

The problem in question:

Retrieve (symbolic) text from long, non-natural-language metadata using a natural-language specification.

Long, non-natural-language metadata

STEP [Assembly Part Count Range:
2-249]

1st VLM

Natural-language specification

Specification

2nd VLM

(symbolic) text

3D Part Identifier

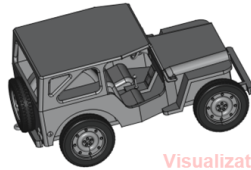
RAG

E-notebook

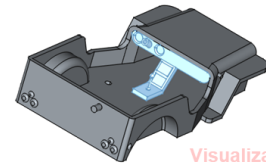
Example:

Specification

The cylindrical protrusion on the vertical plate must align and securely fit into the curved channel of the rectangular housing.



Visualization



Visualization



STEP

3D part identifier

f806e224-05a9-11ec-b59d-
0ac00e04190b;
f80952b8-05a9-11ec-8cf4-
0ac00e04190b

```
FILE_SCHEMA (('AUTOMOTIVE_DESIGN { 1 0 10303 214 3 1 1 }'));  
ENDSEC;  
  
DATA;  
#10=MECHANICAL_DESIGN_GEOMETRIC_PRESENTATION_REPRESENTATIO  
N('({#283,#284,#285,#286,#287,#288,#289,#290,#291,#292,#293,#294,#295,  
#296,#297,#298,#299,#300,#301,#302,#303,#304,#305,#306,#307,#308,#309  
,#310,#311,#312,#313,#314,#315,#316}),#10825);  
#11=ITEM_DEFINED_TRANSFORMATION($,$,#6046,#6426);  
#12=ITEM_DEFINED_TRANSFORMATION($,$,#6055,#6427);  
#13=ITEM_DEFINED_TRANSFORMATION($,$,#6062,#6428);  
#14=ITEM_DEFINED_TRANSFORMATION($,$,#6063,#6429);  
#15=ITEM_DEFINED_TRANSFORMATION($,$,#6074,#6430);  
#16=ITEM_DEFINED_TRANSFORMATION($,$,#6104,#6431);  
#17=ITEM_DEFINED_TRANSFORMATION($,$,#6123,#6432);  
#18=ITEM_DEFINED_TRANSFORMATION($,$,#6150,#6433);  
#19=ITEM_DEFINED_TRANSFORMATION($,$,#6163,#6434);  
#20=ITEM_DEFINED_TRANSFORMATION($,$,#6173,#6435);  
#21=ITEM_DEFINED_TRANSFORMATION($,$,#6189,#6436);  
#22=ITEM_DEFINED_TRANSFORMATION($,$,#6244,#6437);  
#23=ITEM_DEFINED_TRANSFORMATION($,$,#6244,#6438);  
...  
#11051=COLOUR_RGB('Paint - Enamel Glossy  
(Black)',0.0980392156862745,0.0980392156862745,  
0.0980392156862745);  
#11052=COLOUR_RGB('Chrome',0.768627450980392,0.772549019607843,0.  
768627450980392);  
#11053=COLOUR_RGB('Aluminum - Anodized Glossy  
(Grey)',0.537254901960784,0.537254901960784,  
0.537254901960784);  
...  
ENDSEC;  
END-ISO-10303-21;
```

