NewConfigChart

Excel app

NewConfigChart uses excel macros to support transfer of Configuration Chart data from Service Bulletins documents to production SAP system.

It presents configuration data (modifications of engine structure) in a clear and easy to maintain form and is intended to support Engineering department in management of this data. Excel does almost all manual work reducing Engineers workload to minimum, allowing them to focus on crucial tasks.
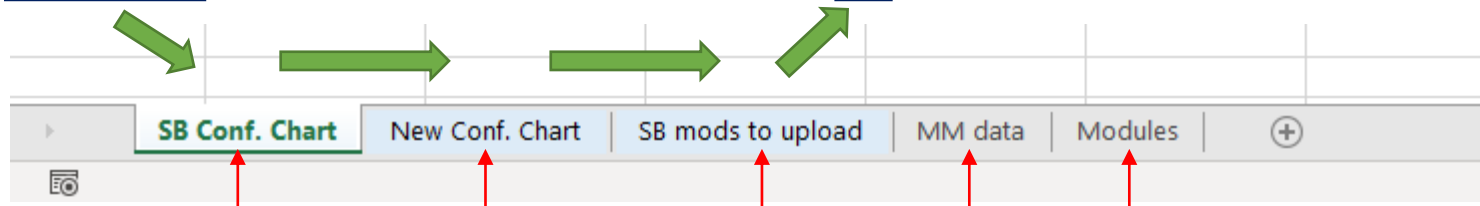
NewConfigChart significantly increases system data quality as on different stages of the process it compares data from SB documents and data prepared by engineers with material data extracted from SAP system. This allows to catch any inconsistencies which can be clarified before new data will be loaded to the system.

Note that when working in SAP directly each modification needs to be set individually by choosing pre-modification part number, node and variant, post-modification part number, node and variant, operation type and saving the record. This takes time.

NewConfigChart prepares all this data upfront, based on material and structure data extracted from SAP and allows for mass upload of all modifications at once. In case of big service bulletins, it reduces time of data preparation <u>from days to hours!</u>

SB Document

SAP

SB Conf. Chart | New Conf. Chart | SB mods to upload | MM data | Modules | ⊕

List of modules part numbers
Modules are recognized based on data listed in this tab

List of materials extracted from SAP system
Macros recognize if materials in Configuration Charts are present in
the system and if they are expendable or rotable type.

List of all parts modifications that will be loaded to SAP system
Prepared modifications are assigned to proper SSB and PSB documents that will hold them in SAP.
Assignment is done by macros based on modified parts parent nodes (modules) in engine structure.
From this worksheet SSB and PSB template files can be generated. They can be then imported by SAP.

New configuration chart
Processed configuration chart with new layout. New layout is intended to ease review of all modifications.
It shows in clear form to which engine level they are applicable, as well as other information.
Here data can be manipulated by Engineer to prepare final version that will be exported to SAP system.

Old (original) configuration chart
Here the configuration chart with original layout can
be pasted or loaded from file, to be then processed.

File | Home | Insert | Page Layout | Formulas | Data | Review | View | Developer | Help | Power Pivot

72-0130

	A	B	C	D	E	F	G
1	72-0130	02					
2	PartM20G01 /G02/G03/G 04 /G05/G06/G 07/G08	(X)	Assembly, Propulsor Module	PartM20G01 /G02/G03/G 04 /G05/G06/G 07/G08	(X)	RM	-/-
3	.PartM83G01		Heat Shield	.PartM74G01			
5	72-00-02-40-040A		(Old Name)	72-00-02-40-040			
7		-1	Shield, Aft Skirt Segment Heat		-1	RE	5/B
9			(New Name)				
11			(SIN 29903)				
12	.PartM81G01		Bracket, Support	.PartM78G01			
14	72-00-02-33-085		(Old Name)	72-00-02-33-070			
15		-1	Bracket, Heatshield Aft Support		-1	RE	5/B
18			(New Name)				
20			(SIN 29913)				
21	.PartM74G01		Bracket, Support	.PartM80G01			
23	72-00-02-33-155		(Old Name)	72-00-02-33-140			
24		-1	Bracket, Forward Support		-1	RE	5/B

Buttons: Clear | Load from file | Create New Config Chart

	S	T	U
1	SB to load	Rev	
2	72-0144		File not found
3	72-0130	2	demo

Radio options:
○ Load any type of SB
○ Load only Spare Parts SBs
● Don't load Spare Parts SBs

Annotations:
- Clear this worksheet
- Process configuration chart (see next slide)
- SB Document number and revision
- Configuration chart from SB document
- Options useful when loading multiple files at once
- list of SBs to load (SB number, revision, file load status)
- Configuration chart can be:
  - copy-pasted from SB document
  - loaded from file using dialogbox
  - loaded from file using list of SBs to load

Sheet tabs: SB Conf. Chart | New Conf. Chart | SB mods to upload | MM data | Modules

Ready

Pre modification | Post modification

SB data | SAP data | SB data | SAP data

	SB	Name	SIN	Pre PN	Pre ATA	Pre Qty		FID	Superior	Variant	Obj Dep	PPE Qty	Post PN	Post ATA	Post Qty		FID	Superior	Variant	Obj Dep	PPE Qty	Op Code	Change Code	Check
2	72-0130	72-0130																						
3	72-0130	Assembly, Propulsor Module		PartM20G01	--	1	1	2X_72000030020_A	2X_720002	2X020A	BB	1	PartM20G01	--	1	1	2X_72000030020_A	2X_720002	2X020A	BB	1	RM	-/-	module
4	72-0130	Assembly, Propulsor Module		PartM20G02	--	1		2X_72000030020_A	2X_720002	2X0020	BB	1	PartM20G02	--	1		2X_72000030020_A	2X_720002	2X0020	BB	1	RM	-/-	module
5	72-0130	Assembly, Propulsor Module		PartM20G03	--	1		2X_72000030020_A	2X_720002	2X020B	BB	1	PartM20G03	--	1		2X_72000030020_A	2X_720002	2X020B	BB	1	RM	-/-	module
6	72-0130	Assembly, Propulsor Module		PartM20G04	--	1		2X_72000030020_A	2X_720002	2X020C	BB	1	PartM20G04	--	1		2X_72000030020_A	2X_720002	2X020C	BB	1	RM	-/-	module
7	72-0130	Assembly, Propulsor Module		PartM20G05	--	1		2X_72000030020_A	2X_720002	2X0020D	BB	1	PartM20G05	--	1		2X_72000030020_A	2X_720002	2X0020D	BB	1	RM	-/-	module
8	72-0130	Assembly, Propulsor Module		PartM20G06	--	1		2X_72000030020_A	2X_720002	2X020E	BB	1	PartM20G06	--	1		2X_72000030020_A	2X_720002	2X020E	BB	1	RM	-/-	module
9	72-0130	Assembly, Propulsor Module		PartM20G07	--	1		2X_72000030020_A	2X_720002	2X0020F	BB	1	PartM20G07	--	1		2X_72000030020_A	2X_720002	2X0020F	BB	1	RM	-/-	module
10	72-0130	Assembly, Propulsor Module		PartM20G08	--	1		2X_72000030020_A	2X_720002	2X0020G	BB	1	PartM20G08	--	1		2X_72000030020_A	2X_720002	2X0020G	BB	1	RM	-/-	mod
11	72-0130	Heat Shield (pre) Shield, Aft Skirt Segment Heat	29903	PartM74G01	72-00-02-40-040	1		2X_72000233140_A	2X_720002	2X3155	BB CC	1	PartM83G01	72-00-02-40-040A	1	1	2X_72000240040_A	2X_720002	2X0040A	BB CC		RE	5/B	ok
12	72-0130	Bracket, Support (pre) Bracket, Heatshield Aft Support	29913	PartM78G01	72-00-02-33-070	1		2X_72000233070_A	2X_720002	2X3070	BB CC	1	PartM81G01	72-00-02-33-085	1	1	2X_72000233070_A	2X_720002	1	2X3085	BB CC		RE	5/B	ok
13	72-0130	Bracket, Support (pre) Bracket, Forward Support	29915	PartM80G01	72-00-02-33-140	1		2X_72000233090_A	2X_720002	2X3105	BB CC	1	PartM74G01	72-00-02-33-155	1	1	2X_72000233140_A	2X_720002	2X3155	BB CC		RE	5/B	ok
14	72-0130	Bolt, Machine	12022	AS3580-6-26	72-00-02-33-600	41		no PPE data					AS3580-6-26	72-00-02-33-600A	39		no PPE data					QTC	5/E	expend
15	72-0130	Bolt, Machine	12023	AS3580-6-28	72-00-02-33-710	6		no PPE data					AS3580-6-28	72-00-02-33-710A	9		no PPE data					QTC	5/-	expend
16	72-0130	Heat Shield (pre) Shield, Main Body Assembly Heat	29900	PartM71G01	72-00-02-40-010	1		2X_72000240010_A	2X_720002	2X0010	BB CC	1	PartM81G01	72-00-02-40-010A	1	1	2X_72000233070_A	2X_720002	#M/R/2	#N/A	#N/A		RE	5/B	to ch
17	72-0130	Heat Shield (pre) Shield, Aft Skirt Segment Heat	29901	PartM72P01	72-00-02-40-020	1		2X_72000240020_A	2X_720002	2X0020	BB CC	1	PartM96P01	72-00-02-40-020A	1		2X_72000240020_A	2X_720002	2X0020A	BB CC	1	RE	5/B	ok
18	72-0130	Heat Shield (pre) Shield, Aft Skirt Segment Heat	29902	PartM73G01	72-00-02-40-030	1		2X_72000240030_A	2X_720002	2X0030	BB CC	1	PartM79G01	72-00-02-40-030A	1		2X_72000240030_A	2X_720002	2X0030A	BB CC	1	RE	5/B	ok
19	72-0130	Heat Shield	29904	PartM75G01	72-00-02-40-050	1		2X_72000240050_A	2X_720002	2X0050	BB CC	1	PartM84G01	72-00-02-40-050A	1		2X_72000240050_A	2X_720002	2X0050A	BB CC	1	RE	5/B	ok

Tabs: SB Conf. Chart | **New Conf. Chart** | SB mods to upload | MM data | Modules

Buttons: Find next to split | Split one to one | Split any to any | Copy row | Refresh SAP data | Check | Create MPL

Processing... 100%   85%

Name
Indentions shows structure level

Filter columns
useful when working with multiple SBs

SIN
structure location acc. to OEM

- SAP data columns are filled automatically by PPEadd-in (excel add-in holding engine structure data from SAP and functions that return data related to given part numbers)
- Each PN, ATA, SIN, QTY are placed in separate cells – it allows to compare each value between SB and SAP, to catch any inconsistency
- no PPE data returned for parts that are not located in the structure
- #M/R/n returned for multiple results (n-results) (e.g., part is assigned to more than one Variant) User can put index from 1 to n into columns G, I, K, R, T or V to return given index result

See next slide

Z	AA	AB	AC	AD	AE	AF
Op Code	Change Code	Check		New file		
RM	-/-	module				
RM	-/-	module				
RM	-/-	module				
RM	-/-	module				
RM	-/-	module				
RM	-/-	module				
RM	-/-	module				
RM	-/-	module				
RE	5/B	ok				
RE	5/B	ok				
RE	5/B	ok				
QTC	5/E	expendable				
QTC	5/-	expendable				
RE	5/B	to check				
RE	5/B	ok				
RE	5/B	ok				
RE	5/B	ok				
RE	5/B	ok				
RE	5/B	ok				
RE	5/B	ok				
RE	5/B	ok				

(The leftmost visible partial columns show headers "E / y" and a value "/A" near the "to check" row.)

Dialog buttons:
- Find next to split
- Split one to one
- Split any to any
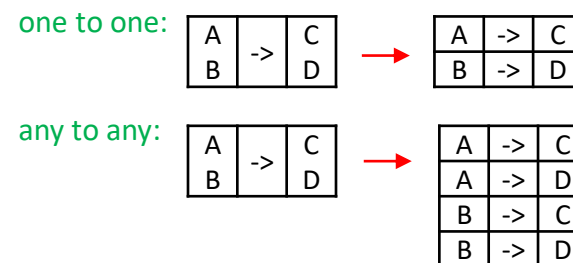- Copy row
- Refresh SAP data
- Check
- Create MPL

To save work done in this worksheet while not finished yet

Menu

When creating new layout macros tries to split grouped part numbers so each can be in separate cell, however in some cases it needs to be Engineer decision of how it should be split.

Find next to split - find any of cells containing more than one part number

Split – create additional row(s) to split cumulated part numbers:

one to one:

A	->	C
B		D

→

A	->	C
B	->	D

any to any:

A	->	C
B		D

→

A	->	C
A	->	D
B	->	C
B	->	D

Copy row – just copies row

Refresh SAP data – runs PPEadd-in to assign SAP structure data to all part numbers

Check – checks data consistency and readiness to be imported by system, returns result to Check column.

Conditions checked for each modification:
- modification affects module level
- pre PN and post PN are either both expendable or both rotable type
- both PNs are defined in SAP
- correct SAP data is assigned (no errors in FID, Superior, Variant, QTY or Obj.dep columns)
- operation code has correct form (allowed: RM, RE, RW, RI, QTC, AD, DE, RE/RW, RW/RE)
- single values in pre PN and post PN cells (no line feeds)
- SAP Qty's are numeric values and equal to SB Qty's

If modification complies to all conditions check column is populated with 'ok'. Otherwise, one of values can be returned: 'module', 'no MM data', 'expendable', 'exp/rot', 'to check'.

Create MPL – process prepared data to next step

Operation code
Only specific codes allowed in this column

Change code
Additional data for Engineers

Check column

Excel ribbon: File | Home | Insert | Page Layout | Formulas | Data | Review | View | Developer | Help | Power Pivot

Workbook: NewConfigChart

Cell: W17

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Doc Type	Doc number	Doc version	Doc part	Counter	Pre PN	Pre FID	Pre Variant	Pre QTY	Post PN	Post FID	Post Variant	Post QTY	Op Code	Action Type	Change Code
2	SSB	2X_72-0130_720002	02	000	1	PartM76G01	2X_72000233030_A	2X3030	1	PartM72G01	2X_72000233030_A	2X3045	1	REPLACE	Parts Replaced	05
3					2	PartM78G01	2X_72000233070_A	2X3070	1	PartM81G01	2X_72000233070_A	2X3085	1	REPLACE	Parts Replaced	05
4					3	PartM80G01	2X_72000233090_A	2X3105	1	PartM74G01	2X_72000233140_A	2X3155	1	REPLACE	Parts Replaced	05
5					4	PartM77G01	2X_72000233090_A	2X3090	1	PartM80G01	2X_72000233090_A	2X3105	1	REPLACE	Parts Replaced	05
6					5	PartM74G01	2X_72000233140_A	2X3155	1	PartM83G01	2X_72000240040_A	2X0040A	1	REPLACE	Parts Replaced	05
7					6	PartM72P01	2X_72000240020_A	2X0020	1	PartM96P01	2X_72000240020_A	2X0020A	1	REPLACE	Parts Replaced	05
8					7	PartM73G01	2X_72000240030_A	2X0030	1	PartM79G01	2X_72000240030_A	2X0030A	1	REWORK	Parts Replaced	05
9					8	PartM75G01	2X_72000240050_A	2X0050	1	PartM84G01	2X_72000240050_A	2X0050A	1	REPLACE	Parts Replaced	05
10					9	PartM90G01	2X_72000240060_A	2X0060	1	PartM82G01	2X_72000240060_A	2X0060A	1	REPLACE	Parts Replaced	05
11					10	PartM70G01	2X_72000240070_A	2X0070	1	PartM83G01	2X_72000240040_A	2X0040A	1	REPLACE	Parts Replaced	05
12					11	PartM64G01	2X_72000240090_A	2X0090	1	PartM85G01	2X_72000240090_A	2X0090A	1	REPLACE	Parts Replaced	05
13					12	PartM91P02	2X_72000240170_A	2X0170	4	PartM91P02	2X_72000240170_A	2X0170A	5	REPLACE	Parts Replaced	05
14					13	PartM60P02	2X_72000240180_A	2X0180	4	PartM60P02	2X_72000240180_A	2X0180A	5	REPLACE	Parts Replaced	05
15					14	PartM59P01	2X_72000240190_A	2X0190	4	PartM59P01	2X_72000240190_A	2X0190A	5	REPLACE	Parts Replaced	05
16	PSB	2X_72-0130_720002PSB	02	000	1	PartM73G01	2X_72000240030_A	2X0030	1	PartM79G01	2X_72000240030_A	2X0030A	1	REWORK	Parts Replaced	05
17																
18																
19																

Buttons: SSB template | PSB template | Compare with existing mods

Worksheet tabs: SB Conf. Chart | New Conf. Chart | **SB mods to upload** | MM data | Modules

Annotations:

SAP documents assignment
Modifications assigned to proper SAP documents based on Superior node of modified parts

Correct data
Only correct data is moved to this table (all modifications with status 'ok' in Check column of New Conf. Chart worksheet

SSB/PSB template
Generate excel file templates which can be imported by SAP

Comparison with existing documents
It is possible to compare prepared data with existing documents e.g., to check if nothing is missing in SAP.
See next slide.

Doc Type	Doc number	Doc version	Doc part	Counter	Pre PN	Pre FID	Pre Variant	Pre QTY	Post PN	Post FID	Post Variant	Post QTY	Op Code	Action Type	Change Code
SSB	2X_72-0130_720002	02	000	1	PartM76G01	2X_72000233030_A	2X3030	1	PartM72G01	2X_72000233030_A	2X3045	1	REPLACE	Parts Replaced	05
				2	PartM78G01	2X_72000233070_A	2X3070	1	PartM81G01	2X_72000233070_A	2X3085	1	REPLACE	Parts Replaced	05
				3	PartM80G01	2X_72000233090_A	2X3105	1	PartM74G01	2X_72000233140_A	2X3155	1	REPLACE	Parts Replaced	05
				4	PartM77G01	2X_72000233090_A	2X3090	1	PartM80G01	2X_72000233090_A	2X3105	1	REPLACE	Parts Replaced	05
				4	PartM20G01	2X_72000233110_A	2X3110	1	PartM76G01	2X_72000233110_A	2X3110A	1	REPLACE	Parts Replaced	05
				5	PartM74G01	2X_72000233140_A	2X3155	1	PartM83G01	2X_72000240040_A	2X0040A	1	REPLACE	Parts Replaced	05
				5	PartM80G01	2X_72000233140_A	2X3140	1	PartM74G01	2X_72000233140_A	2X3155	1	REPLACE	Parts Replaced	05
				6	PartM71G01	2X_72000240010_A	2X0010	1	PartM81G01	2X_72000240010_A	2X0010A	1	REPLACE	Parts Replaced	05
				6	PartM72P01	2X_72000240020_A	2X0020	1	PartM96P01	2X_72000240020_A	2X0020A	1	REPLACE	Parts Replaced	05
				7	PartM73G01	2X_72000240030_A	2X0030	1	PartM79G01	2X_72000240030_A	2X0030A	1	REWORK	Parts Replaced	05
				8	PartM73G01	2X_72000240030_A	2X0030	1	PartM79G01	2X_72000240030_A	2X0030A	1	REPLACE	Parts Replaced	05
				9	PartM74G01	2X_72000240040_A	2X0040	1	PartM83G01	2X_72000240040_A	2X0040A	1	REPLACE	Parts Replaced	05
				8	PartM75G01	2X_72000240050_A	2X0050	1	PartM84G01	2X_72000240050_A	2X0050A	1	REPLACE	Parts Replaced	05
				9	PartM90G01	2X_72000240060_A	2X0060	1	PartM82G01	2X_72000240060_A	2X0060A	1	REPLACE	Parts Replaced	05
				10	PartM70G01	2X_72000240070_A	2X0070	1	PartM83G01	2X_72000240040_A	2X0040A	1	REPLACE	Parts Replaced	05
				12	PartM70G01	2X_72000240070_A	2X0070	1	PartM83G01	2X_72000240070_A	2X0070A	1	REPLACE	Parts Replaced	05
				11	PartM64G01	2X_72000240090_A	2X0090	1	PartM85G01	2X_72000240090_A	2X0090A	1	REPLACE	Parts Replaced	05
				12	PartM91P02	2X_72000240170_A	2X0170	4	PartM91P01	2X_72000240170_A	2X0170A	5	REPLACE	Parts Replaced	05
				13	PartM60P02	2X_72000240180_A	2X0180	4	PartM60P02	2X_72000240180_A	2X0180A	5	REPLACE	Parts Replaced	05
				14	PartM59P01	2X_72000240190_A	2X0190	4	PartM59P01	2X_72000240190_A	2X0190A	5	REPLACE	Parts Replaced	05
PSB	2X_72-0130_720002PSB	02	000	1	PartM73G01	2X_72000240030_A	2X0030	1	PartM79G01	2X_72000240030_A	2X0030A	1	REWORK	Parts Replaced	05

SSB template

PSB template

Compare with existing mods

mod created from New Config Chart, not defined in the system
mod created from New Config Chart, defined in the system
mod doesn't created from New Config Chart, defined in the system
mod duplicated in the system

Book1

	A	B	C	D	E	F	G
1	DOKAR	DOKNR	DOKTL	DOKVR	PNAME_PRE	PVNAME_PRE	PNAME_POST
2	SSB	2X_72-0130_720002	000	02	2X_72000233030_A	2X3030	2X_72000233030_A
3	SSB	2X_72-0130_720002	000	02	2X_72000233070_A	2X3070	2X_72000233070_A
4	SSB	2X_72-0130_720002	000	02	2X_72000233090_A	2X3105	2X_72000233140_A
5	SSB	2X_72-0130_720002	000	02	2X_72000233090_A	2X3090	2X_72000233090_A
6	SSB	2X_72-0130_720002	000	02	2X_72000233110_A	2X3110	2X_72000233110_A
7	SSB	2X_72-0130_720002	000	02	2X_72000233140_A	2X3155	2X_72000240040_A
8	SSB	2X_72-0130_720002	000	02	2X_72000233140_A	2X3140	2X_72000233140_A
9	SSB	2X_72-0130_720002	000	02	2X_72000240010_A	2X0010	2X_72000240010_A
10	SSB	2X_72-0130_720002	000	02	2X_72000240020_A	2X0020	2X_72000240020_A

Processing... 100%

Book2

	A	B	C	D	E	F
1	DOKAR	DOKNR	DOKTL	DOKVR	FROM_PART	TO_PART
2	PSB	2X_72-0130_720002PSB	000	02	PartM73G01:07482	PartM79G01:07482

Processing... 100%

Data comparison
Comparison shows if prepared data is present or missing in the system. It is visible also if system has any excessive modifications defined.

SSB and PSB templates
Are generated as a separate files that can be saved on disk and then imported by SAP system