

Opus Suite
Conference

FUSARO

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Modelling Marine Structures in Opus Suite

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by Systecon
opus
suite



Background

Support case from FMV



FMV - Background

- FMV – Swedish Defense Material Administration
- Responsible for the supply of defense material for the Swedish defense
- Working on creating an OPUS10 model of a boat



Background

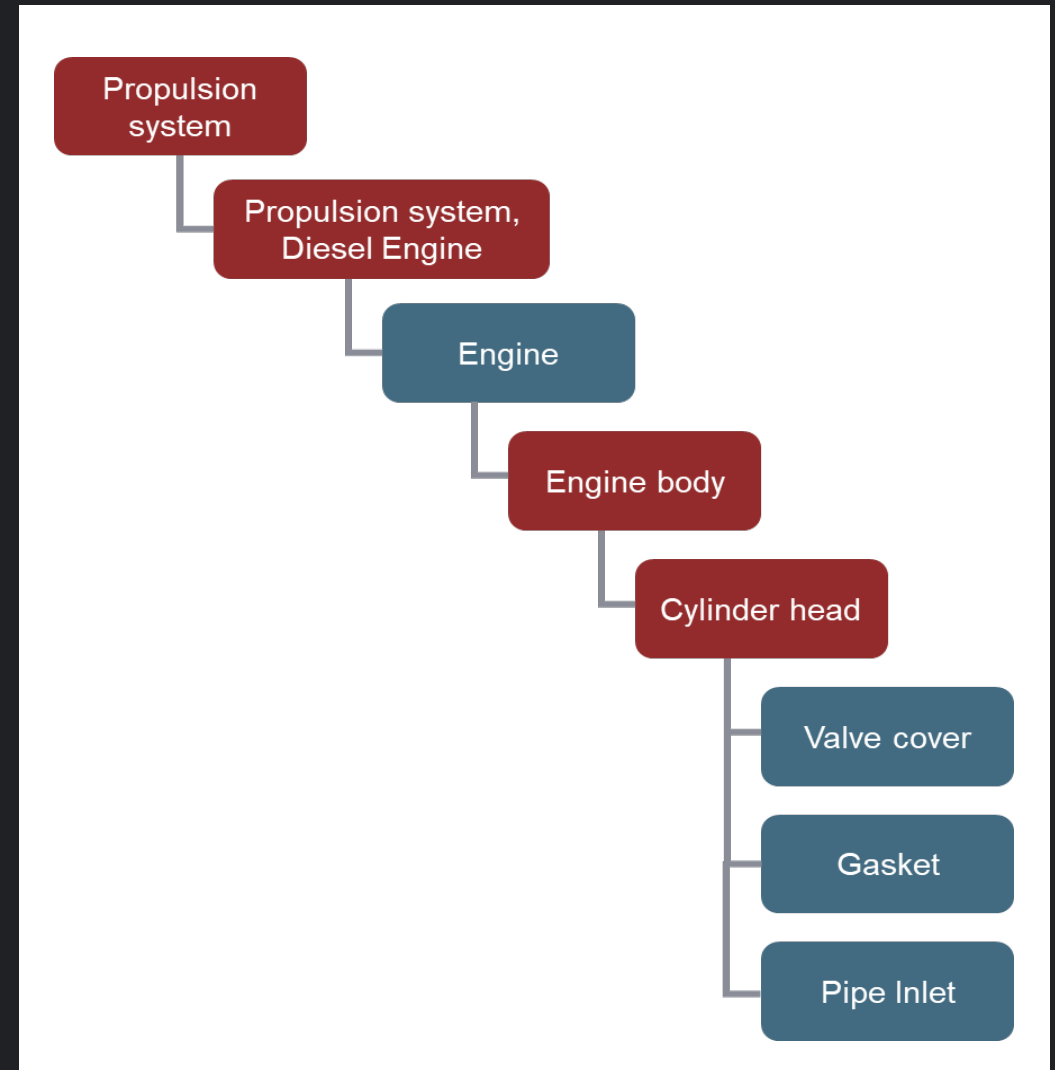
Support case from FMV

Support question

- In their documentation they are using a MIMI structure – “Marine Installation and Material Structure”.
- MIMI structures contain a lot of groupings, or sub positions.

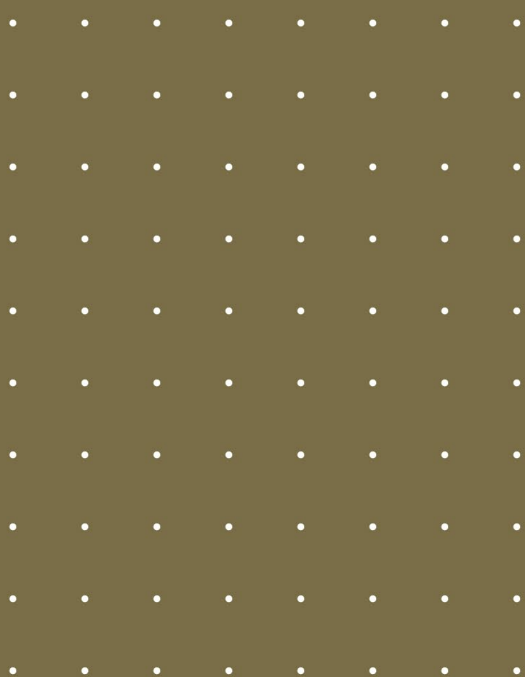
“Can you model this structure?”

Example of a product breakdown



Red – Positions
Blue – Hardware

Can we model this structure in Opus Suite?



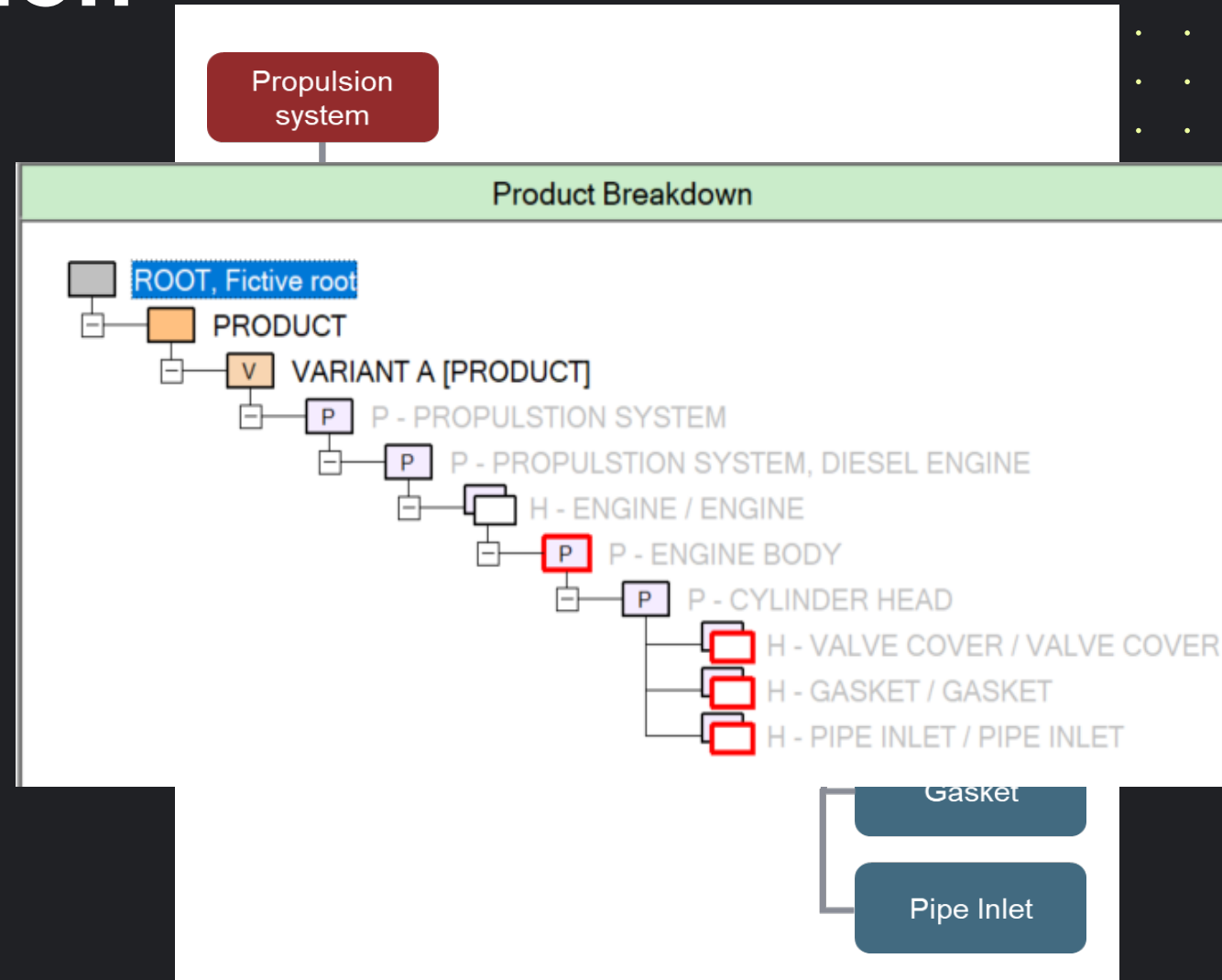
Specifying the question

Support case from FMV

“Can you model this structure?”

- Part of a product breakdown structure
- There are a lot of **positions** (breakdown elements with no physical hardware realized)
- There are **positions under hardware**.

“Can you model breakdown structures with positions under hardware?”



Red – Positions
Blue – Hardware

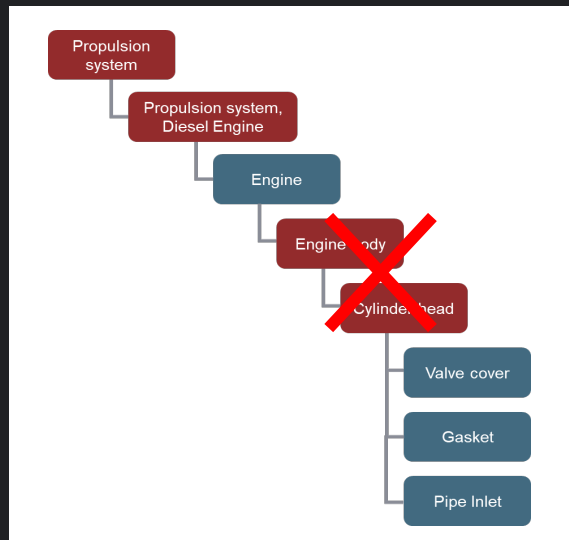
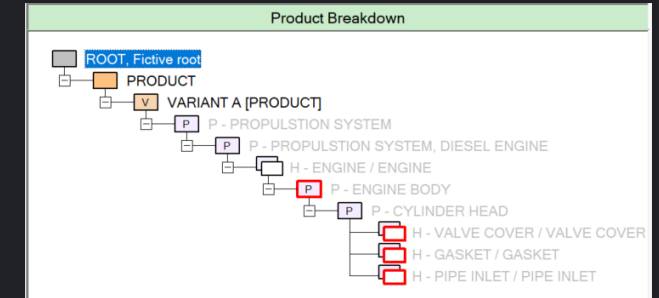
Is it possible to model **positions under hardware**?

No.

Opus Suite does not allow us to model breakdown elements of type “position” under hardware

Then what can we do?

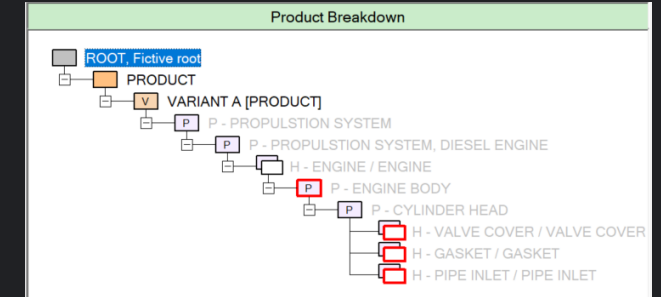
Simply **remove** the subpositions



Is it possible to model **positions under hardware**?

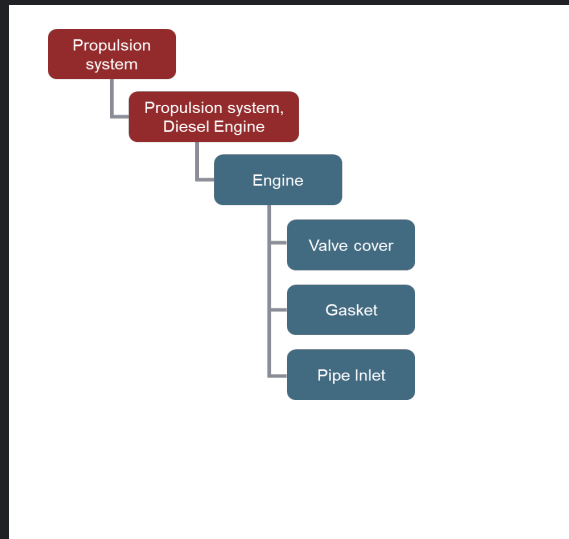
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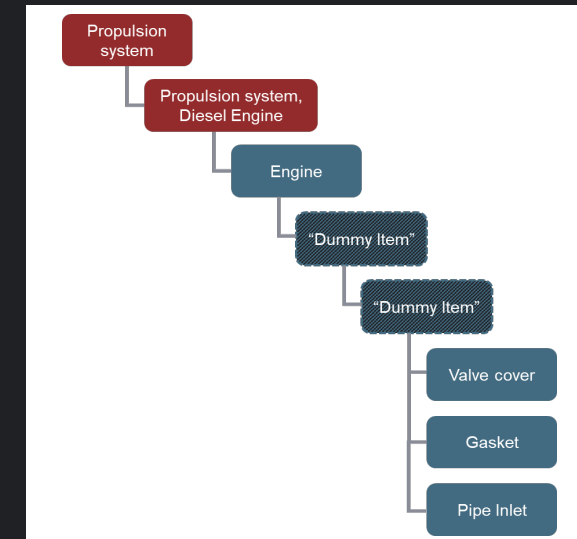


Then what can we do?

Simply **remove** the subpositions



Keep the subpositions but model them as “**dummy items**”



Keep the subpositions
but model them as
“**dummy items**”

How do we
model this?

Define the dummy items:

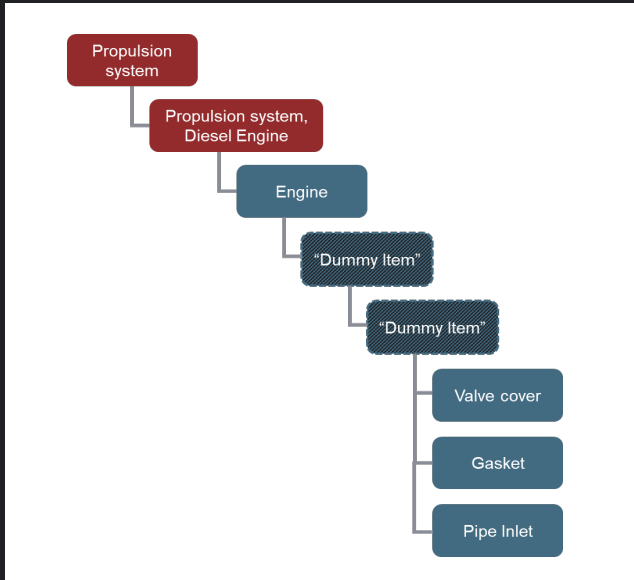
“Dummy item”

1) **Add** the dummy
items to the model

- Breakdown element of type hardware
- No failure mode
- **Non replaceable**
- (No price)

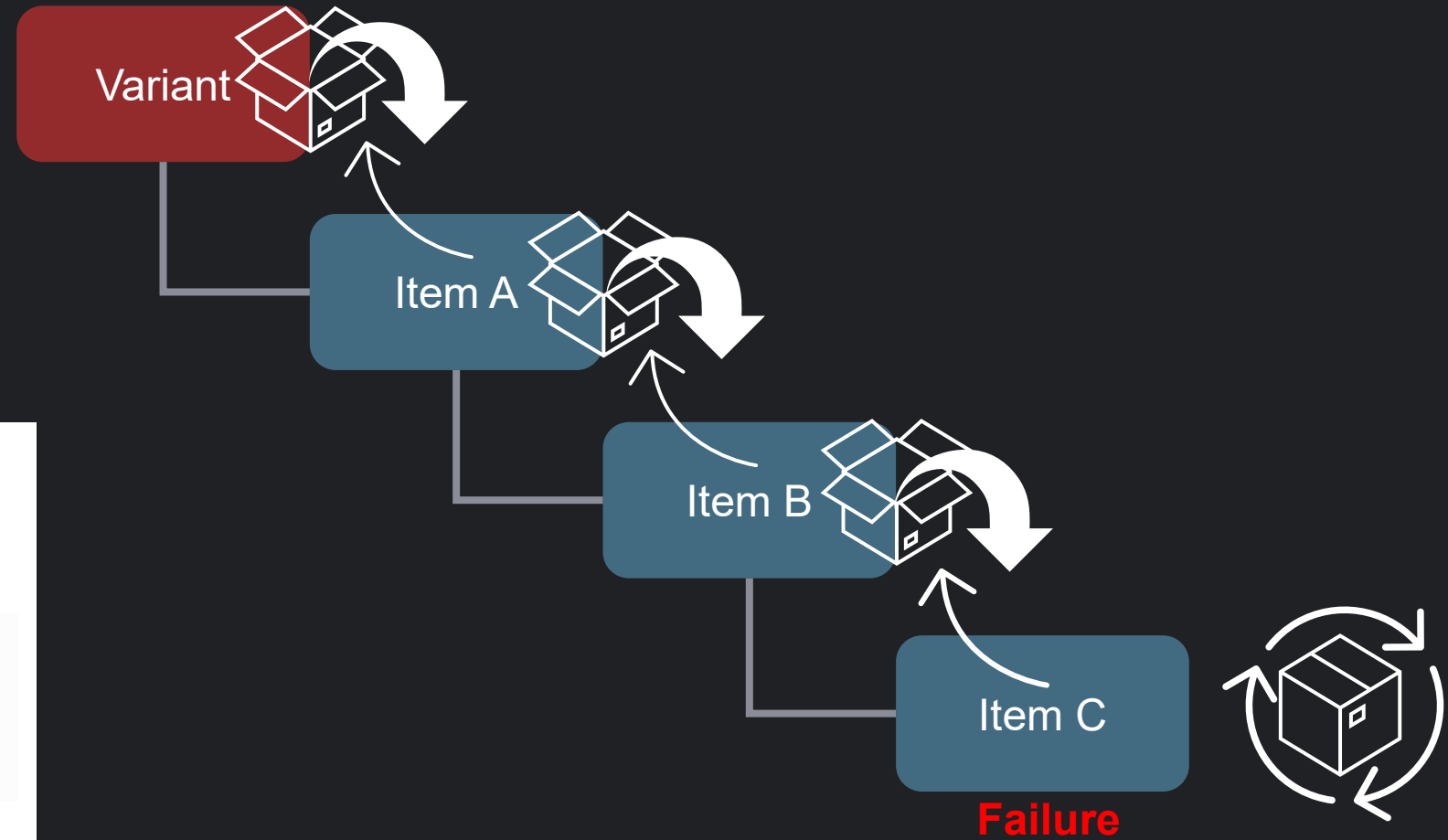
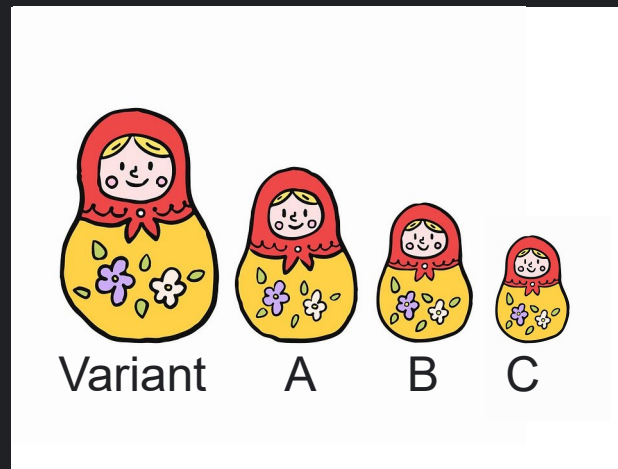
2) Then how will the
Valve Cover, Gasket &
Pipe inlet be replaced?

Subitems are usually
replaced on the mother
items.



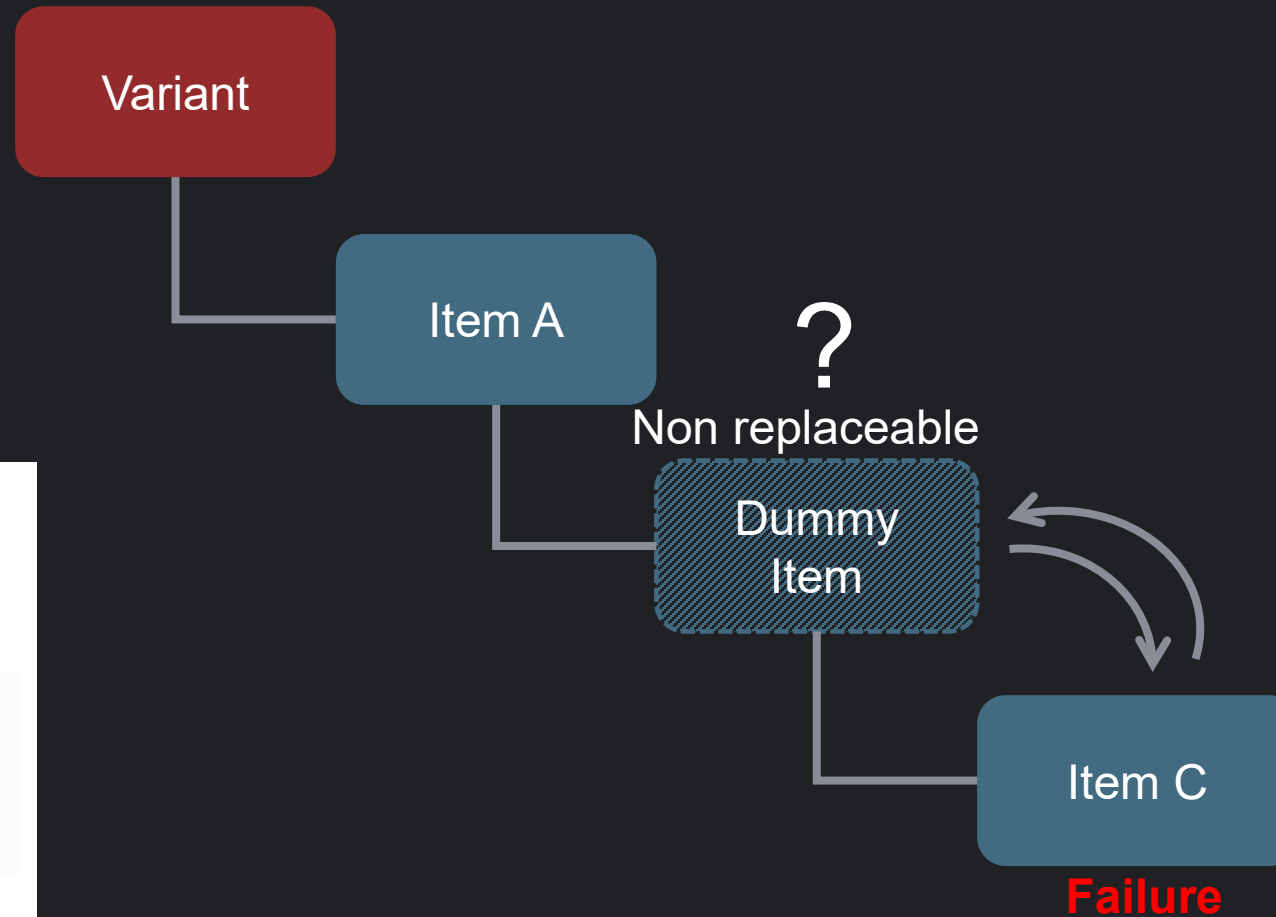
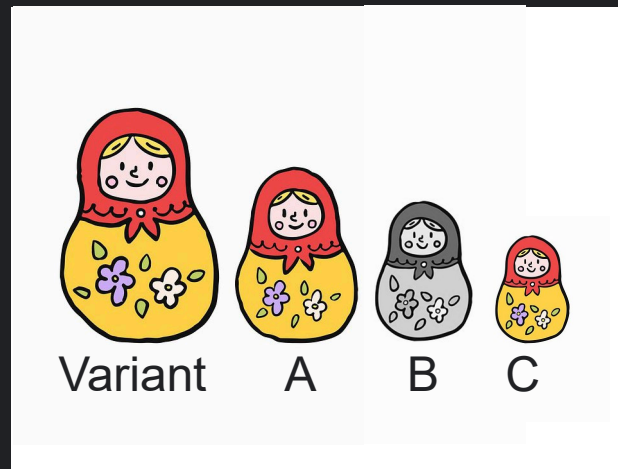
Replacement logic in Opus Suite

Default strategy



Replacement logic in Opus Suite

What if we introduce a dummy item?



Keep the subpositions
but model them as
“**dummy items**”

How do we
model this?

Define the dummy items:

“Dummy item”

- Breakdown element of type hardware
- No failure mode
- **Non replaceable**
- (No price)

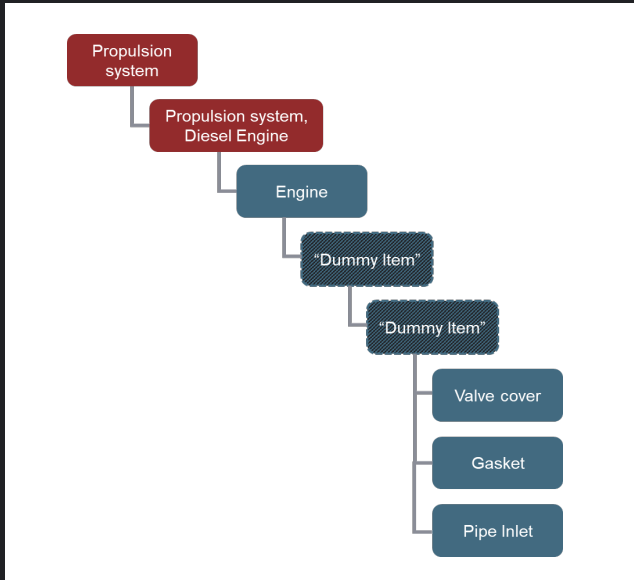
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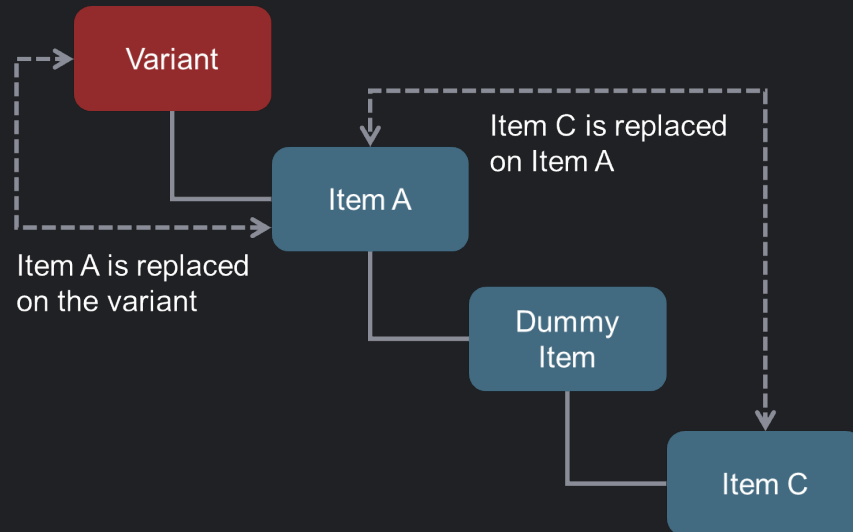
Model replacements using
ItemReplacementStructure

Model replacements using
ProductReplacementBreakdown



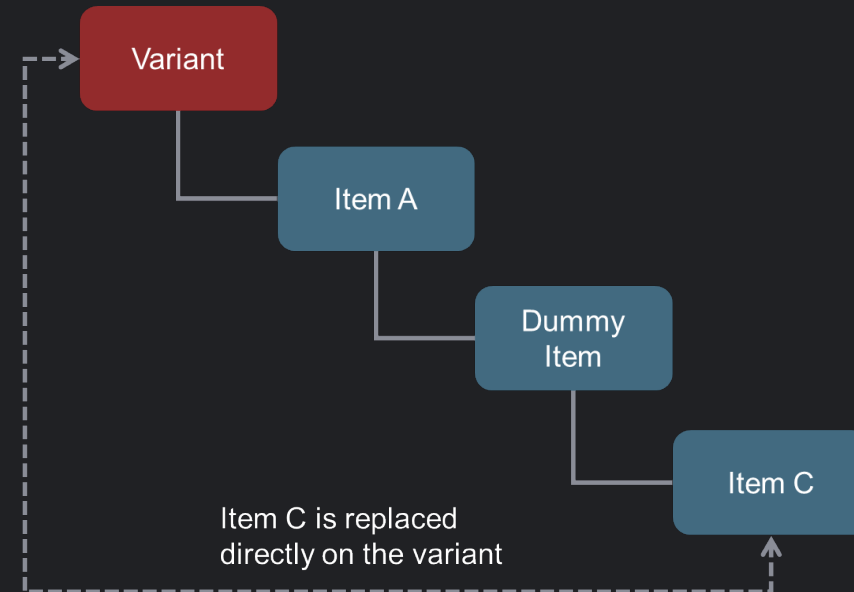
Model replacements using **ItemReplacementStructure**

Strategy for modelling items
that are replaced on their
“grandparent”



Model replacements using **ProductReplacementBreakdown**

Strategy for modelling sub-
items that are replaced directly
on the variant



Error #2096

Description: An item that has been defined as accessible in table ItemReplacementStructure cannot be used to realize a breakdown element

Message: Invalid product realization:

Remedy: Change the accessibility of the item or avoid using the item as a realization.

“What is wrong?”

Looked into the
error message in
SIMLOX



Found the error

Cleaned up the model
using table IRS & sent it
back to FMV



Can you please provide
a **declassified** model?

Found two important things:

- 1) They were using both
ItemReplacementStructure &
ProductReplacementBreakdown
- 2) When disabling IRS → PRB
works

DECLASSIFIED

So, after all of
that I was done!

Or so I
thought

Modelling using breakdown
elements allows for extra
functionality compared to item
structure.
For example: FBD:s & Usage Rates

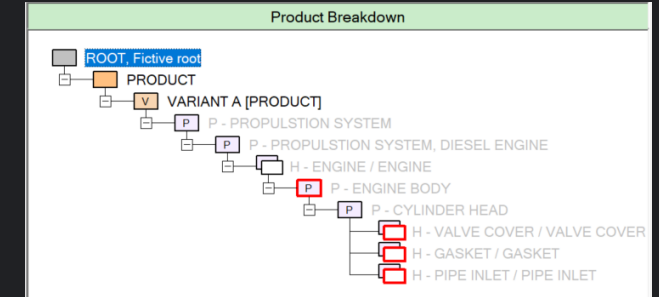
FMV did not want to
remove this functionality

Which leads us...

Is it possible to model **positions under hardware**?

No.

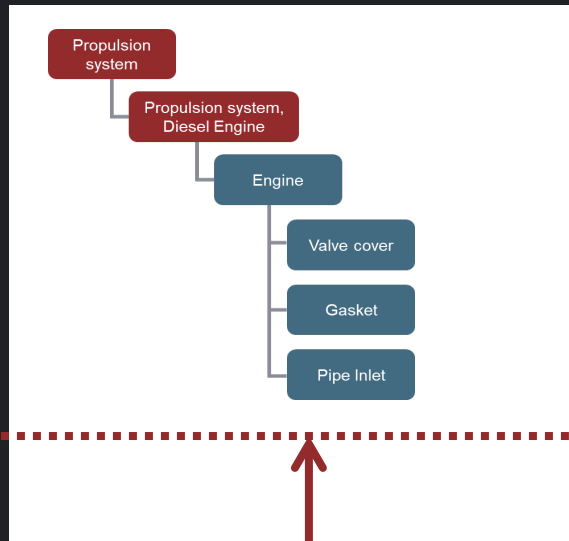
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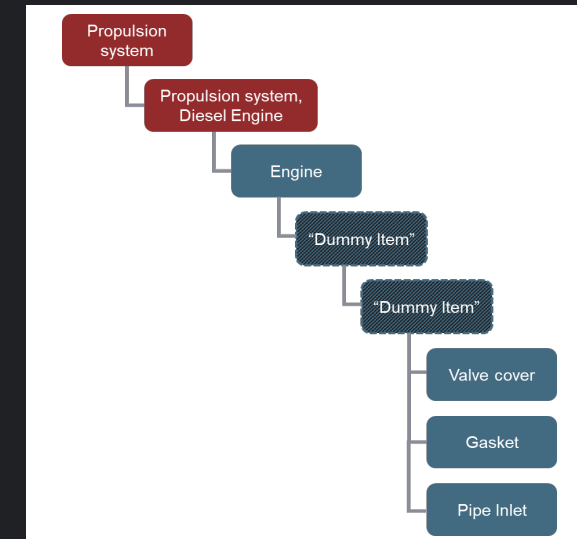
All the way back to the beginning

Then what can we do?

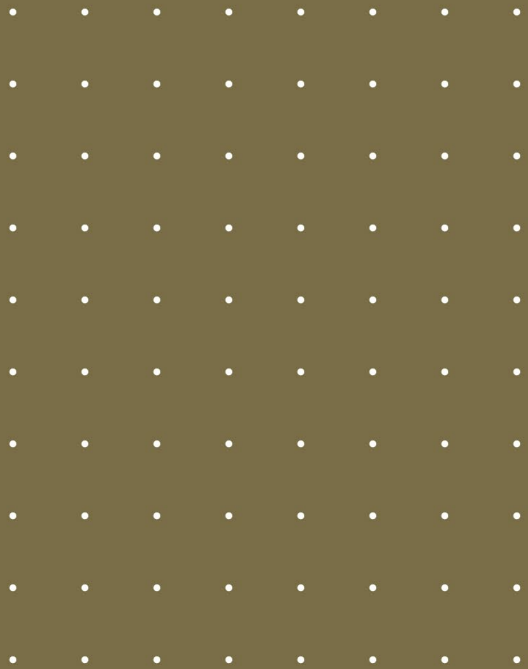
Simply **remove** the subpositions



Keep the subpositions but model them as “**dummy items**”



Conclusions



Thank you.

