휴먼 테크
(HUMAN TECH)

미래자동차 공학과
20110123 24 신동민
20110122 72 서건석
20110124 76 정원종

목차

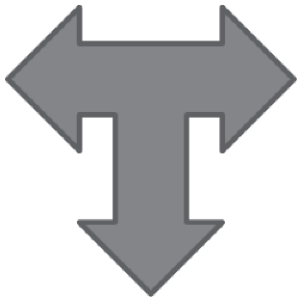
팀명과 선정이유

공학과 인문학의 융합
세계의 트렌드가 되어감.

공학 지식 + 인문학적 지식 & 감성
공학인이 되겠다는 의미

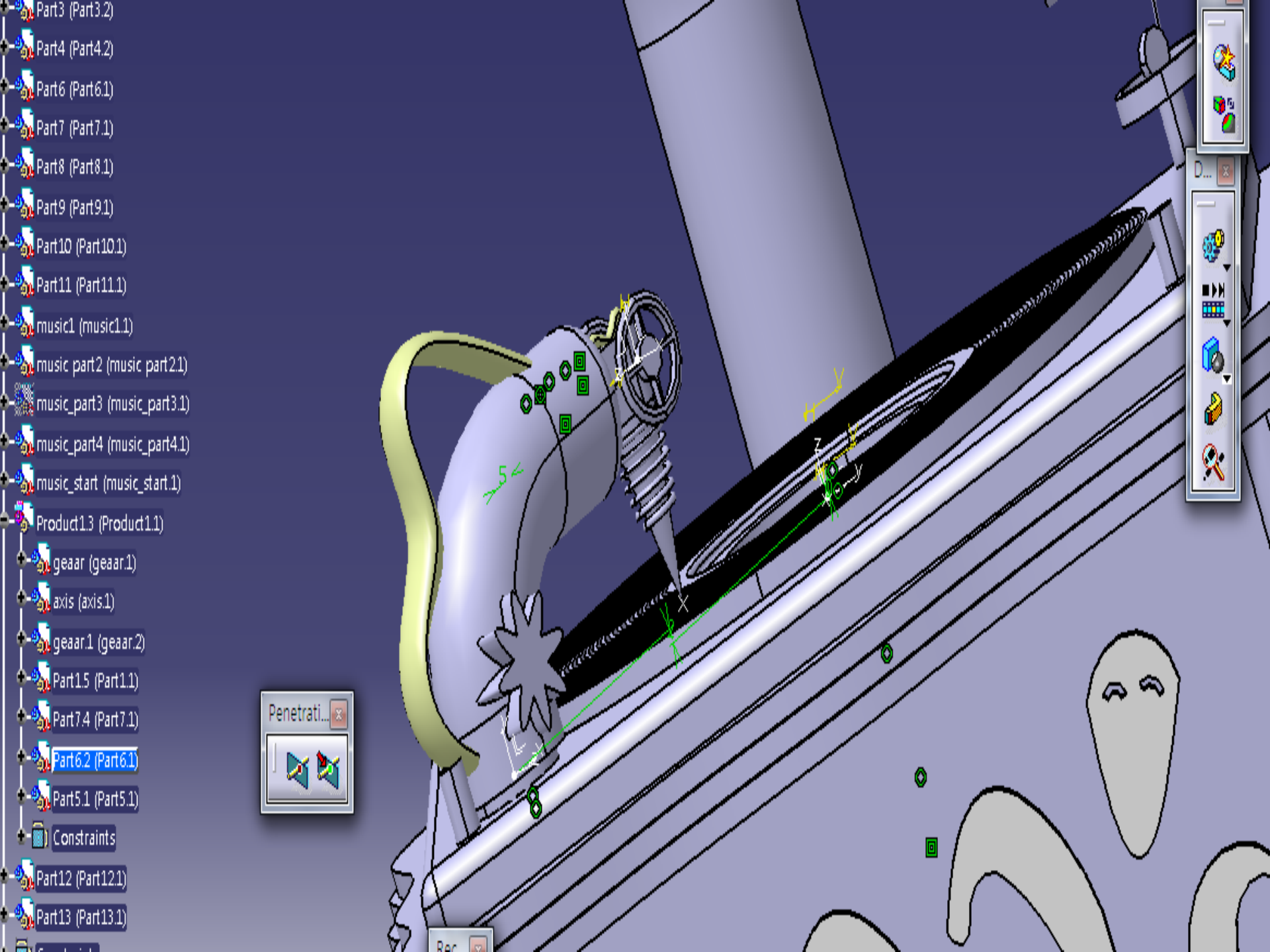
주제와 선정이유

팀명에 가장 걸맞는 주제



CATIA 프로그램에 있는 다양한 기능 사용가능

축음기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Part4 (Part4.2)
Part6 (Part6.1)
Part7 (Part7.1)
Part8 (Part8.1)
Part9 (Part9.1)
Part10 (Part10.1)
Part11 (Part11.1)
music1 (music1.1)
music part2 (music part2.1)
music_part3 (music_part3.1)
music_part4 (music_part4.1)
music_start (music_start.1)
Product1.3 (Product1.1)
geaar (geaar.1)
axis (axis.1)
geaar.1 (geaar.2)
Part1.5 (Part1.1)
Part7.4 (Part7.1)
Part6.2 (Part6.1)
Part5.1 (Part5.1)
Constraints
Part12 (Part12.1)
Part13 (Part13.1)
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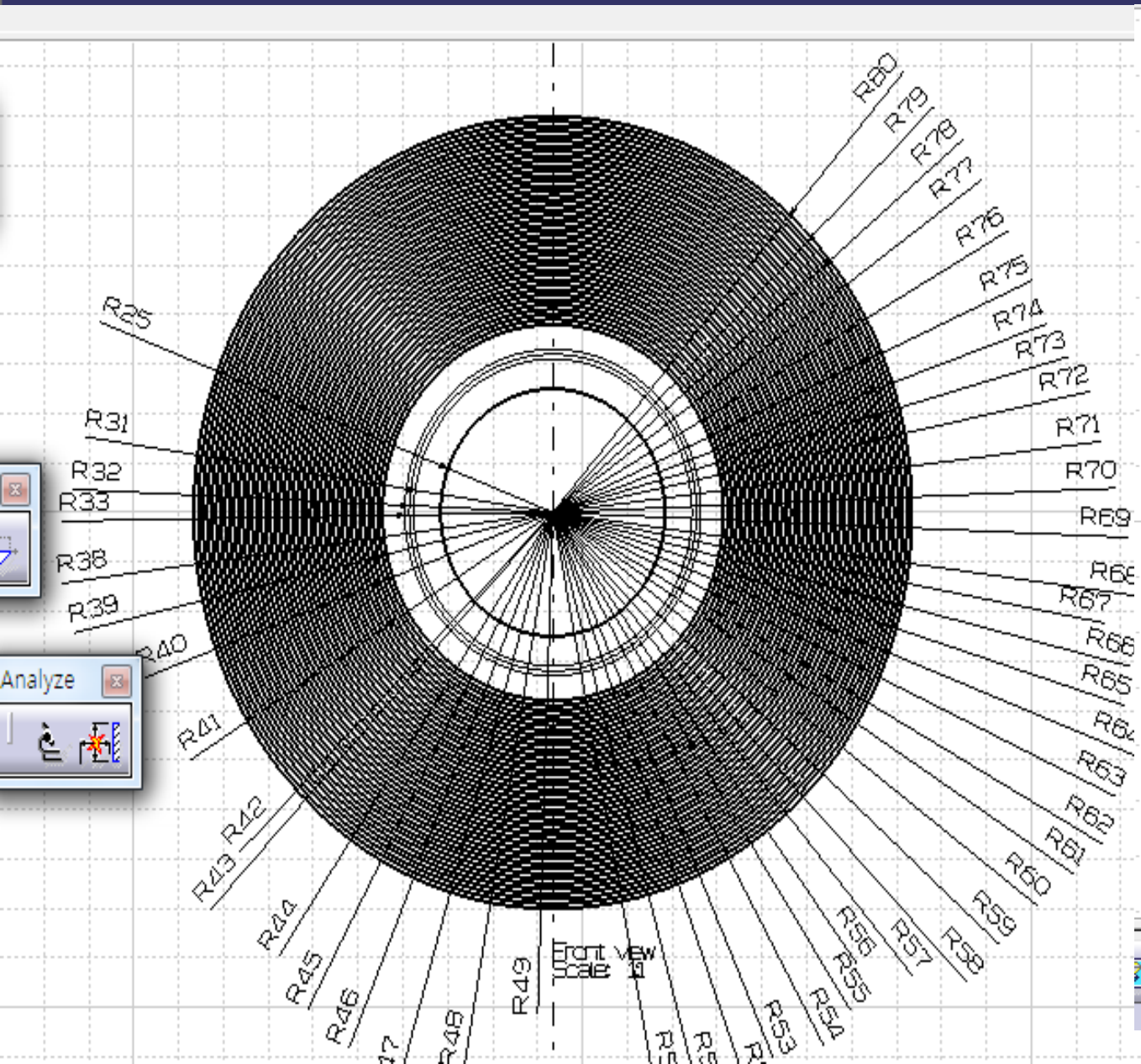

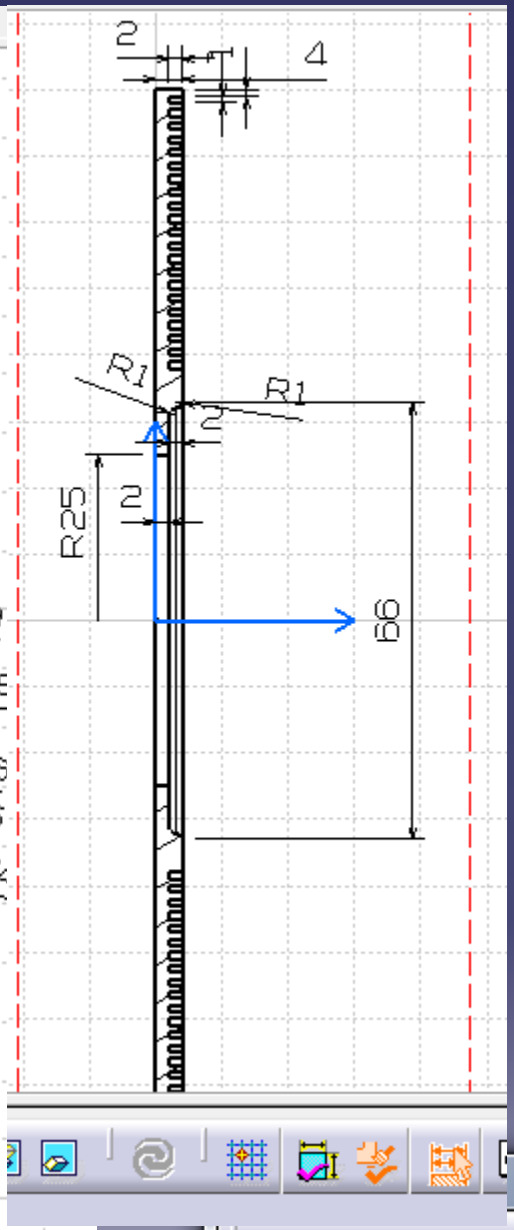

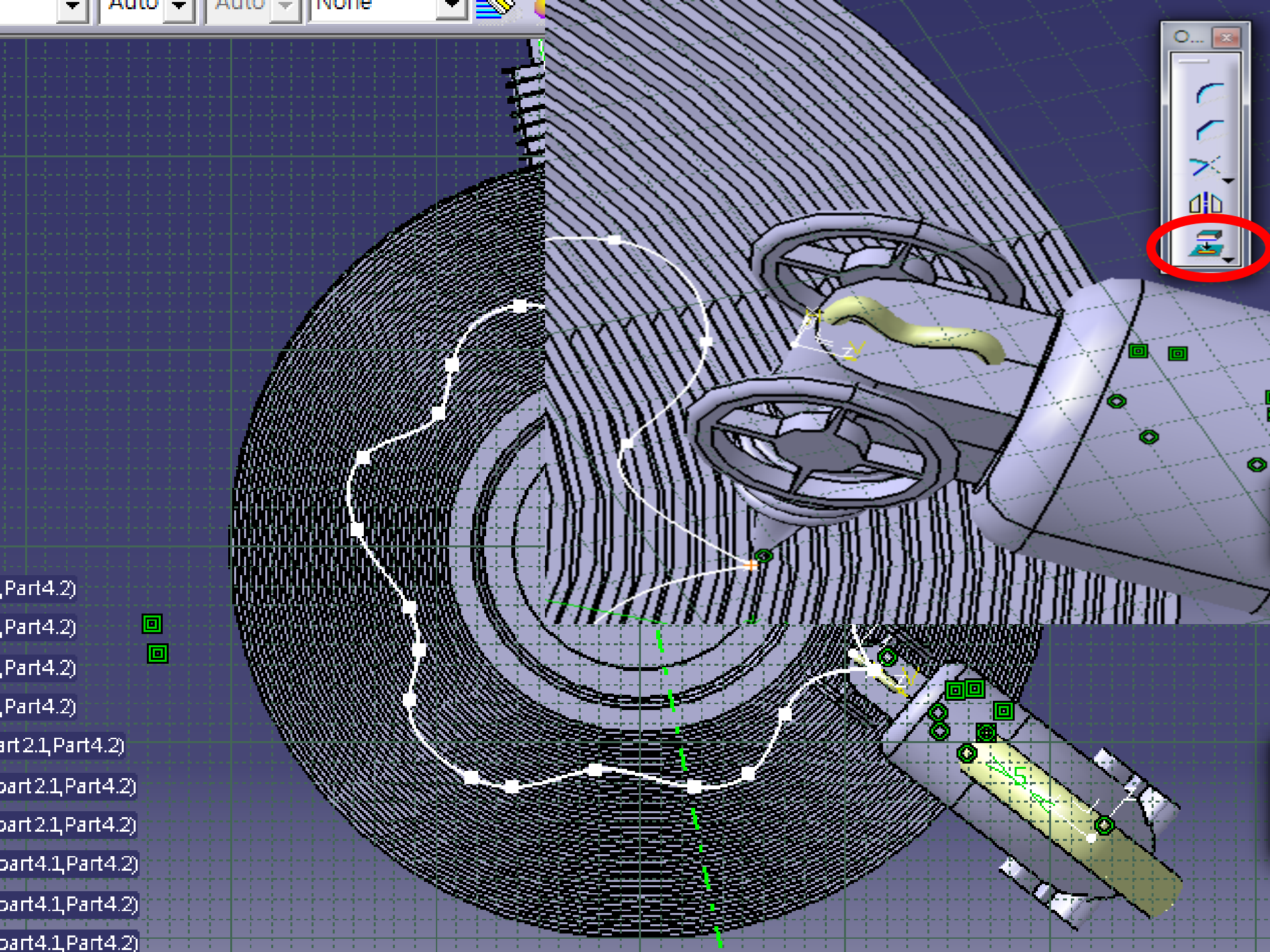
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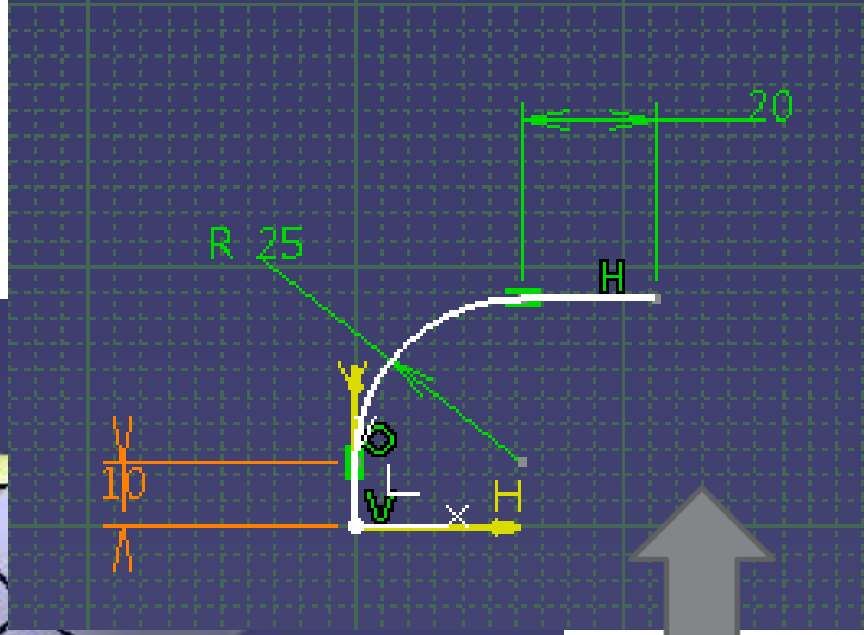
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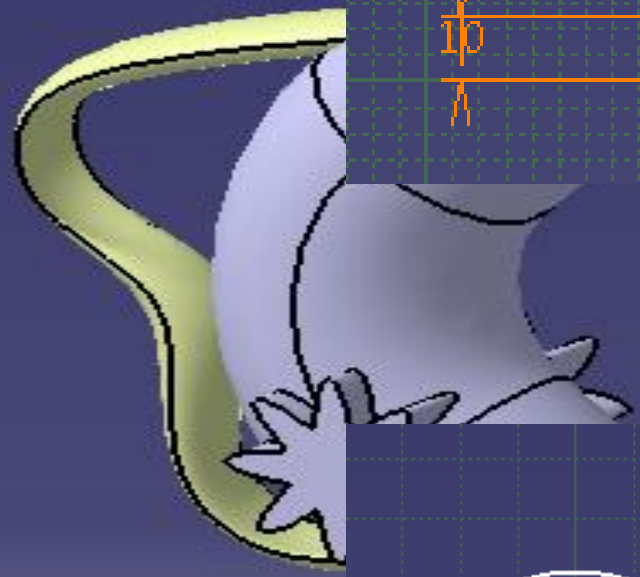

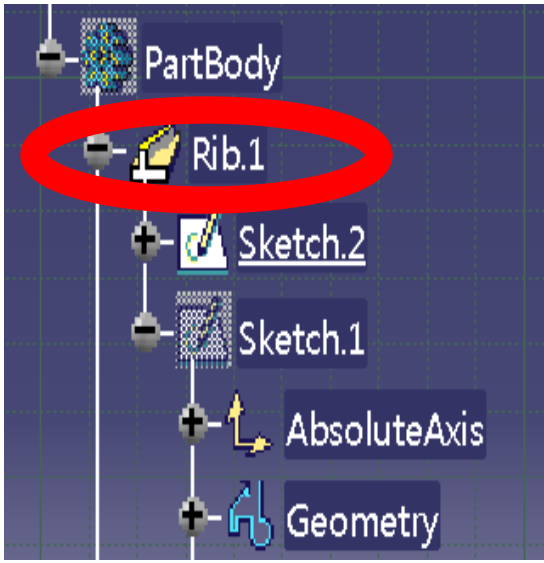
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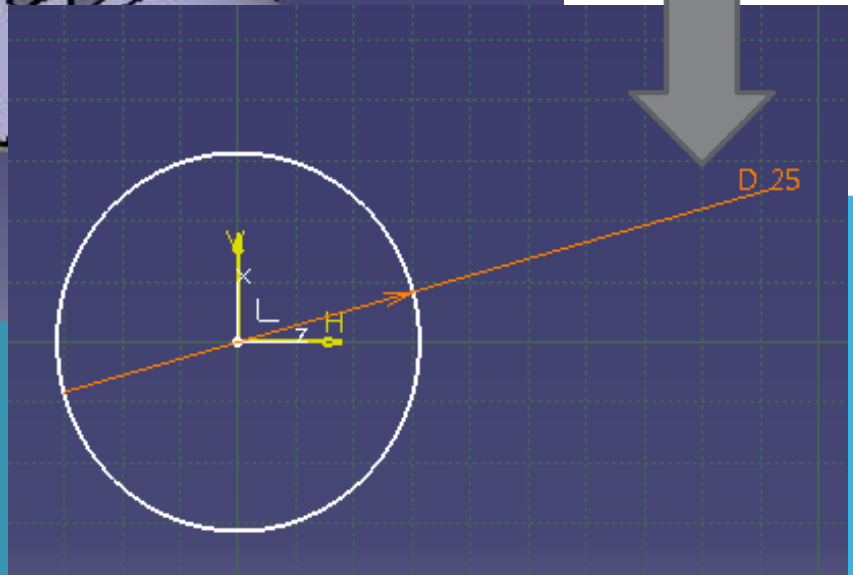
Sketch.2
Sketch.1
AbsoluteAxis
Geometry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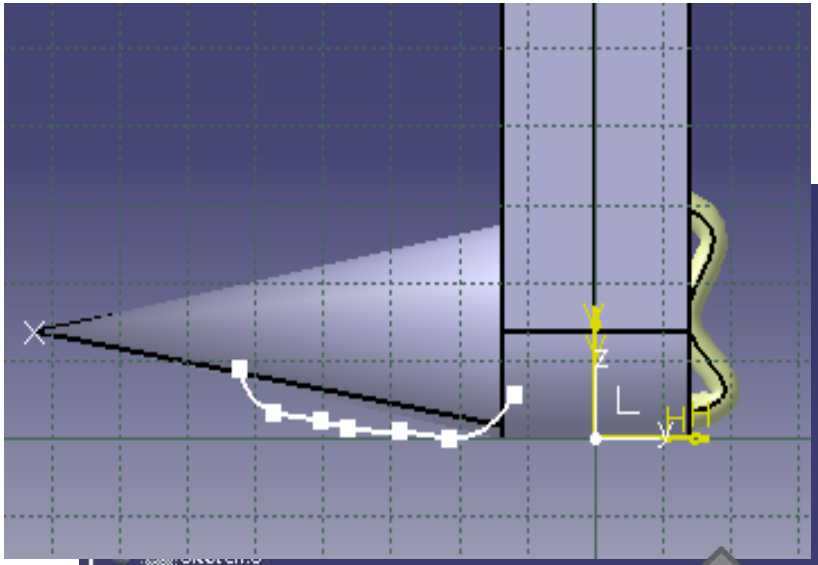
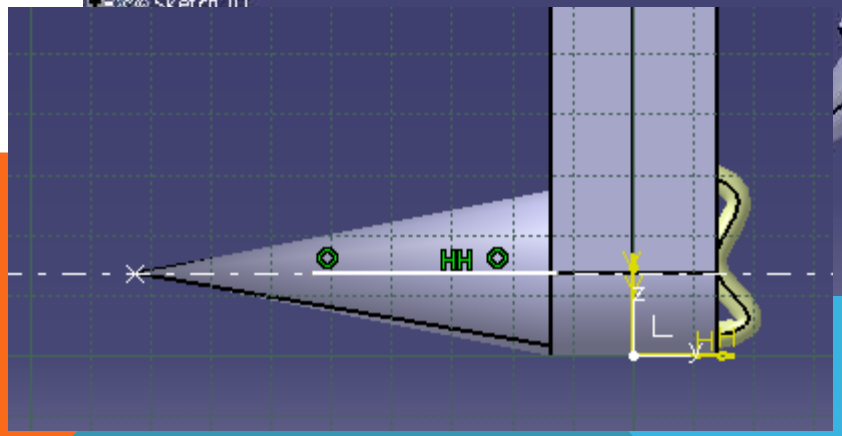



Pocket.1
Sketch.7
Pocket.2
Sketch.8
Sketch.11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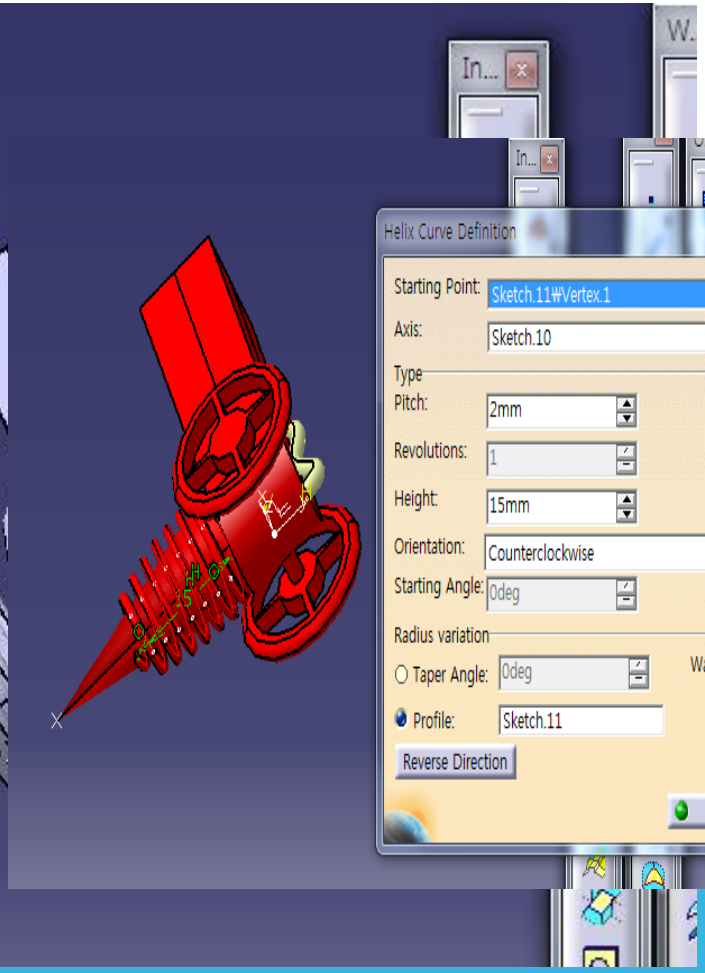

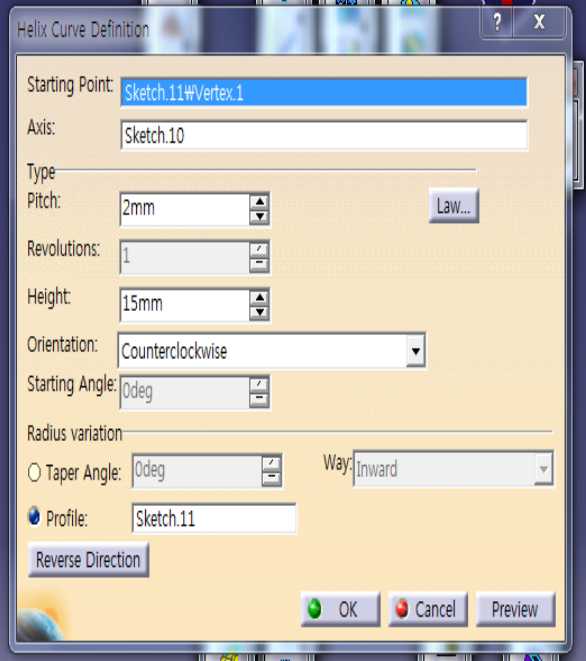
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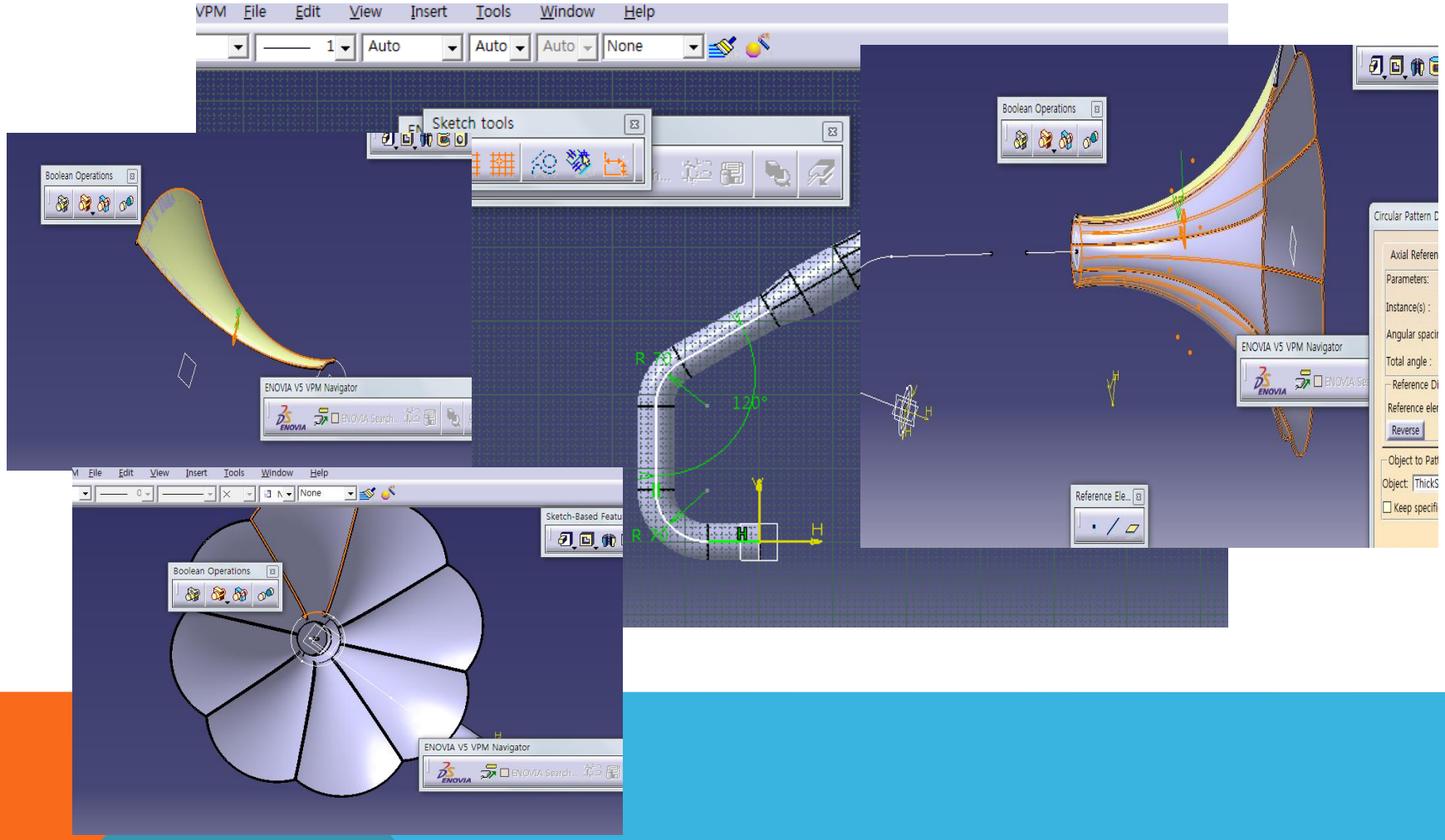
Preview

디자인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ENOVIA V5 VPM Navigator
Boolean Operations
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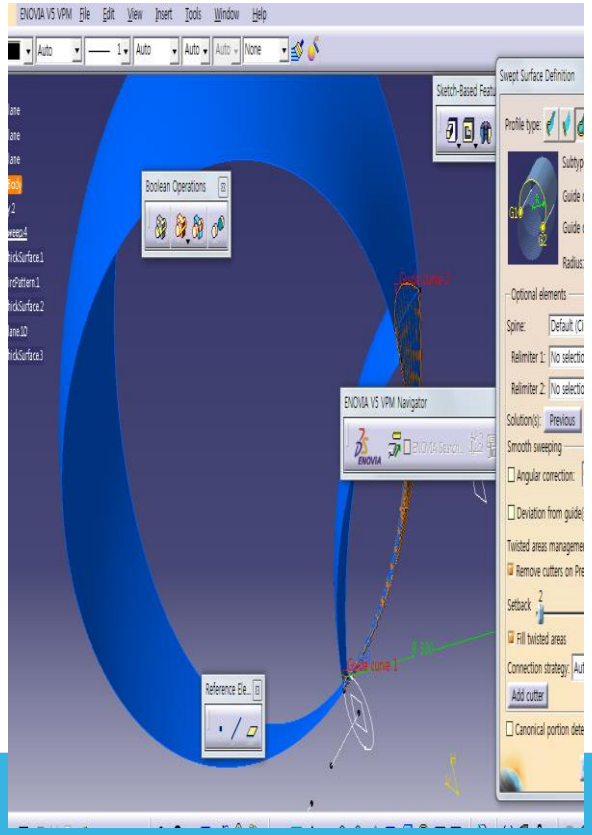
ENOVIA V5 VPM Navigator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Boolean Operations
ENOVIA V5 VPM Navigator
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Optional elements
Spine:
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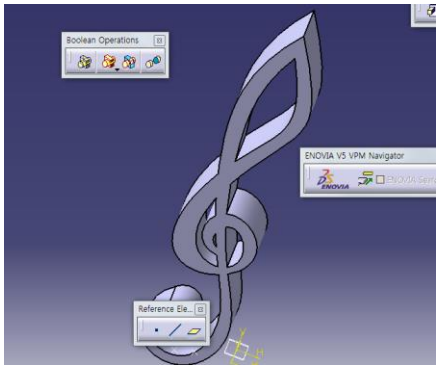
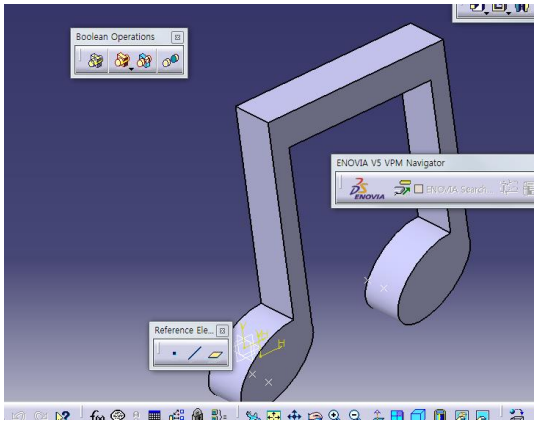
Relimiter 2:
Solution(s):
Previous
Smooth sweeping
Angular correction:
Setback
Fill twisted areas
Connection strategy:
Add cutter

짜증나…하기싫어.. 이게뭐야..

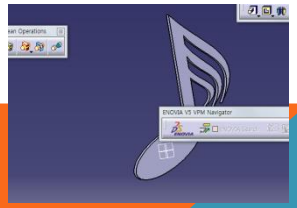


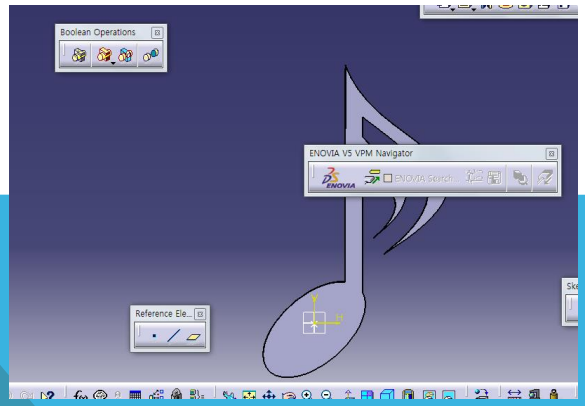


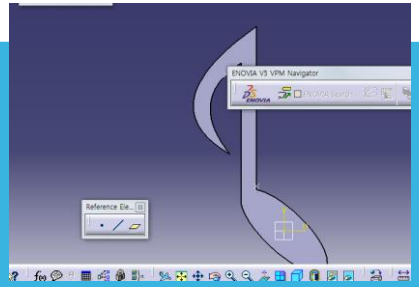
음표

단순한 스파인 곡선 활용하여 조정해줄 수 있음.

스케치 트레이서 기능 활용할 수도 있음.







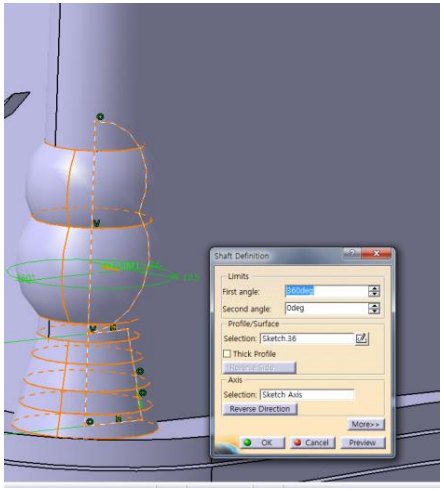
정말 쉽습니다.

스파인 곡선 그릴 시 유의사항

접선을 잇는 개념.
점과 점 사이에서 곡률의 방향이 반대가 됨.

몸통 디자인

기둥 및 몸통 모델링 참조



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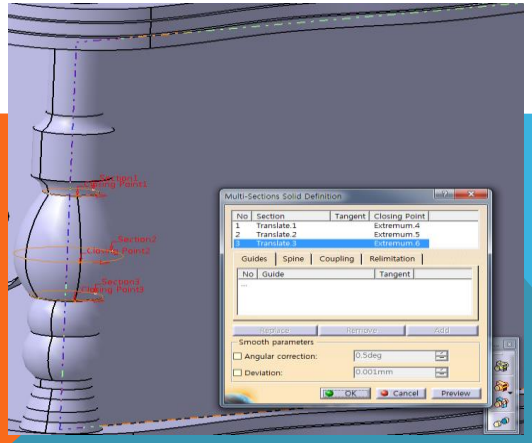
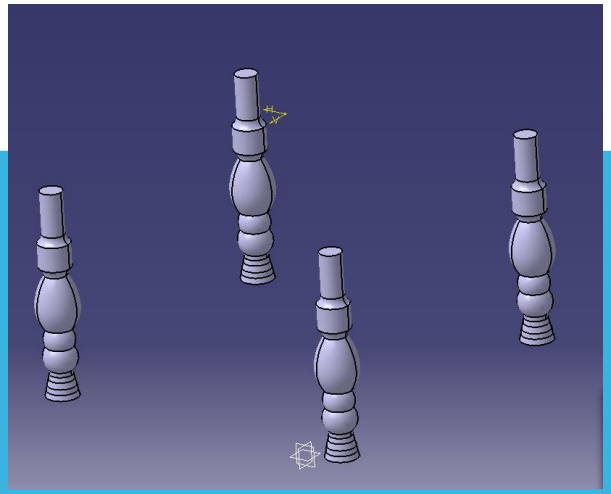
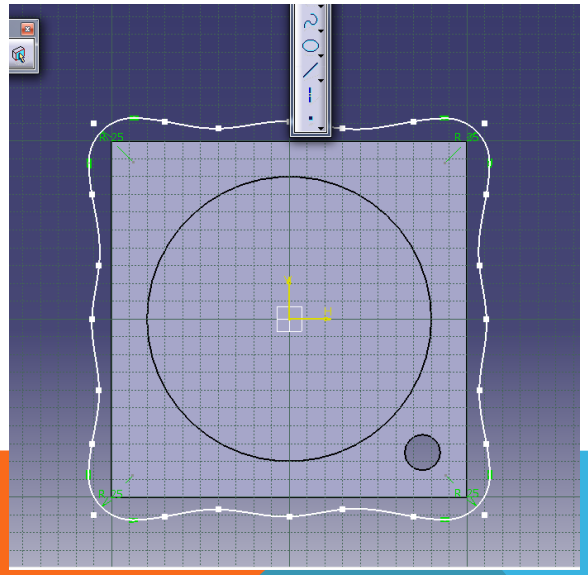


Edge Fillet

Multi-sections Solid

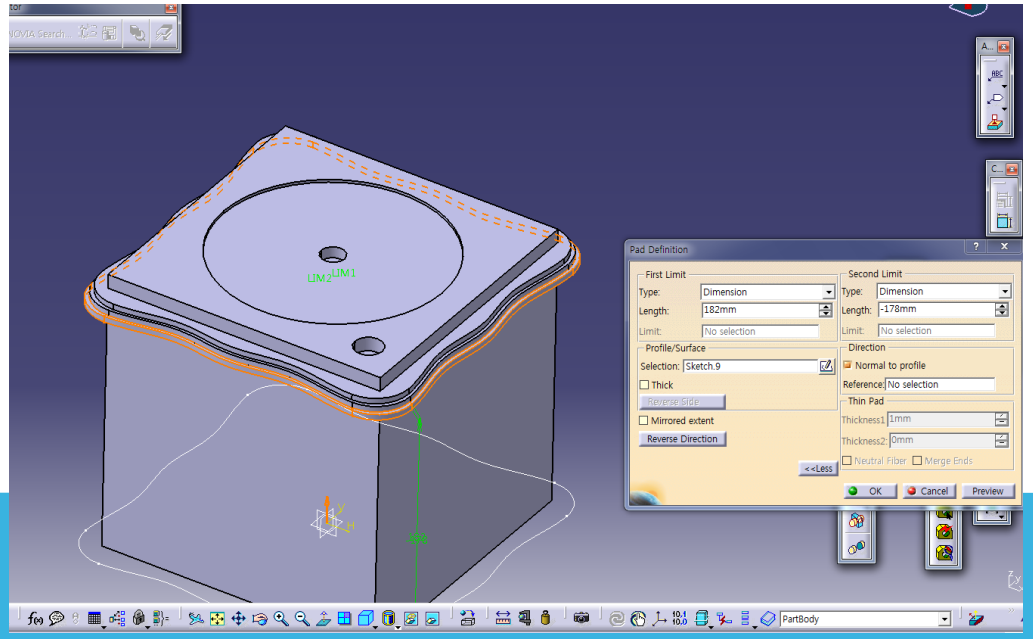


몸통 디자인



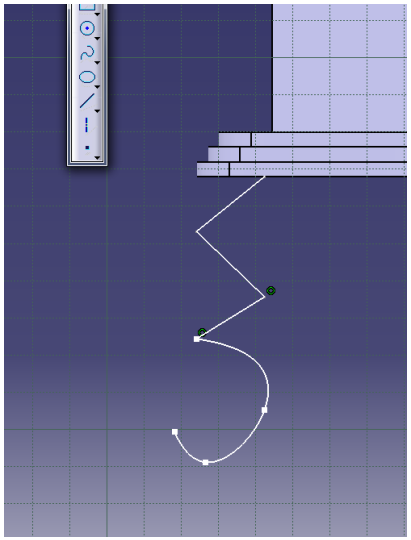
Scale

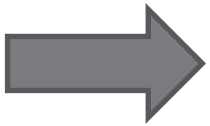
Pad

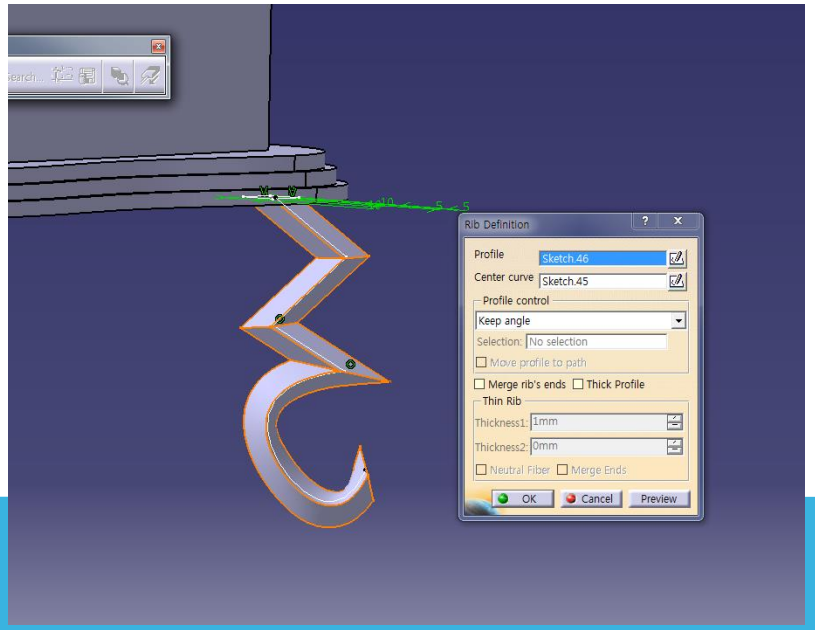


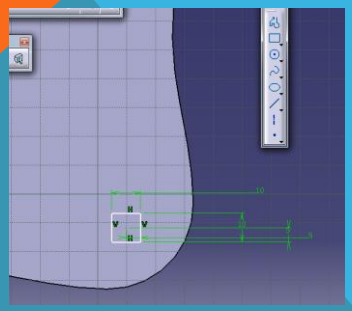
몸통 디자인

음악적 요소를 더하고자 4분 쉼표를 모델링 하여 다리 구현



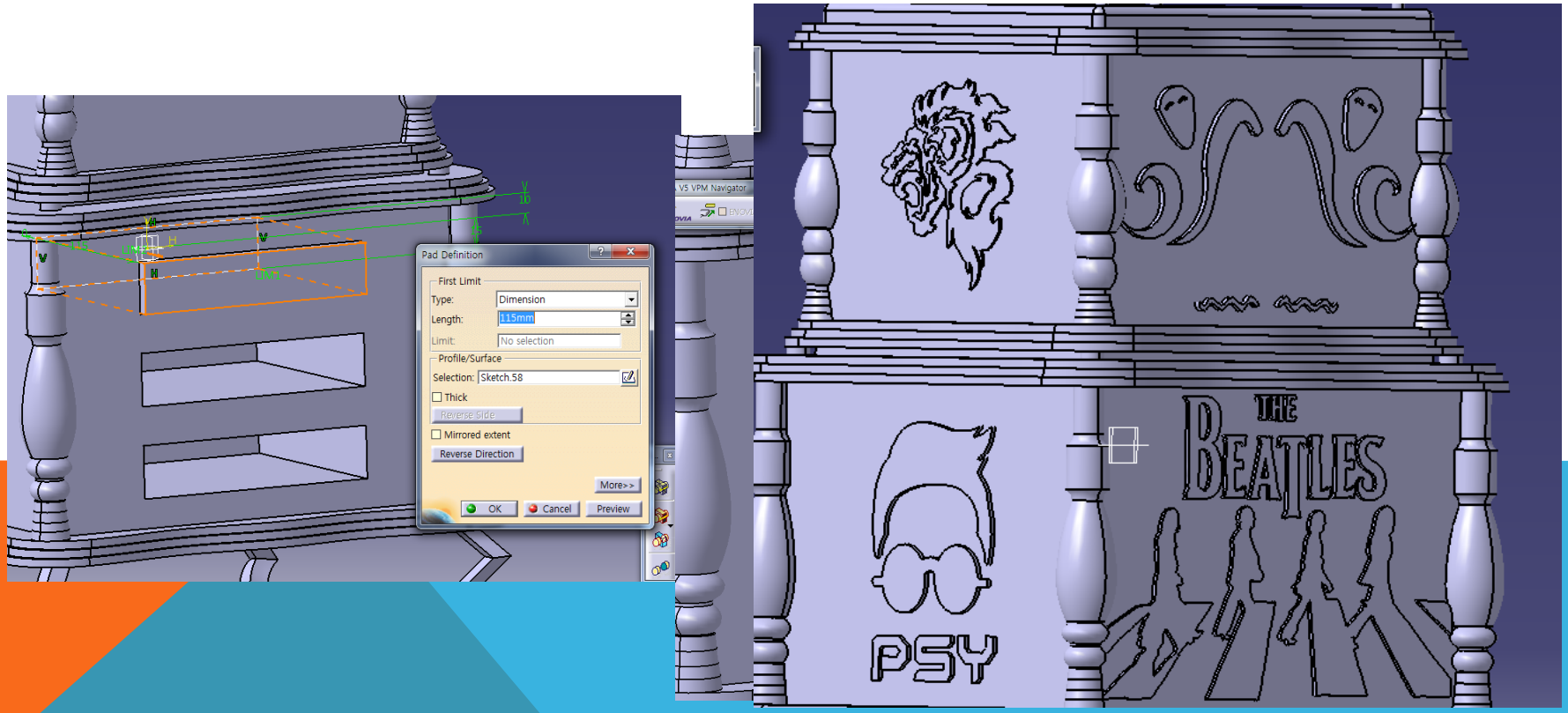






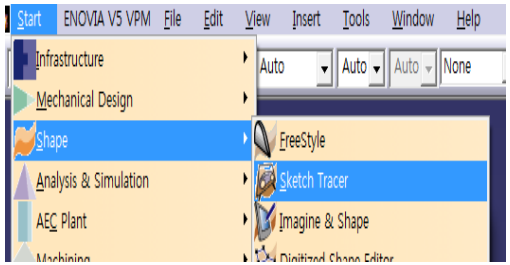
몸통 디자인

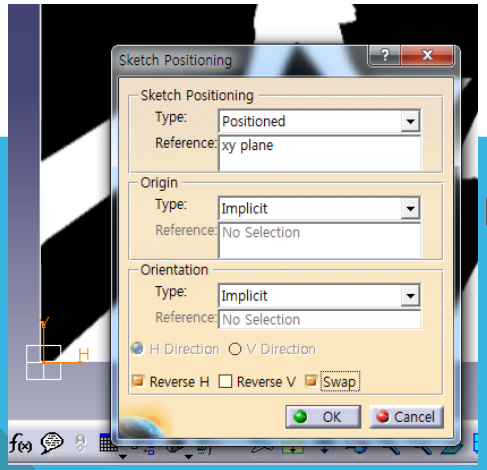
서랍 생성 및 벽화작업

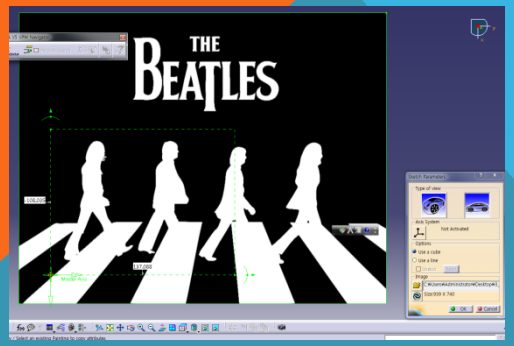


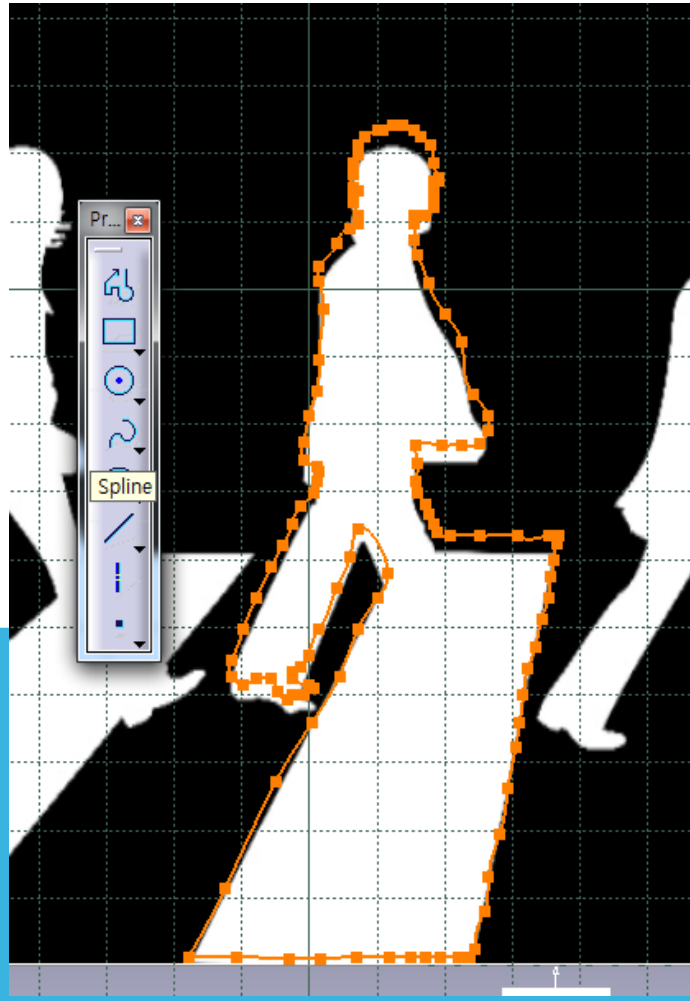
몸통 디자인

Sketch Tracer **이용**









몸통 디자인

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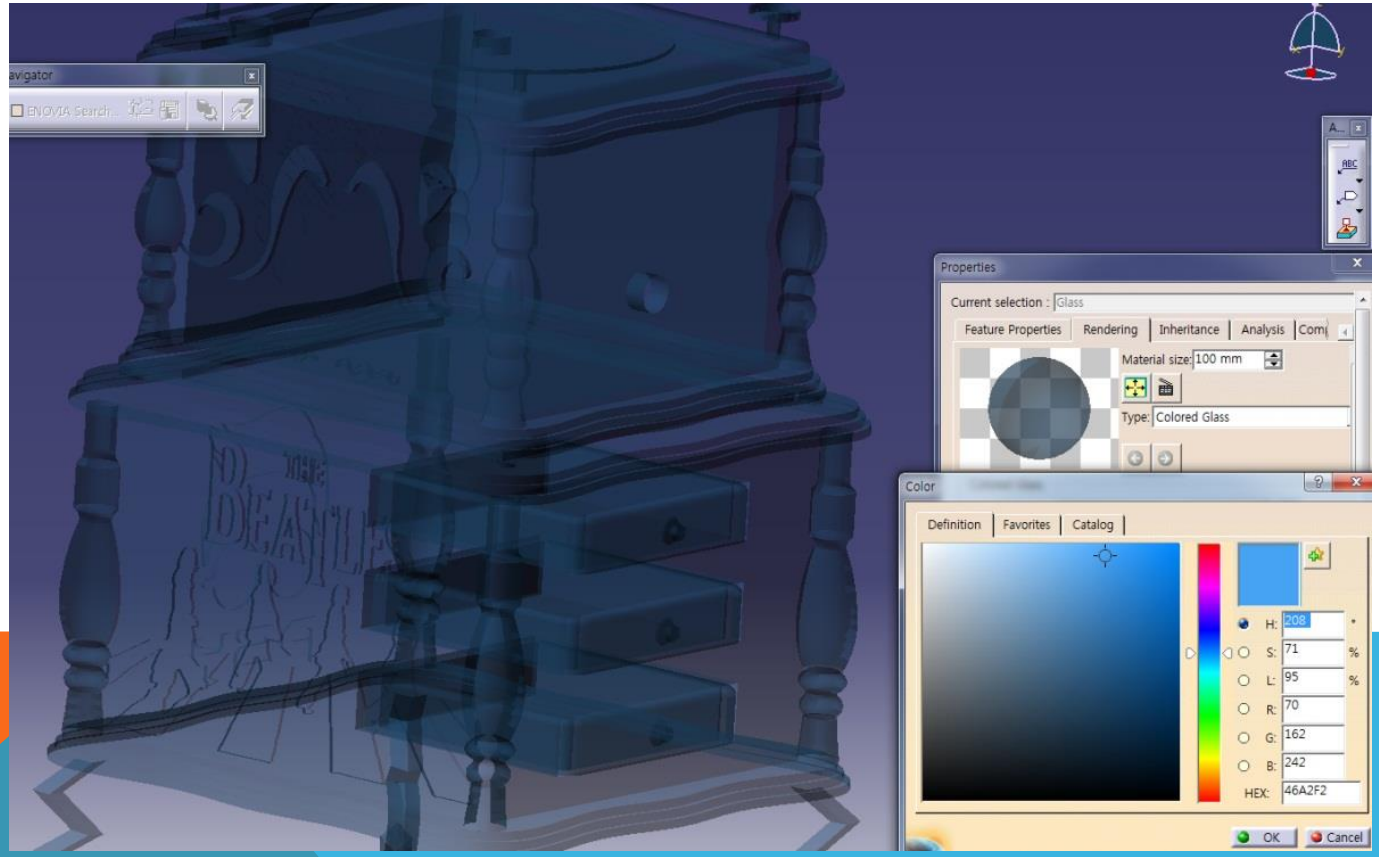
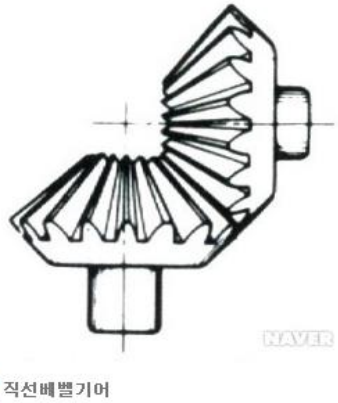


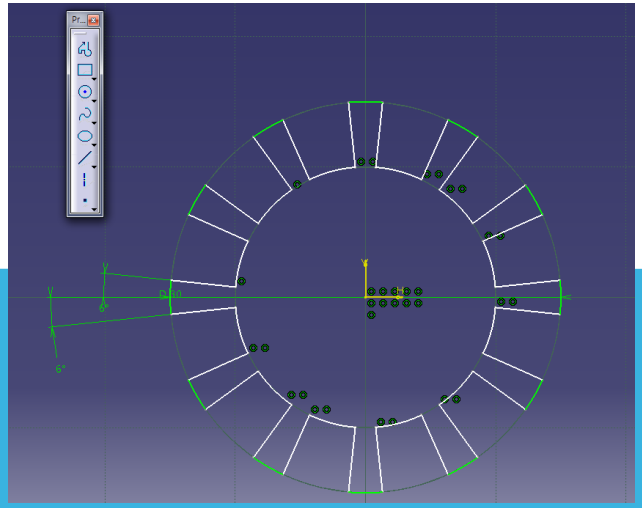
베벨기어

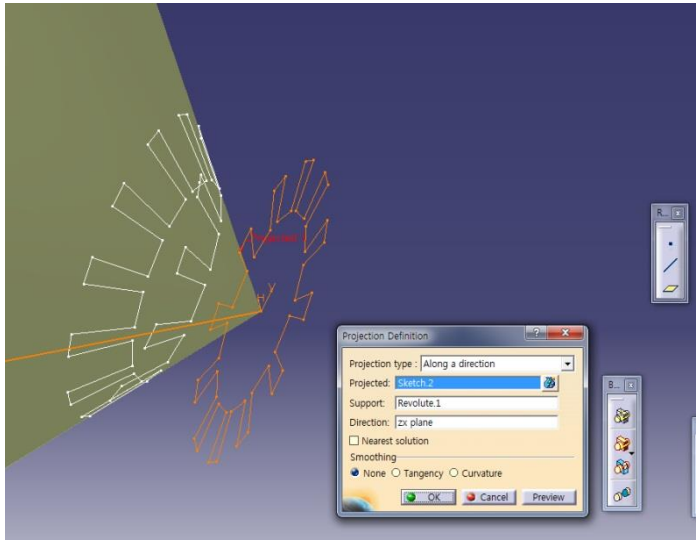


레코드 판과 맞물리는 손잡이 부분 – 베벨기어 이용

은동을 전할 때 이용하는 원추형의 기어.
나 직선 베벨기어, 스파이럴 베벨기어,

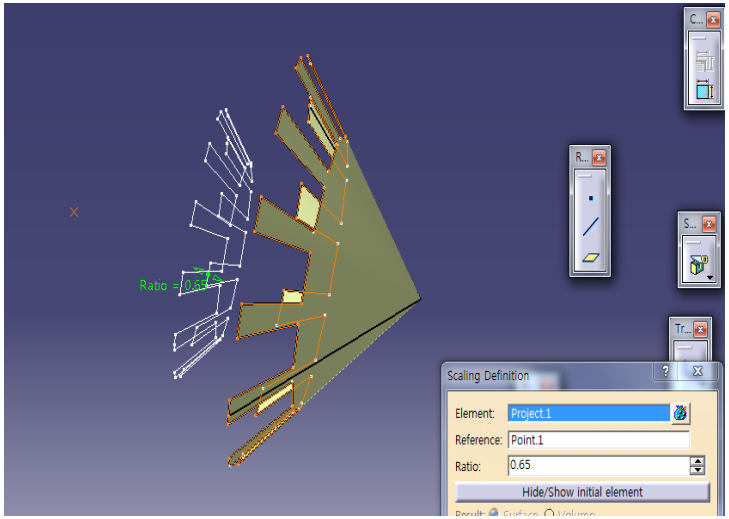
코드판) : 잇수 12
1회전 구현





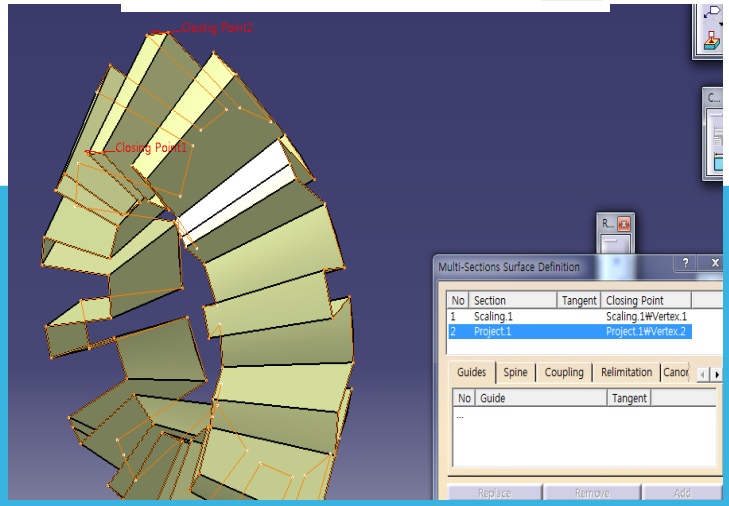
Projection

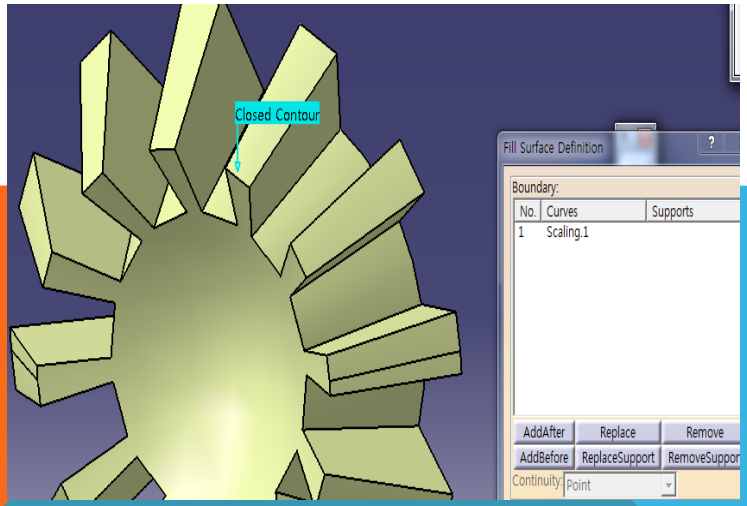
디자인 과정



Scaling

Multi-Sections Surface





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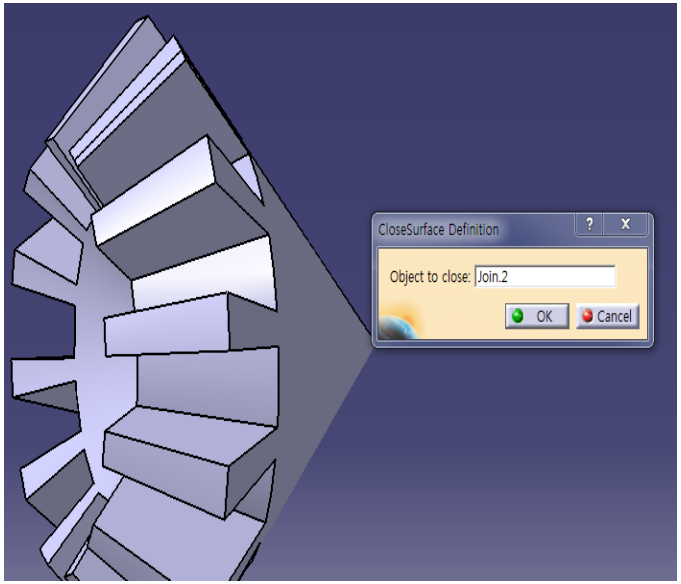
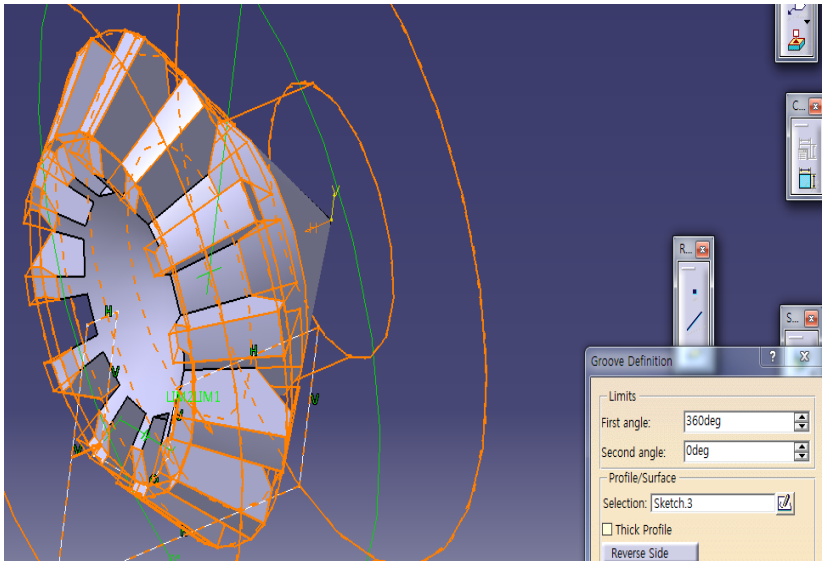
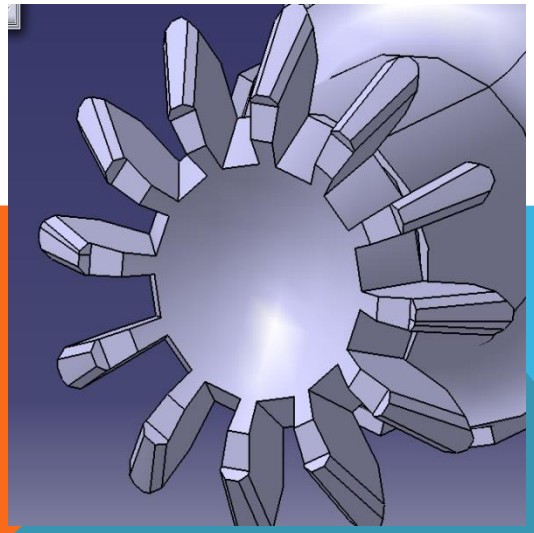
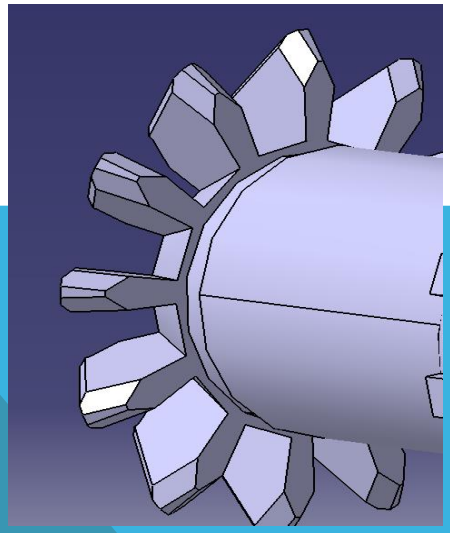


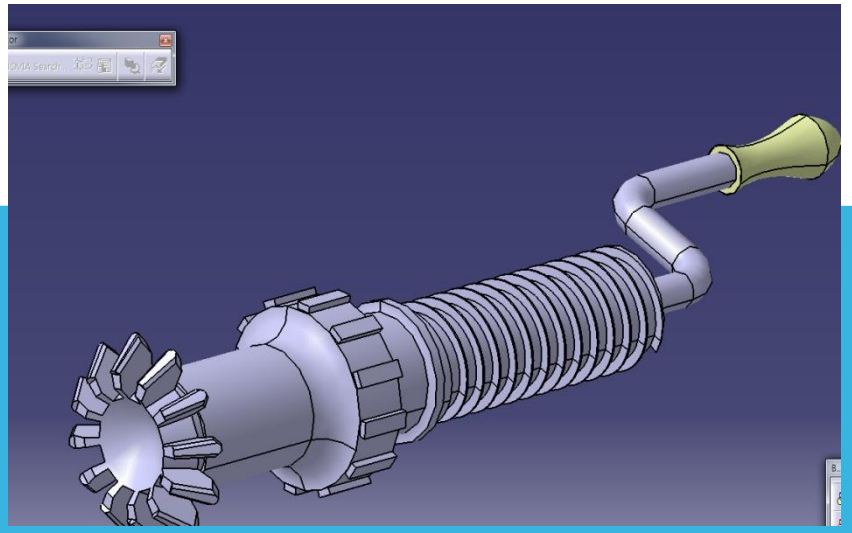


Close Surface 

디자인 과정





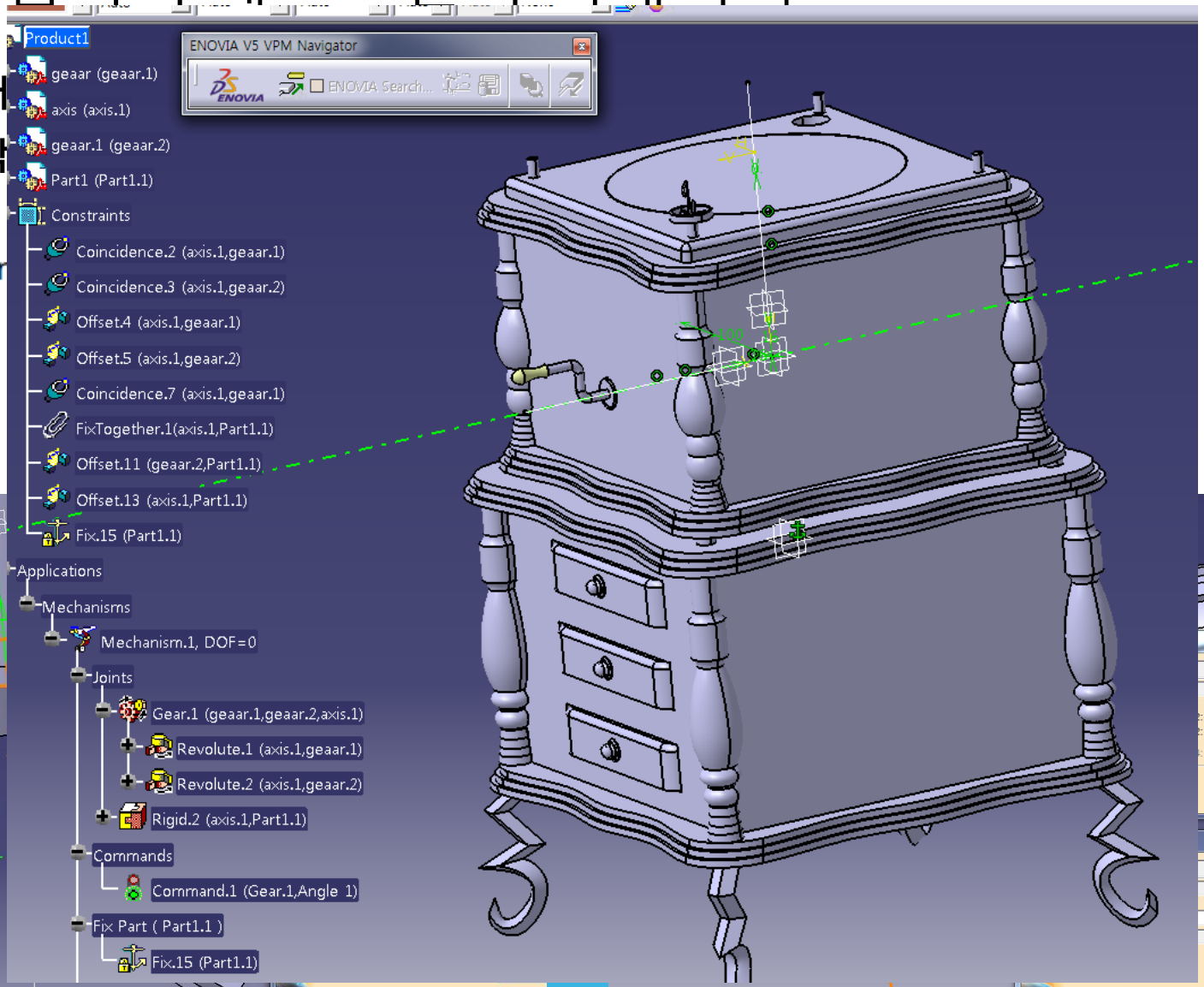


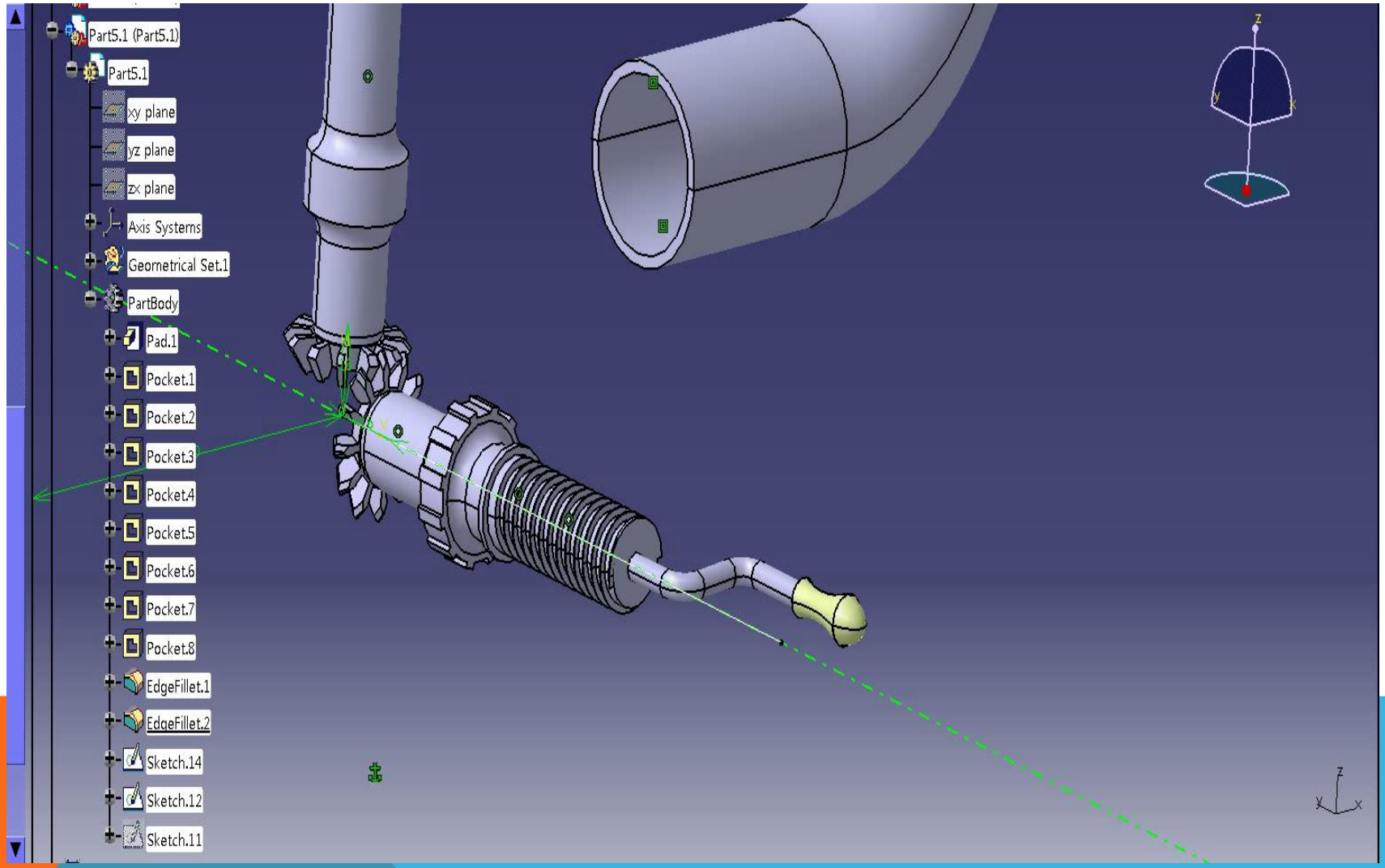
손잡이와 레코드판의 키네마틱

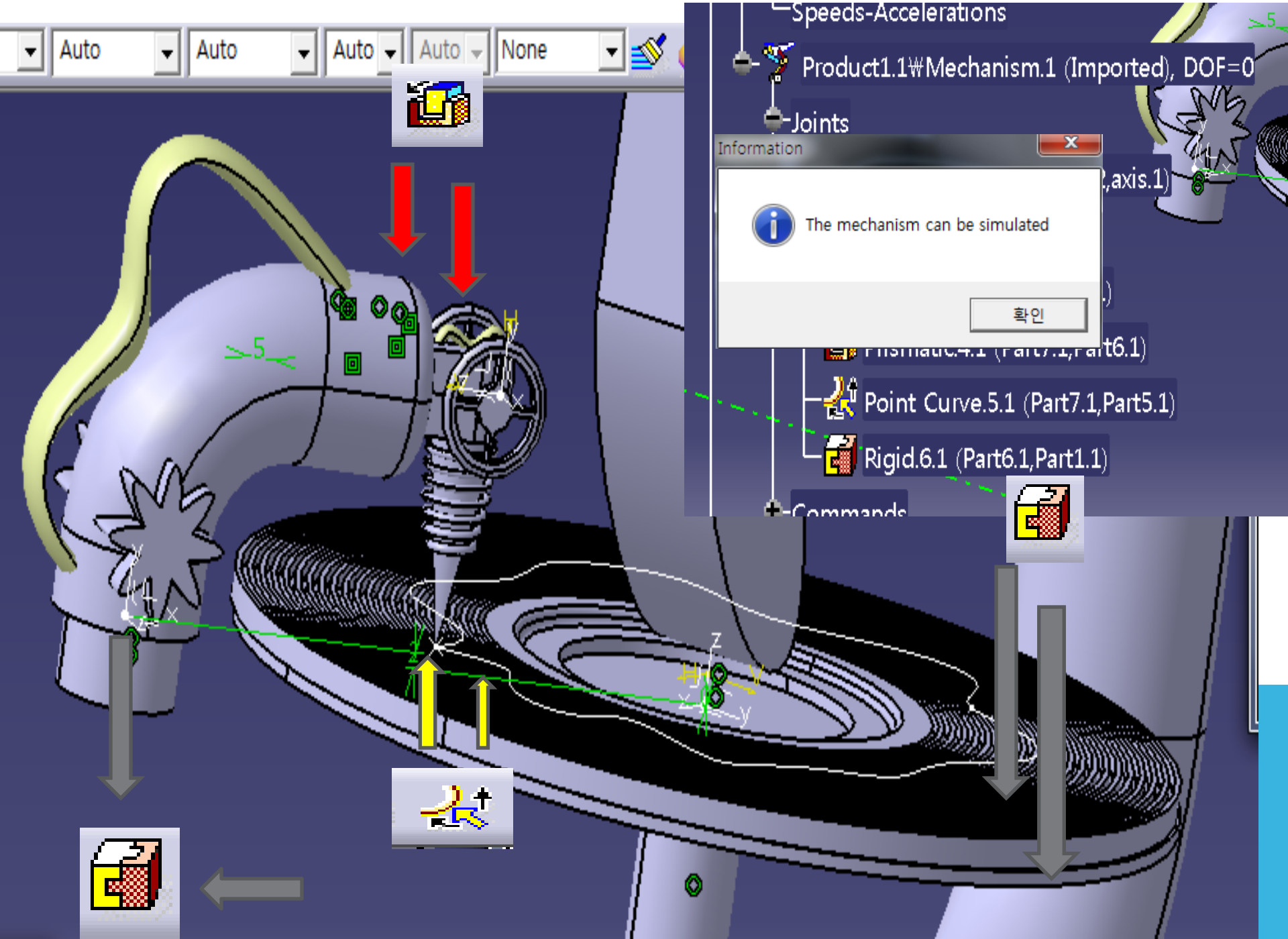
기어

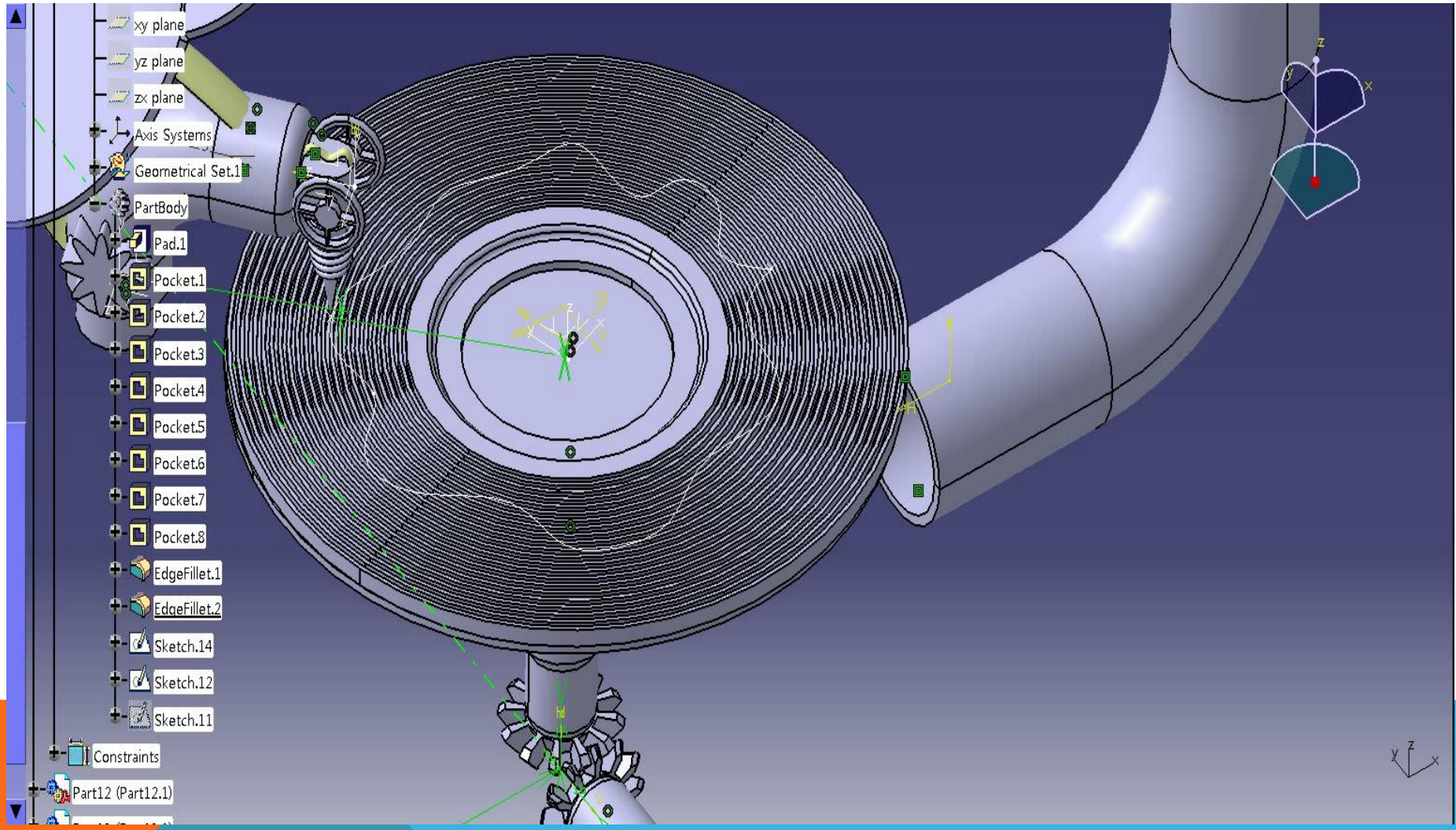
각각

Gear Joi

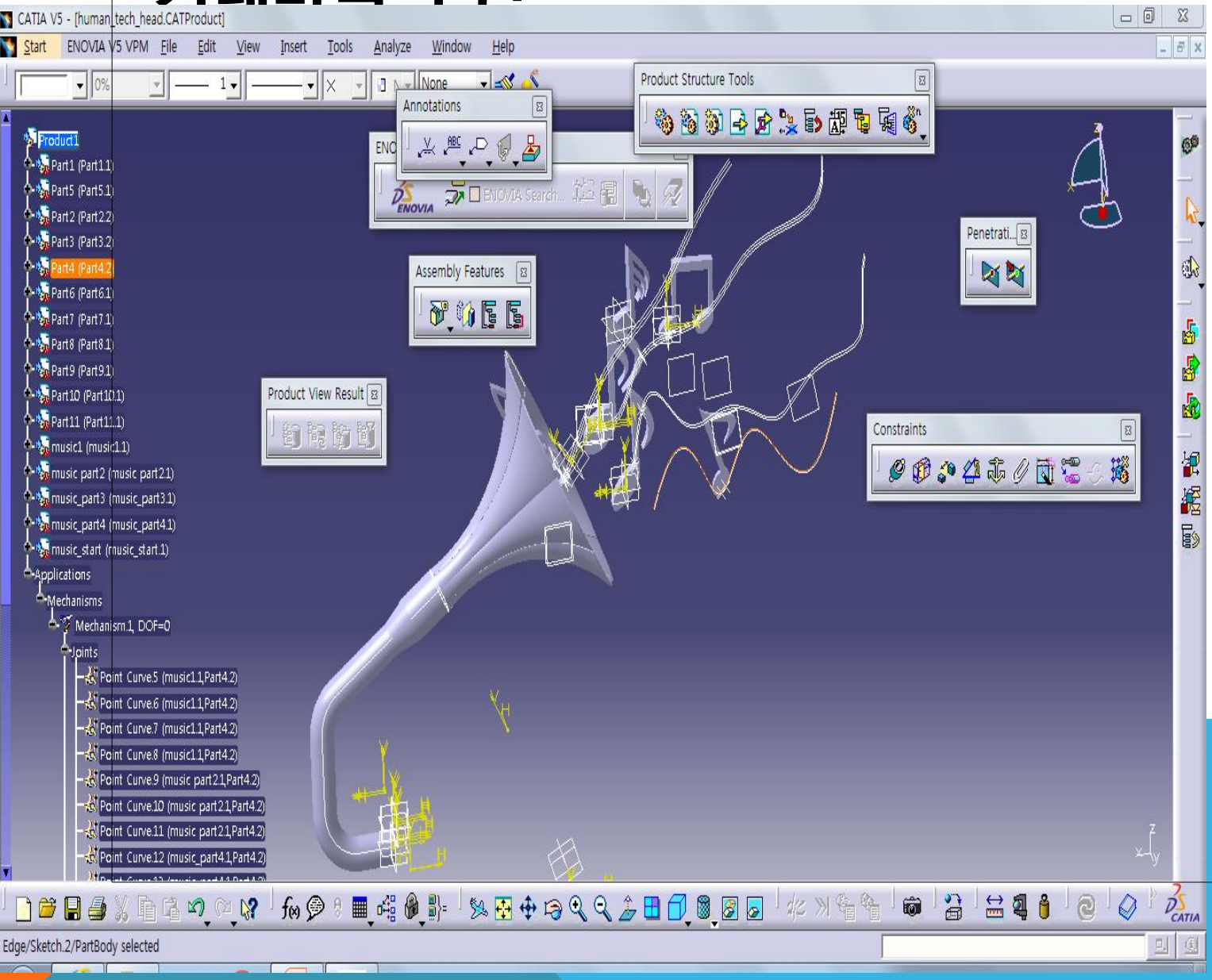



Part5.1 (Part5.1)
Part5.1
xy plane
yz plane
zx plane
Axis Systems
Geometrical Set.1
PartBody
Pad.1
Pocket.1
Pocket.2
Pocket.3
Pocket.4
Pocket.5
Pocket.6
Pocket.7
Pocket.8
EdgeFillet.1
EdgeFillet.2
Sketch.14
Sketch.12
Sketch.11

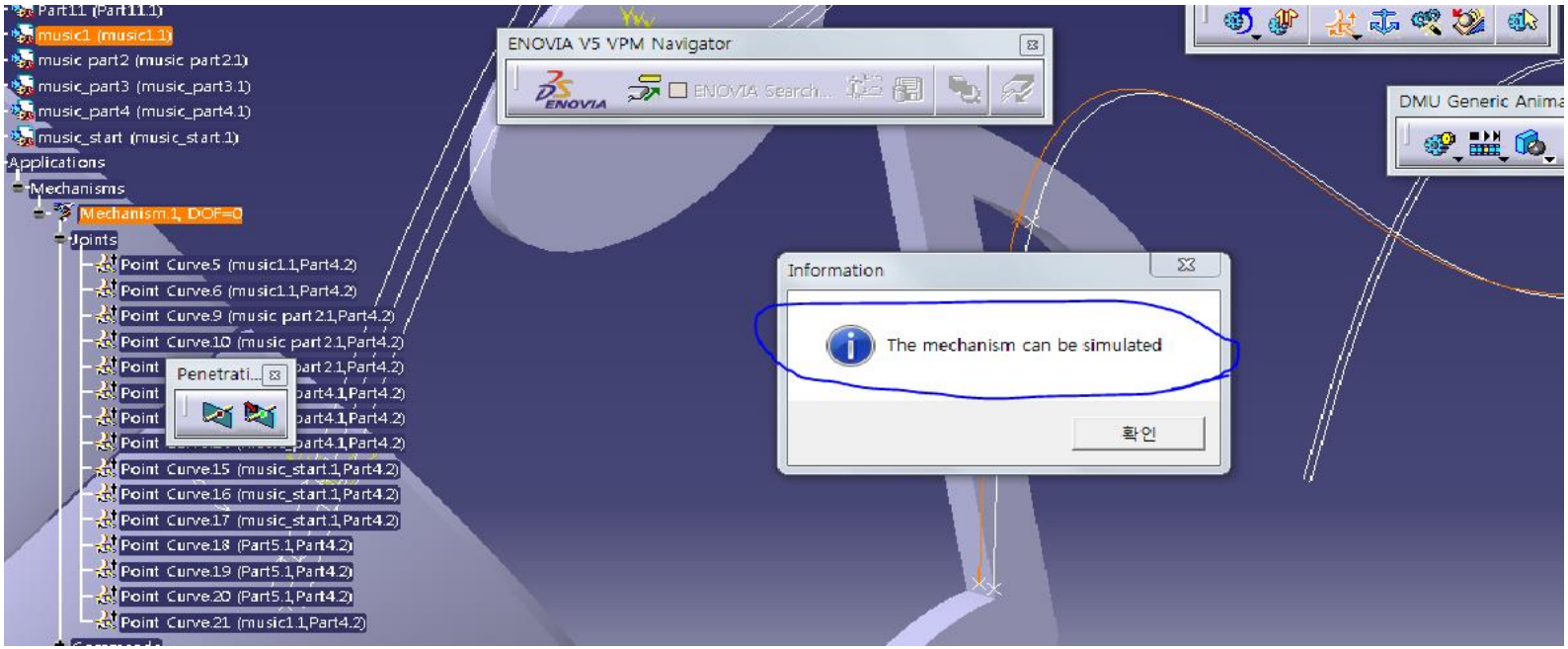

Auto
Auto
Auto
Auto
None
Speeds-Accelerations
Product1.1₩Mechanism.1 (Imported), DOF=0
Joints
Information
The mechanism can be simulated
확인
Point Curve.5.1 (Part7.1,Part5.1)
Rigid.6.1 (Part6.1,Part1.1)
Commands

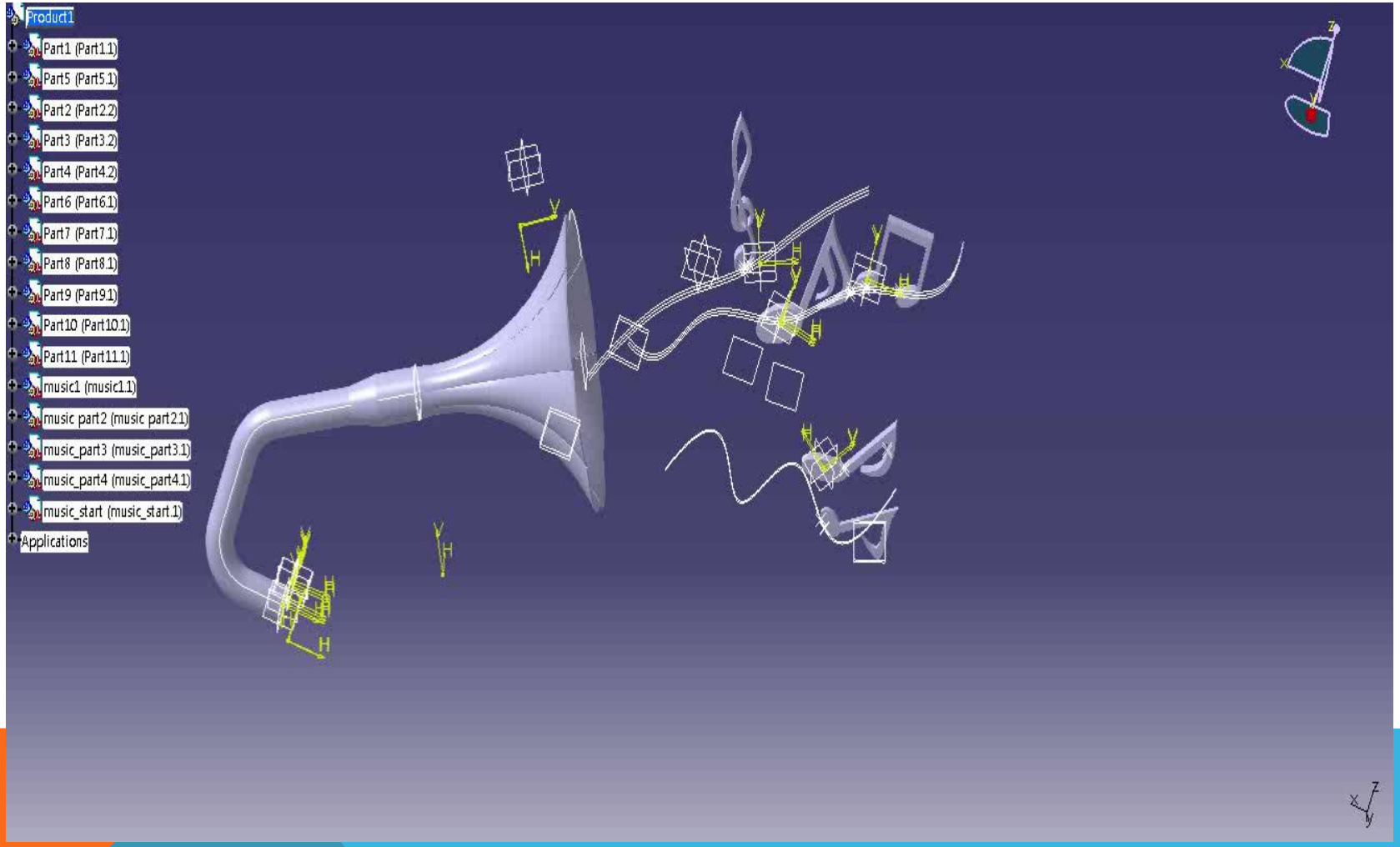

xy plane
yz plane
zx plane
Axis Systems
Geometrical Set.1
PartBody
Pad.1
Pocket.1
Pocket.2
Pocket.3
Pocket.4
Pocket.5
Pocket.6
Pocket.7
Pocket.8
EdgeFillet.1
EdgeFillet.2
Sketch.14
Sketch.12
Sketch.11
Constraints
Part12 (Part12.1)

키네마틱 구현

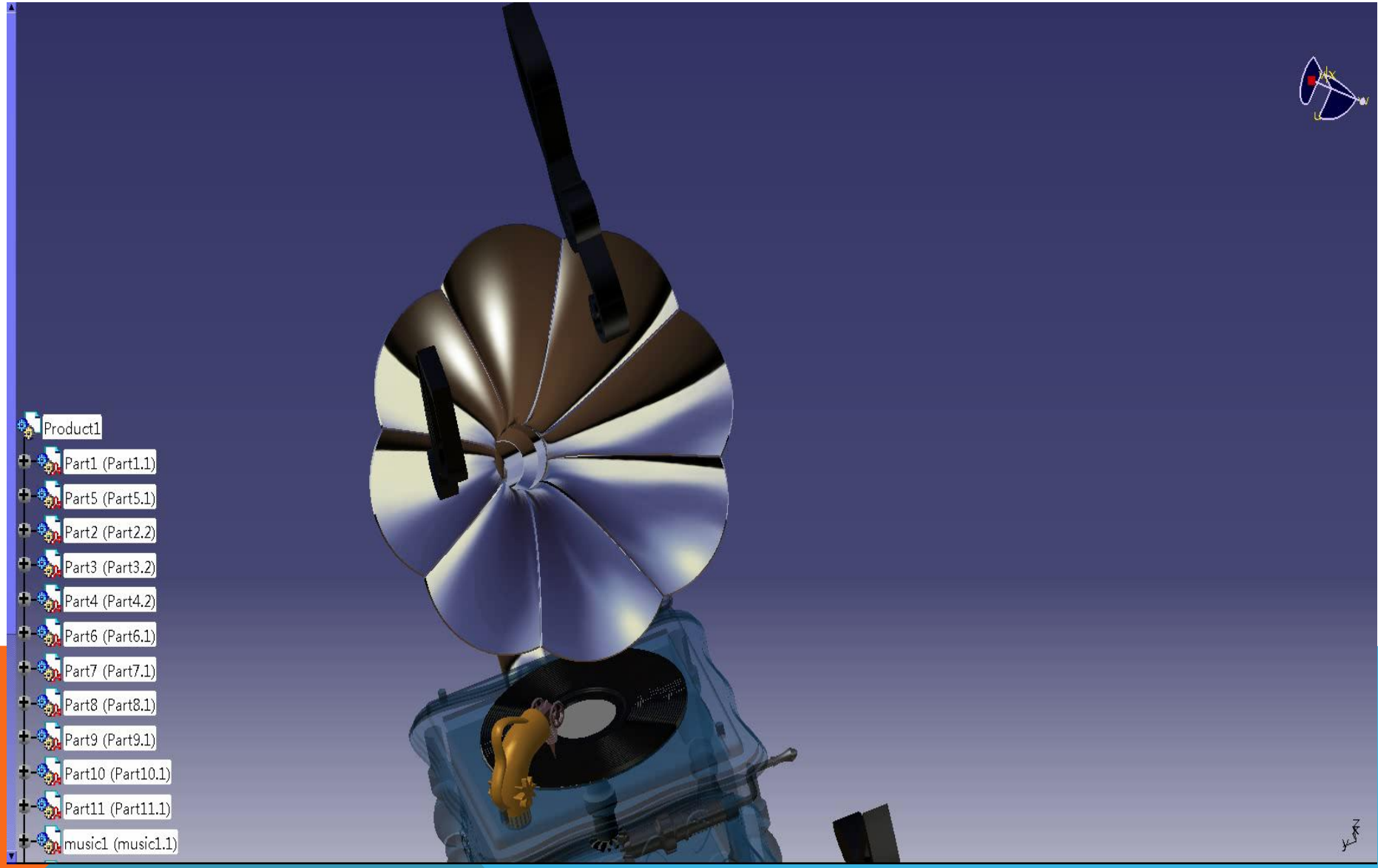

CATIA V5 - [human_tech_head.CATProduct]
Start
ENOVIA V5 VPM
File
Edit
View
Insert
Tools
Analyze
Window
Help
Annotations
Product Structure Tools
Assembly Features
Product View Result
Constraints
Penetrati...
Product1
Part1 (Part1.1)
Part5 (Part5.1)
Part2 (Part2.2)
Part3 (Part3.2)
Part4 (Part4.2)
Part6 (Part6.1)
Part7 (Part7.1)
Part8 (Part8.1)
Part9 (Part9.1)
Part10 (Part10.1)
Part11 (Part11.1)
music1 (music1.1)
music part2 (music part2.1)
music_part3 (music_part3.1)
music_part4 (music_part4.1)
music_start (music_start.1)
Applications
Mechanisms
Mechanism.1, DOF=0
Joints
Point Curve.5 (music1.1,Part4.2)
Point Curve.6 (music1.1,Part4.2)
Point Curve.7 (music1.1,Part4.2)
Point Curve.8 (music1.1,Part4.2)
Point Curve.9 (music part2.1,Part4.2)
Point Curve.10 (music part2.1,Part4.2)
Point Curve.11 (music part2.1,Part4.2)
Point Curve.12 (music_part4.1,Part4.2)
Edge/Sketch.2/PartBody selected

쉽습니다.


Part11 (Part11.1)
music1 (music1.1)
music part2 (music part2.1)
music_part3 (music_part3.1)
music_part4 (music_part4.1)
music_start (music_start.1)
Applications
Mechanisms
Mechanism.1, DOF=0
Joints
Point Curve.5 (music1.1,Part4.2)
Point Curve.6 (music1.1,Part4.2)
Point Curve.9 (music part2.1,Part4.2)
Point Curve.10 (music part2.1,Part4.2)
Point Curve.15 (music_start.1,Part4.2)
Point Curve.16 (music_start.1,Part4.2)
Point Curve.17 (music_start.1,Part4.2)
Point Curve.18 (Part5.1,Part4.2)
Point Curve.19 (Part5.1,Part4.2)
Point Curve.20 (Part5.1,Part4.2)
Point Curve.21 (music1.1,Part4.2)
ENOVIA V5 VPM Navigator
ENOVIA Search...
Penetrati...
DMU Generic Anima
Information
The mechanism can be simulated
확인


Product1
Part1 (Part1.1)
Part5 (Part5.1)
Part2 (Part2.2)
Part3 (Part3.2)
Part4 (Part4.2)
Part6 (Part6.1)
Part7 (Part7.1)
Part8 (Part8.1)
Part9 (Part9.1)
Part10 (Part10.1)
Part11 (Part11.1)
music1 (music1.1)
music part2 (music part2.1)
music_part3 (music_part3.1)
music_part4 (music_part4.1)
music_start (music_start.1)
Applications

시연동영상


Product1
Part1 (Part1.1)
Part5 (Part5.1)
Part2 (Part2.2)
Part3 (Part3.2)
Part4 (Part4.2)
Part6 (Part6.1)
Part7 (Part7.1)
Part8 (Part8.1)
Part9 (Part9.1)
Part10 (Part10.1)
Part11 (Part11.1)
music1 (music1.1)

The dream can be simulated

Q & A
THANK YOU!!