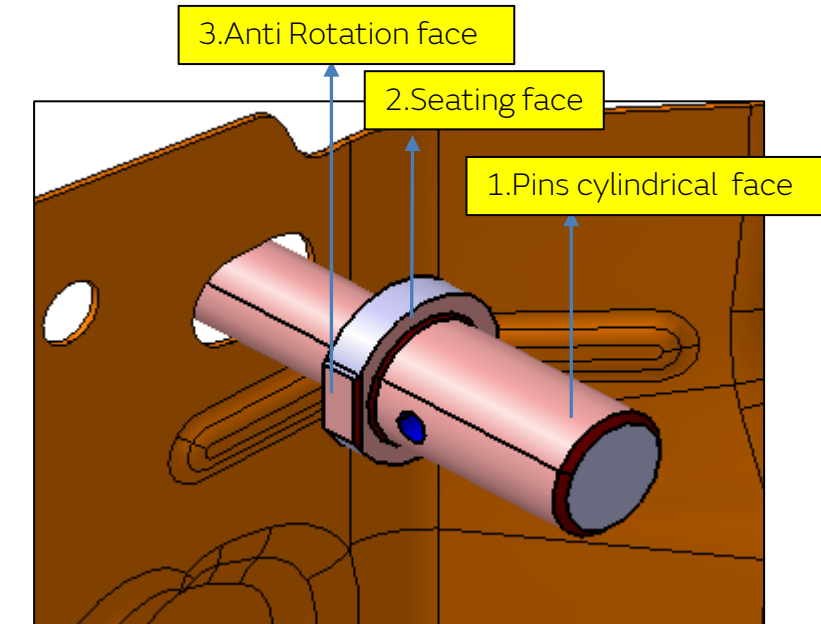
Displays the L-Block for Cylinder

To delete last added assembly

To add/Snap the assembly

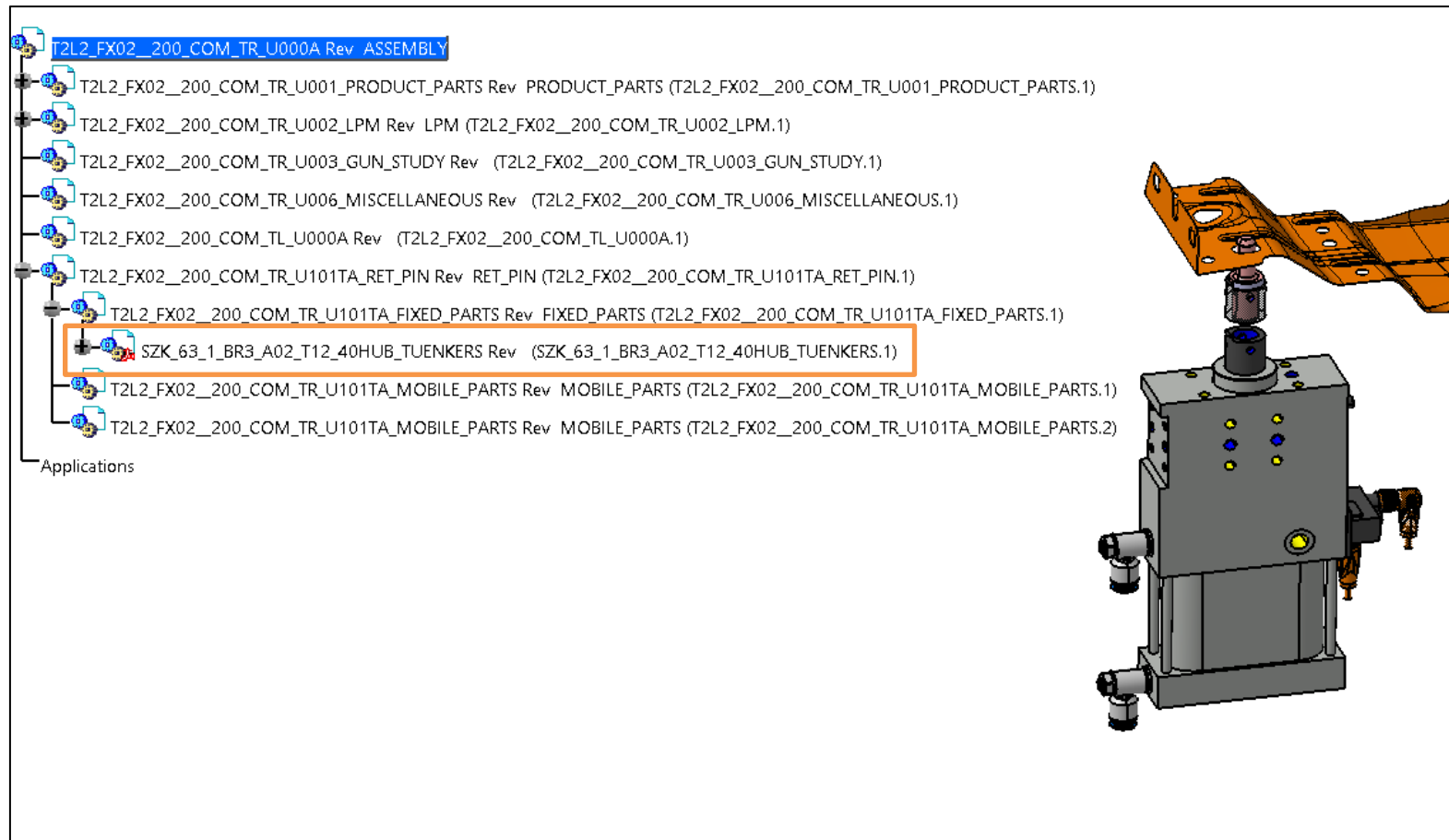
Steps to add the pin cylinder

- Select a cylinder from the cylinder list
- If the cylinder is double rod choose the pin retainer from the pin retainer list
- Click 'Add assembly' to add/Snap the assembly
- A message box will be displayed to select the pin's cylindrical face, seating face and anti-rotation face to add the cylinder
- Click OK and select the inputs (Please refer the image on the right side)
- A message box will be displayed to select the unit product to add the Cylinder
- Click OK and select the unit-product



Output

The Cylinder will be added to “Fixed_Parts” product as shown below

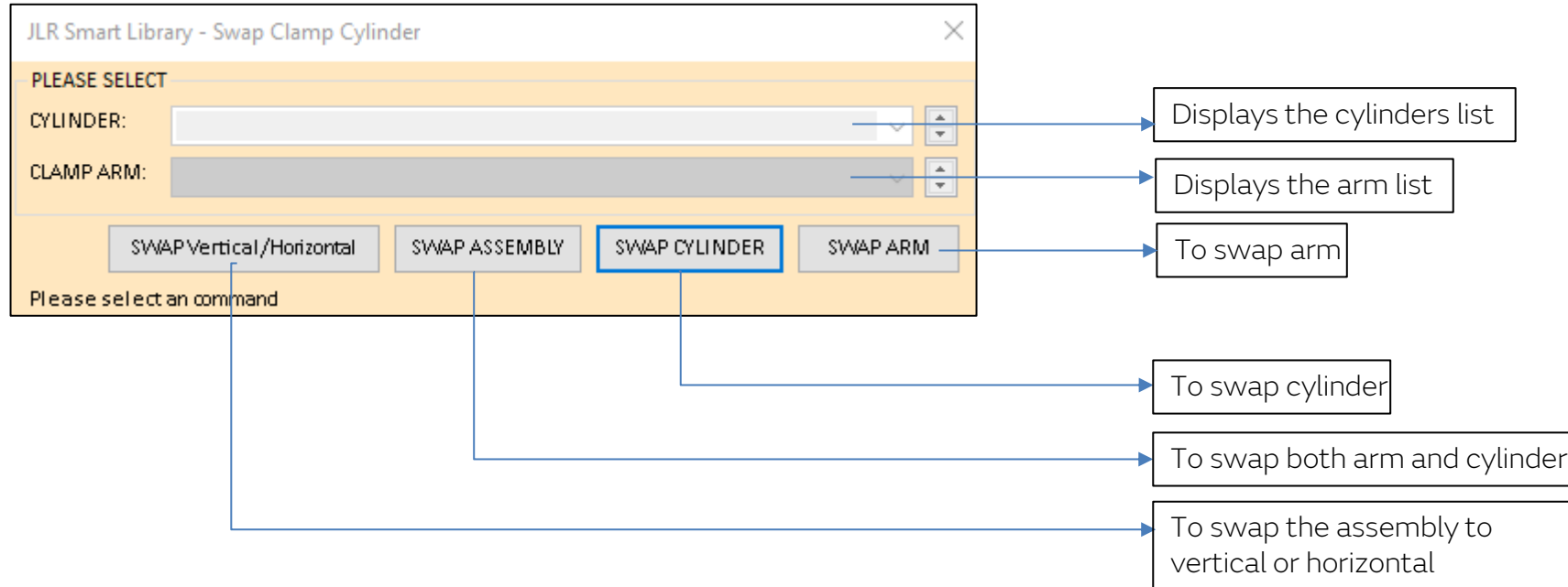


Swap Clamp Cylinder

- To interchange an existing clamp cylinder/Clamp arm or the whole assembly

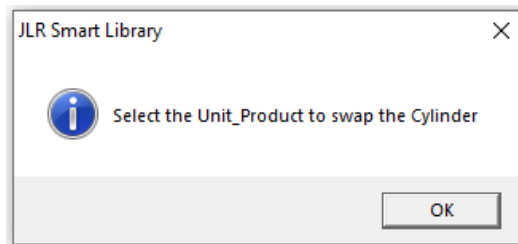
User Interface

When the user clicks 'Swap clamp cylinder Icon' below user interface(UI) appears.



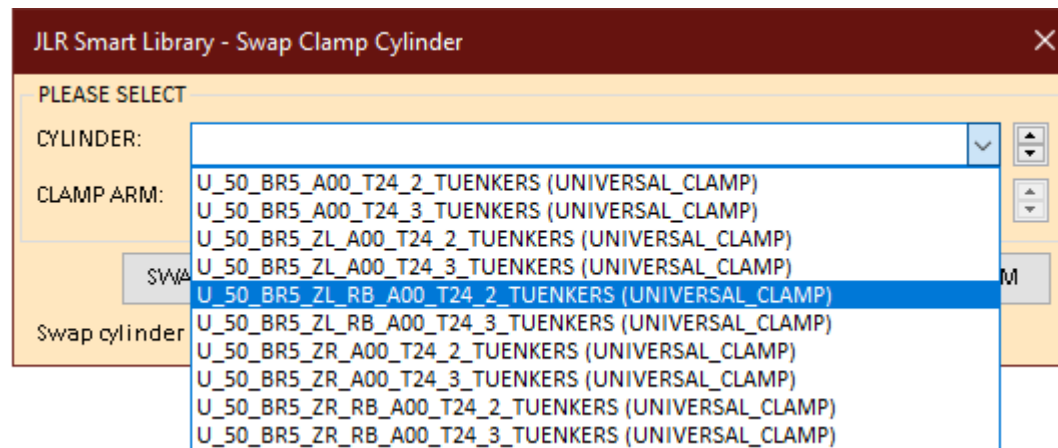
Steps to swap the clamp cylinder

- Click 'Swap Cylinder'
- A message box will be displayed to select the unit product to swap the Cylinder



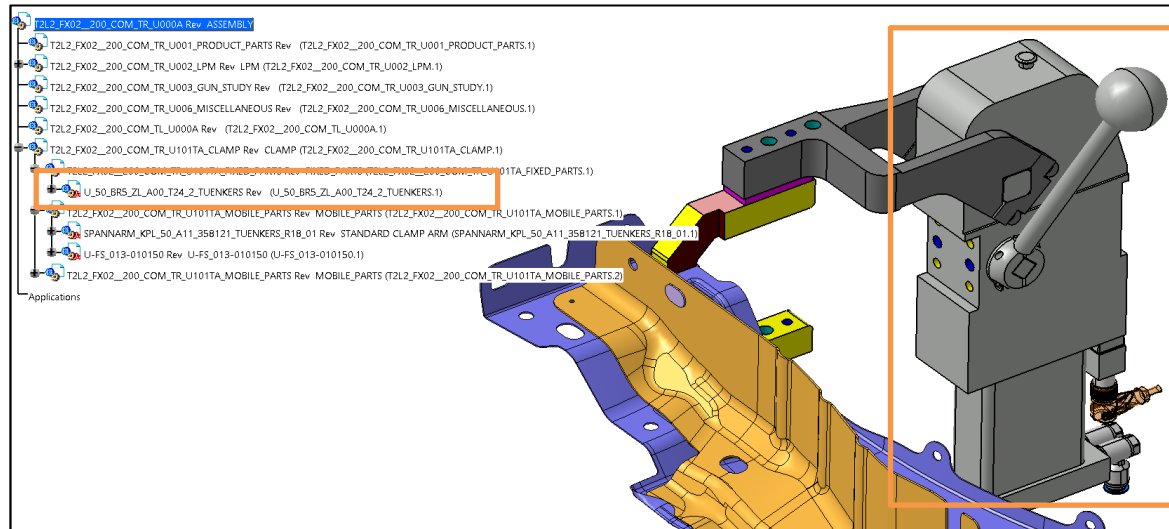
- Select a cylinder from the cylinder list to swap.

Note: The cylinder list will be updated based on the existing cylinder in the selected unit product.

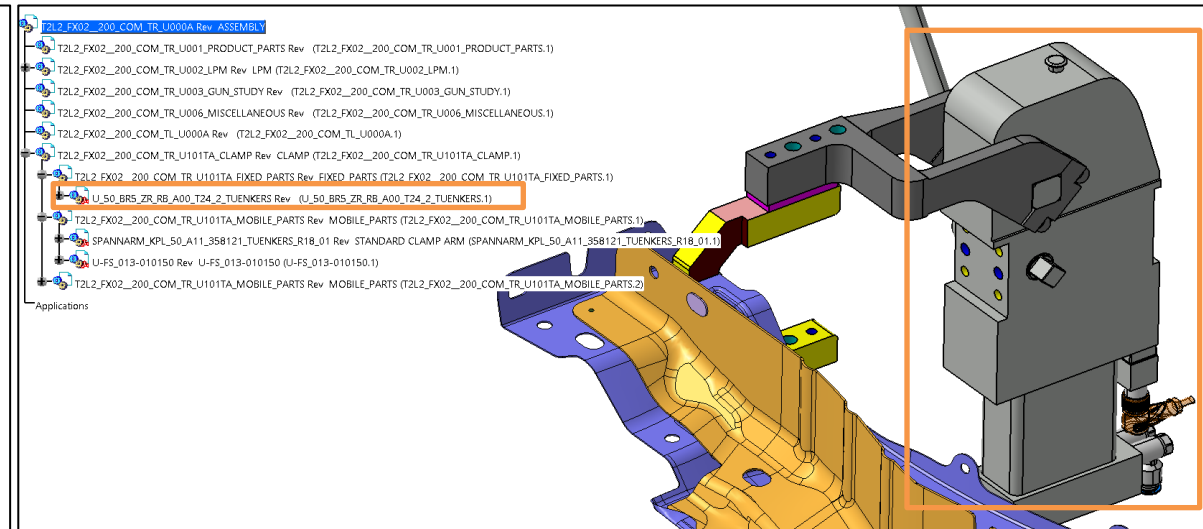


Output

Before swap.

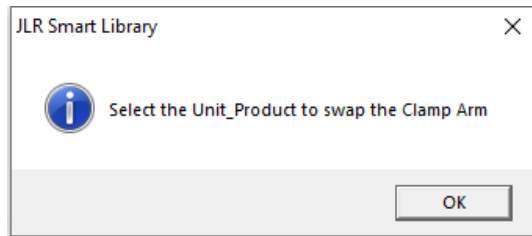


After swap.

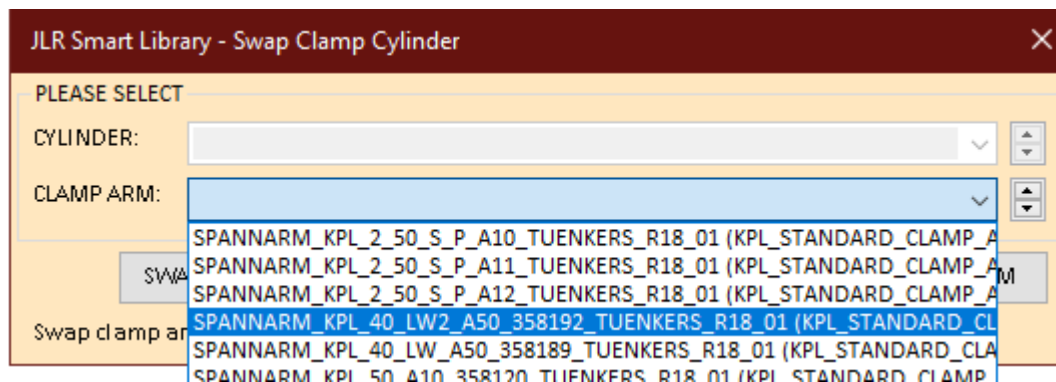


Steps to swap the clamp arm

- Click 'Swap arm'
- A message box will be displayed to select the unit product to swap the clamp arm

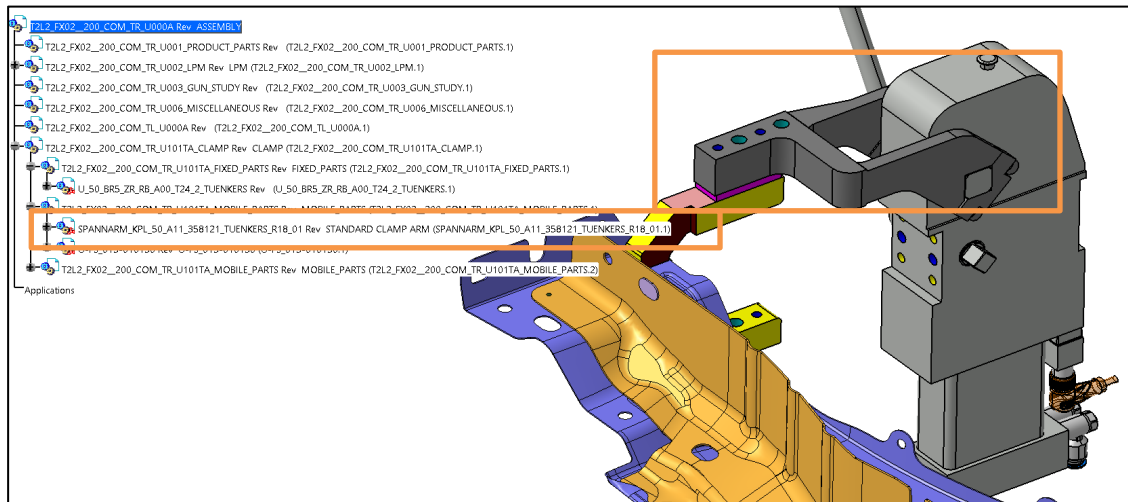


- Select an arm from the arm list to swap.
- Note: The arm list will be updated based on the existing arm in the selected unit product.

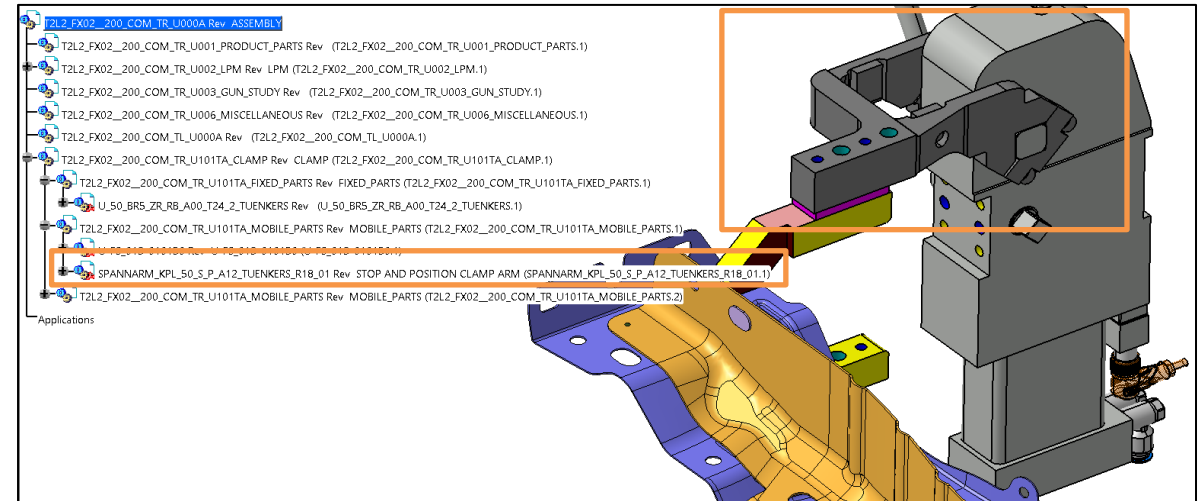


Output

Before swap.

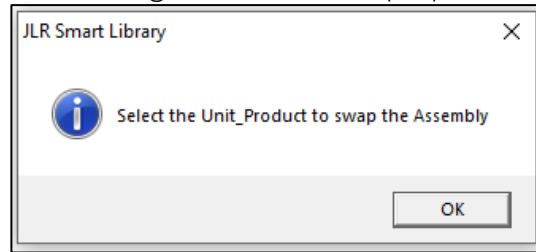


After swap.



Steps to swap the Assembly(Both arm and cylinder)

- Click 'Swap assembly'
- A message box will be displayed to select the unit product to swap the assembly

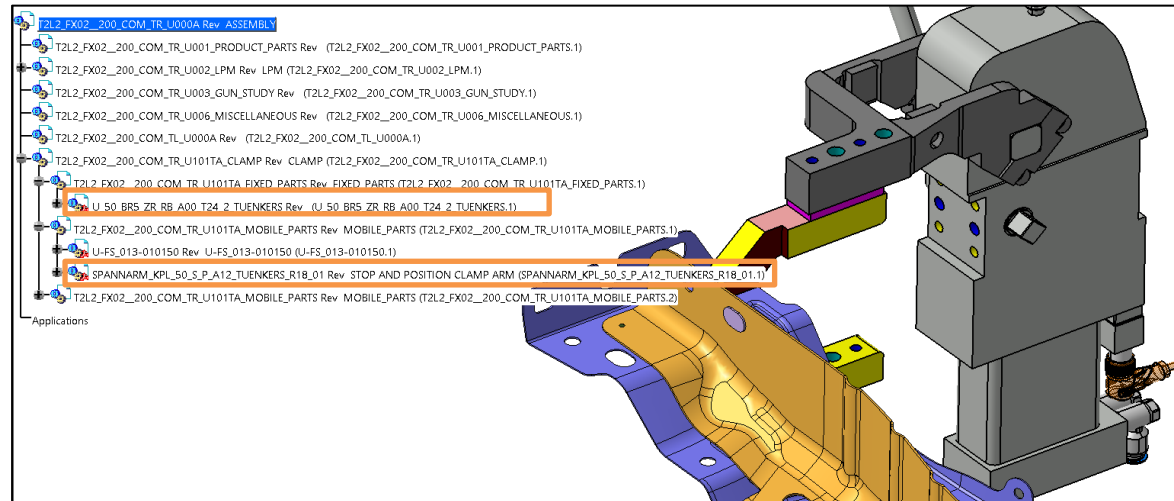


- 1st select a cylinder from the cylinder list.
- Select an arm from the arm list to swap the assembly

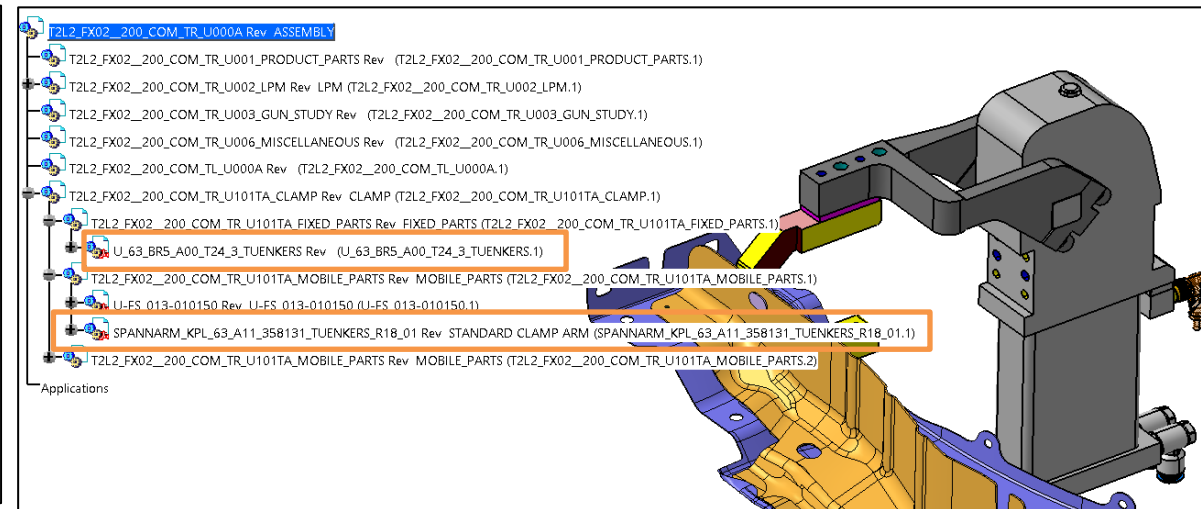
Note: The arm list will be updated based on the cylinder bore.

Output

Before swap.

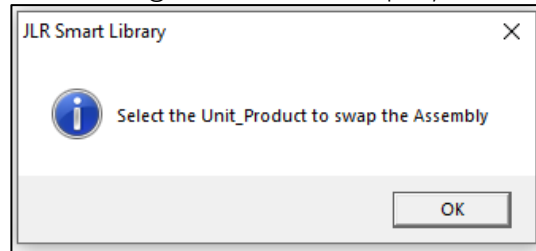


After swap.



Steps to swap the Horizontal/Vertical

- Click 'Swap Vertical/Horizontal'
- A message box will be displayed to select the unit product to swap the assembly



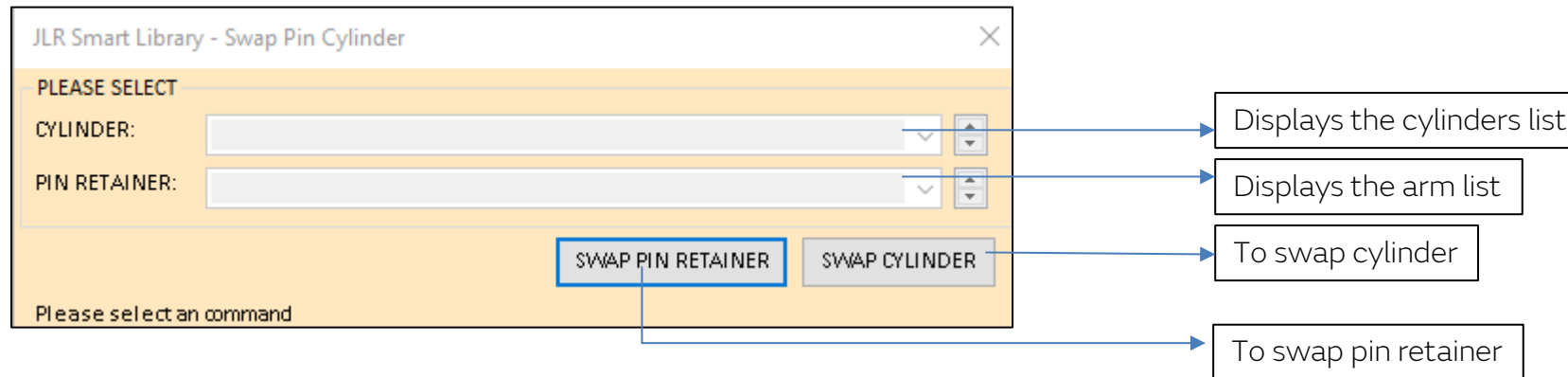
- The Arm and Cylinder will be replaced the condition as per the existing. For example if the existing assembly is vertical will be replaced to horizontal

Swap Pin Cylinder

- To interchange an existing pin cylinder

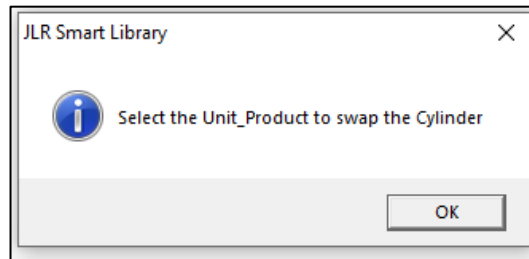
User Interface

When the user clicks 'Swap pin cylinder Icon' below user interface(UI) appears.



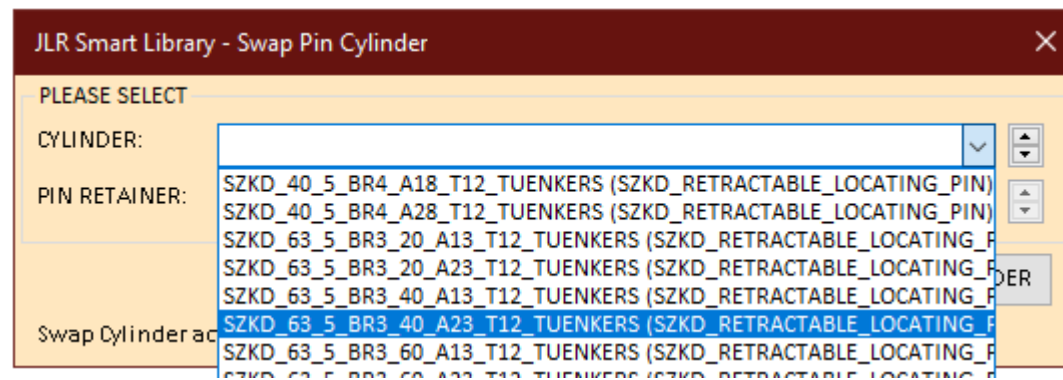
Steps to swap the pin cylinder

- Click 'Swap Cylinder'
- A message box will be displayed to select the unit product to swap the Cylinder.



- Click OK and select the unit product
- Select a cylinder from the cylinder list to swap.

Note: The cylinder list will be updated based on the existing cylinder in the selected unit product.

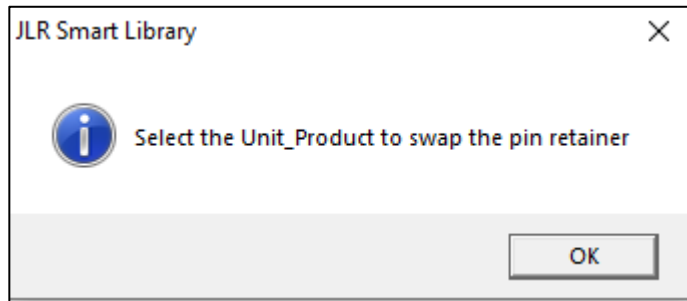


Output

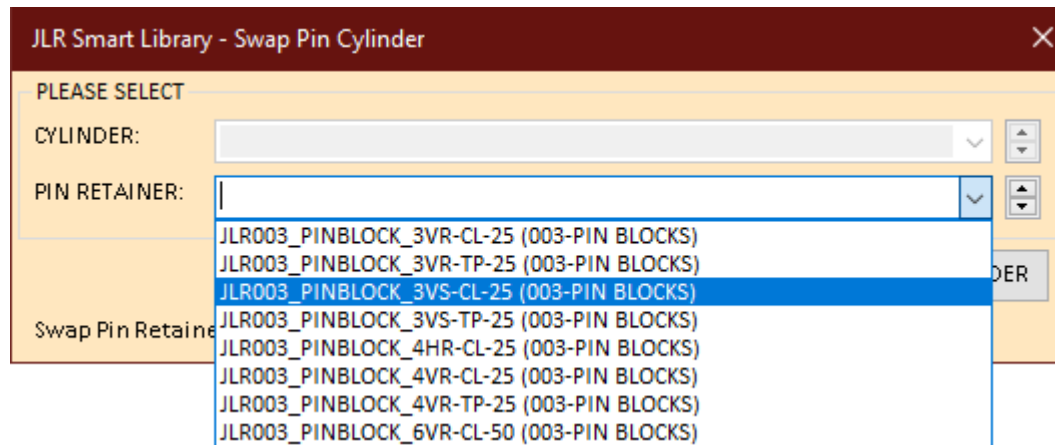


Steps to swap the pin retainer

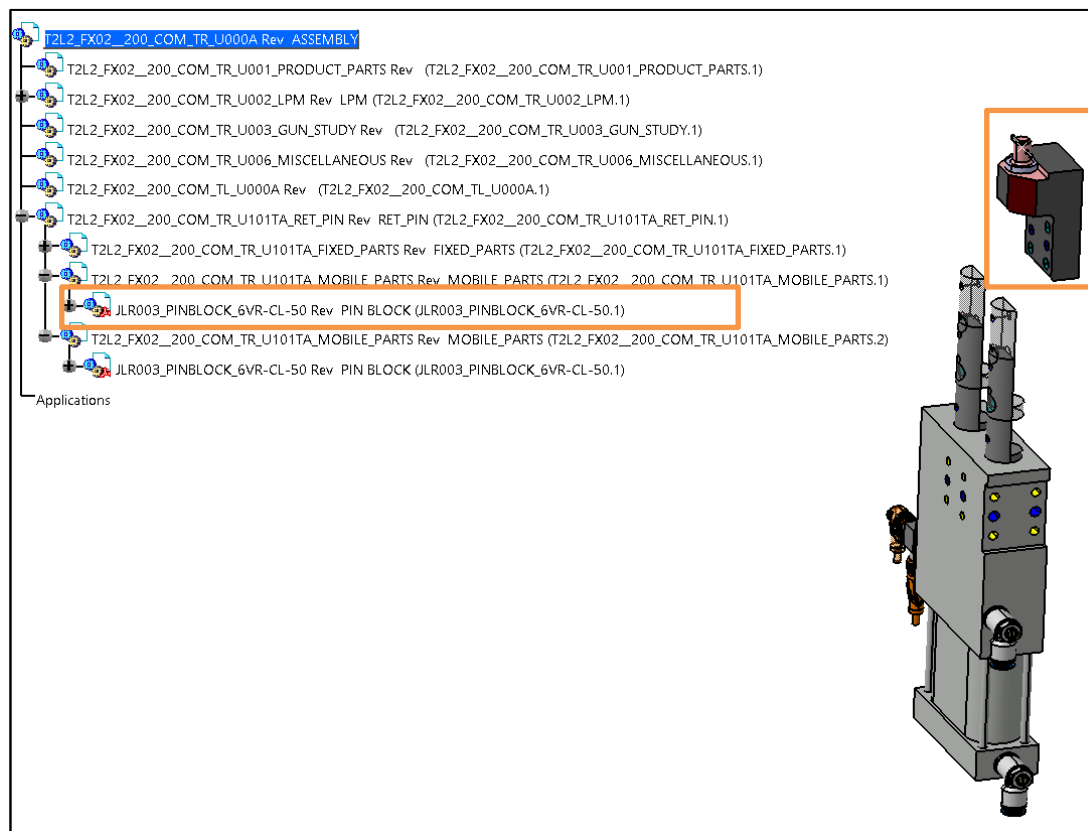
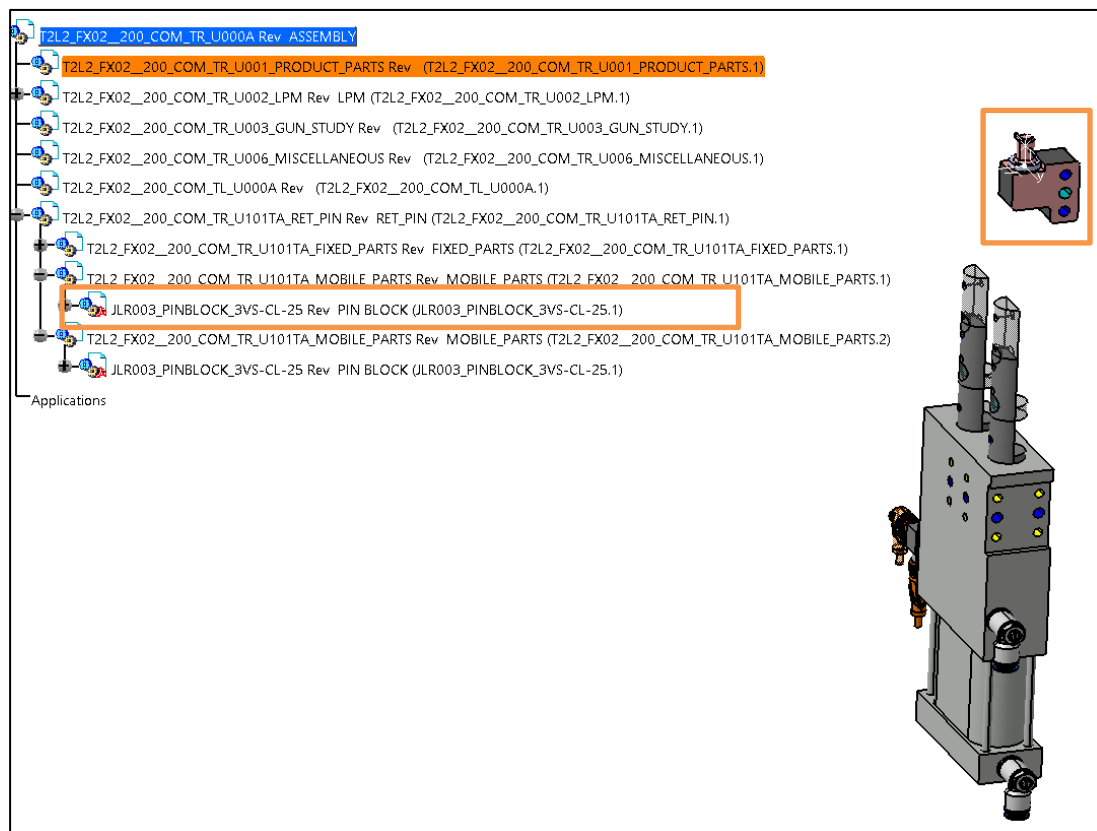
- Click 'Swap Pin Retainer'
- A message box will be displayed to select the unit product to swap the Pin Retainer.



- Click OK and select the unit product
- Select a pin retainer from the pin retainer list to swap..



Output

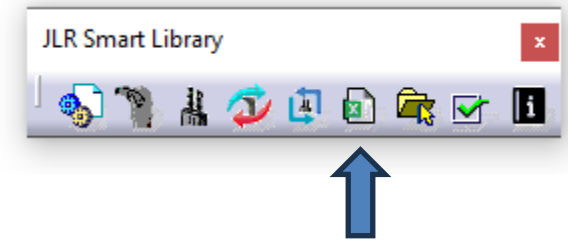
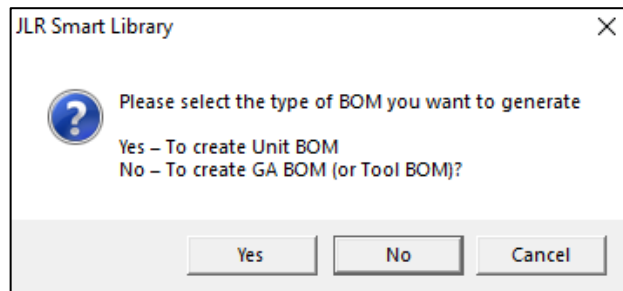


BOM Creation

- To create the BOM in an Excel file according to the JLR structure for both tool and unit levels

Steps to create the BOM

- Run the macro.
- A message box will be displayed to create the BOM
- Click no to create the tool level BOM
- Click yes to create the unit level BOM
- For unit level BOM , select the unit to create the BOM.



For Unit BOM macro reads the Parameters of parts and displays in the BOM as shown. Also Fill the details in the change sheet for Rev A BOM.

Unit level.

JLR

Jaguar Land Rover Body Construction - Stock List											
CHG	SHT	ITEM No.	SUB ITEM No.	AMT		REFL	SPARE PART	NAME	STOCK SIZES / PART No. (STANDARD/COMMERCIAL)	MATERIAL / MANUFACTURER (STANDARD/COMMERCIAL)	REMARKS
				LH	RH						
A		001		1			W	MYLAR			FORM TO LINE
A		002		1			W	MYLAR			FORM TO LINE
A		201		1				RISER	BL 50x200x607	ST37-2	FORM TO LINE
				1				RISER_INSULATION_PLATE_D10_T1	JLR006_RISER_INSULATION_PLATE_D10_T1	ILR	
				1				UNIVERSAL CLAMP	U 63, BR5, A40, T24 2	TUENKERS	
				1				RISER	JLR001_RISER_HI_CLP50_600	ILR	
				1				KPL STANDARD CLAMP ARM JLR SPEC	KPL_63_LW_A40_358205	TUENKERS	
PROJECT	CHANGES			DESIGN			TITLE			DRAWING No. RH	UNIT No.
L481				GOLLA, PRABHAKAR (P.)							U108TA
				DATE			CLAMP			T2L2_FX10__131_COM_TR_U108TA	SHEET No.
				25/11/2024							2
SUPPLIER				CHECKED			REMARKS			DRAWING No. LH	No. of SHEETS
											2
				DIVISION							OP-No.
											131_COM

[illegible]

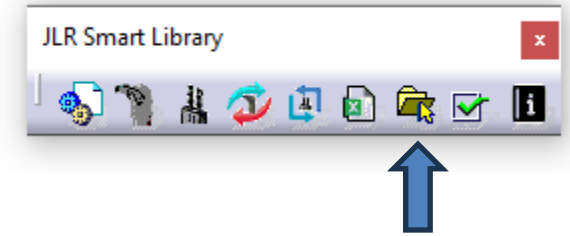
Change Program Library

- To change Library path for different programs

JLR Smart Library- Library path change

User Interface

When the user clicks 'Change Library path' below user interface(UI) appears.



Steps to change the Library path

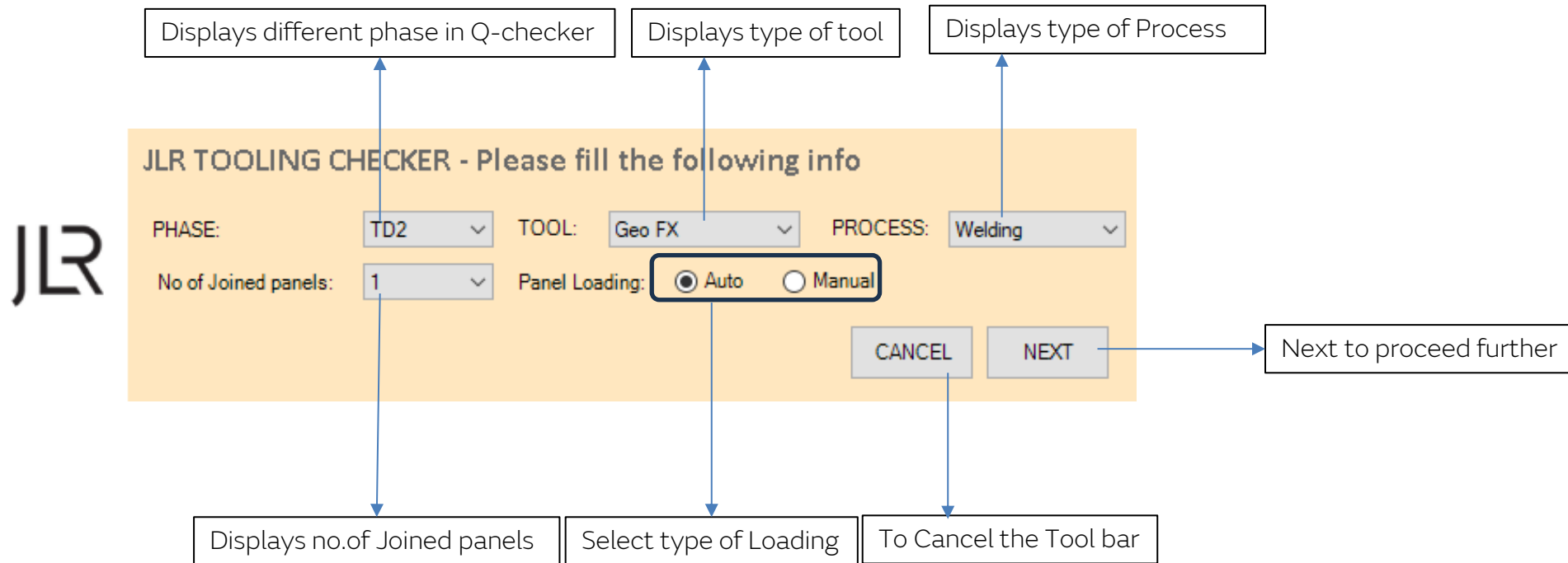
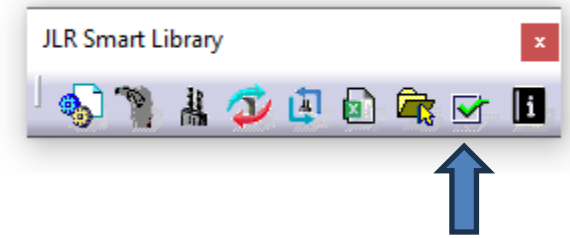
- Run the macro.
- A message box will be displayed to Change the Library path
- Click Select new program Library folder
- Click Apply to change the path
- Click Cancel to close the tool bar after changing the path.

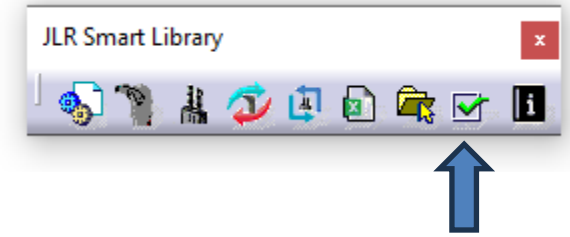
JLR Q-Checker

- To run the JLR Q-Checker and get the report for the tool.

User Interface

When the user clicks 'Change Library path' below user interface(UI) appears.





- Work in Progress