

The top of the slide features two thick, solid red horizontal bars stacked vertically. Below these is a thin, light red gradient bar that tapers at the ends.

Aircraft Carrier

“모함입니다” 조

2016033818 하경윤, 2016033545 김진민, 2016033745 이진우

목차

- I. 주제 선정 및 역할 분배
- II. 배 모델링 & Kinematics
- III. 전투기 모델링 & Kinematics
- IV. 엔진 모델링 & Kinematics
- V. 설계하며 어려웠던 점

주제 선정 & 역할 분배

- 조원들의 관심사와 관련된 주제 선정 - 항공 모함
- 모델링의 난이도를 고려하여 3분할
- 역할 분담 - 기체 및 선체 제작
 - 부품 제작 및 **Kinematics**
 - 엔진 제작 및 **Kinematics**

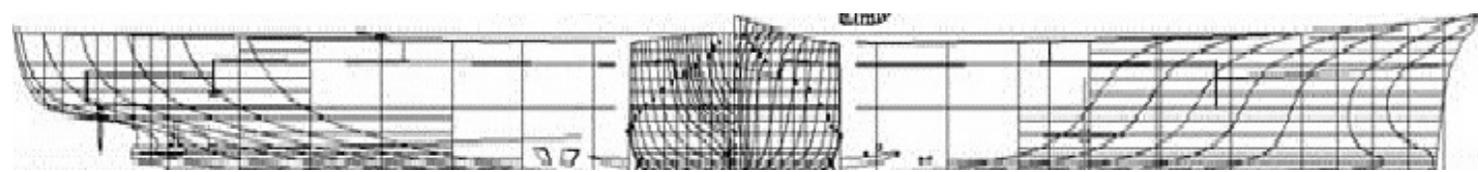
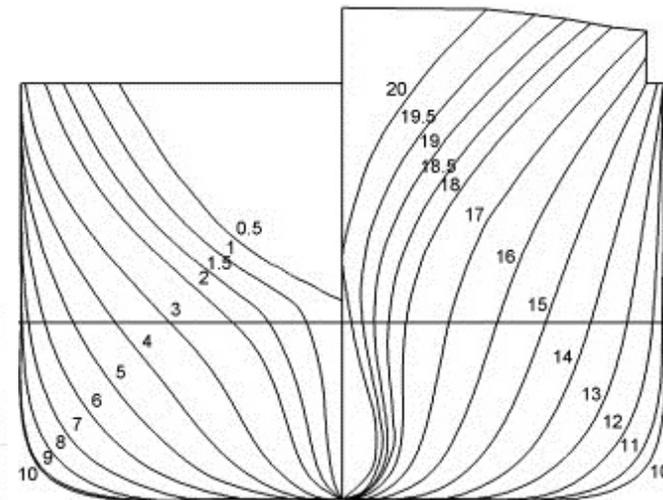
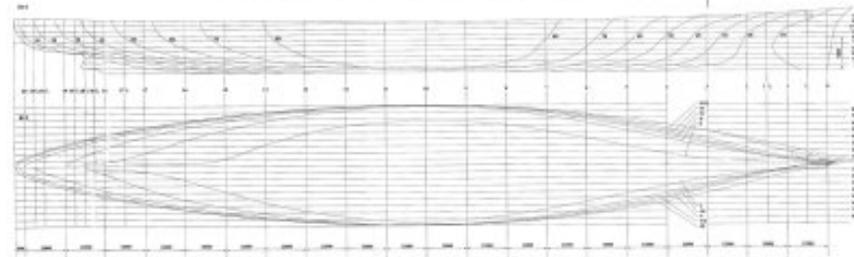
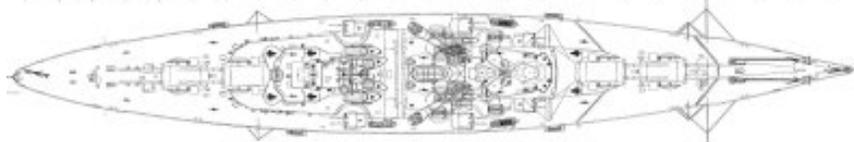
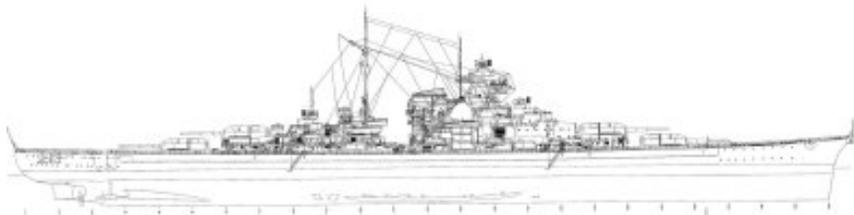
배 - 계획

- 전함 / 항공모함 1대씩 제작
- 전함 - 포탑, 프로펠러, 키 제작 예정
- 항공모함 - 캐터펄트, 승강기, 프로펠러, 키 제작 예정

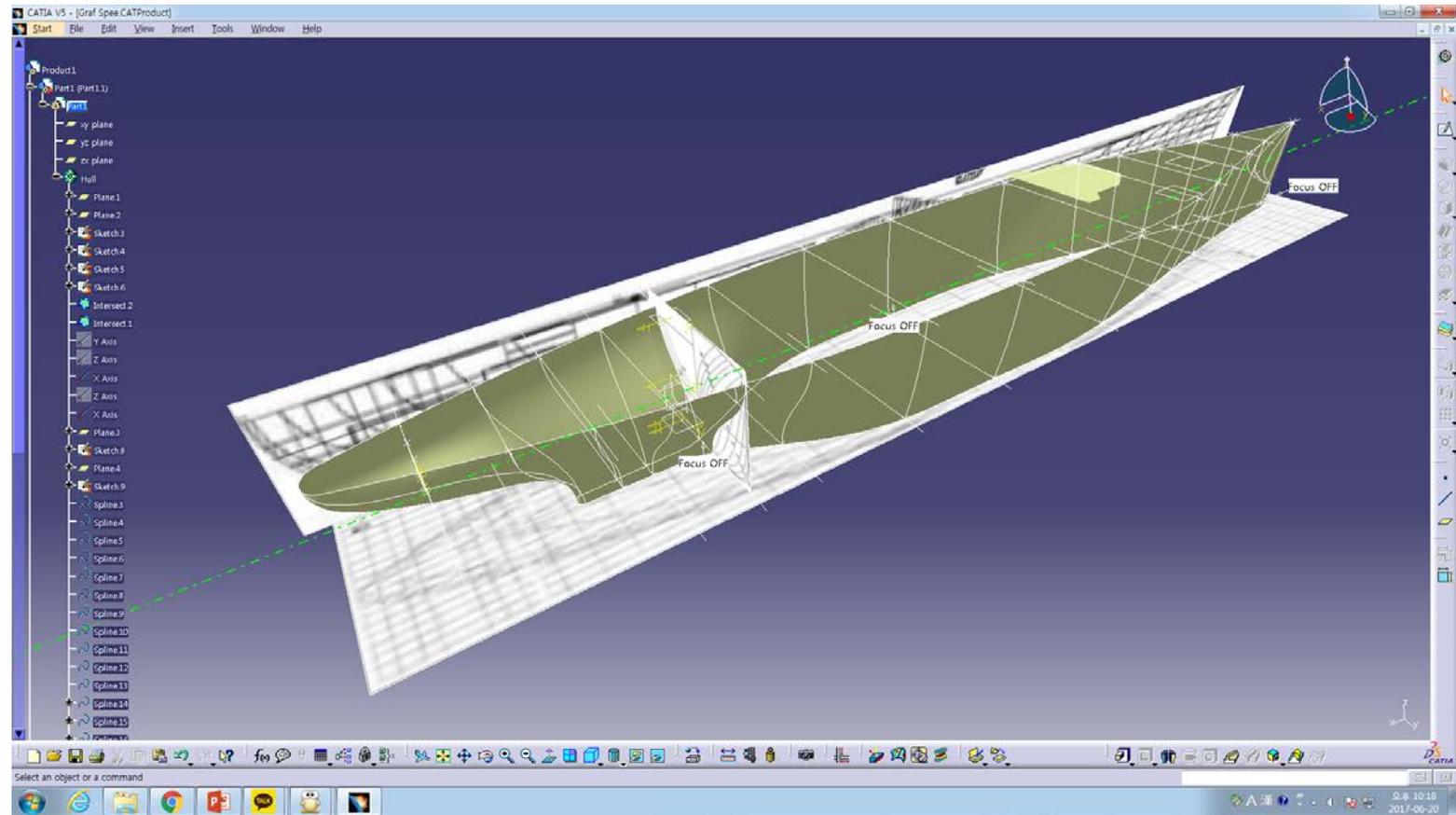
전함



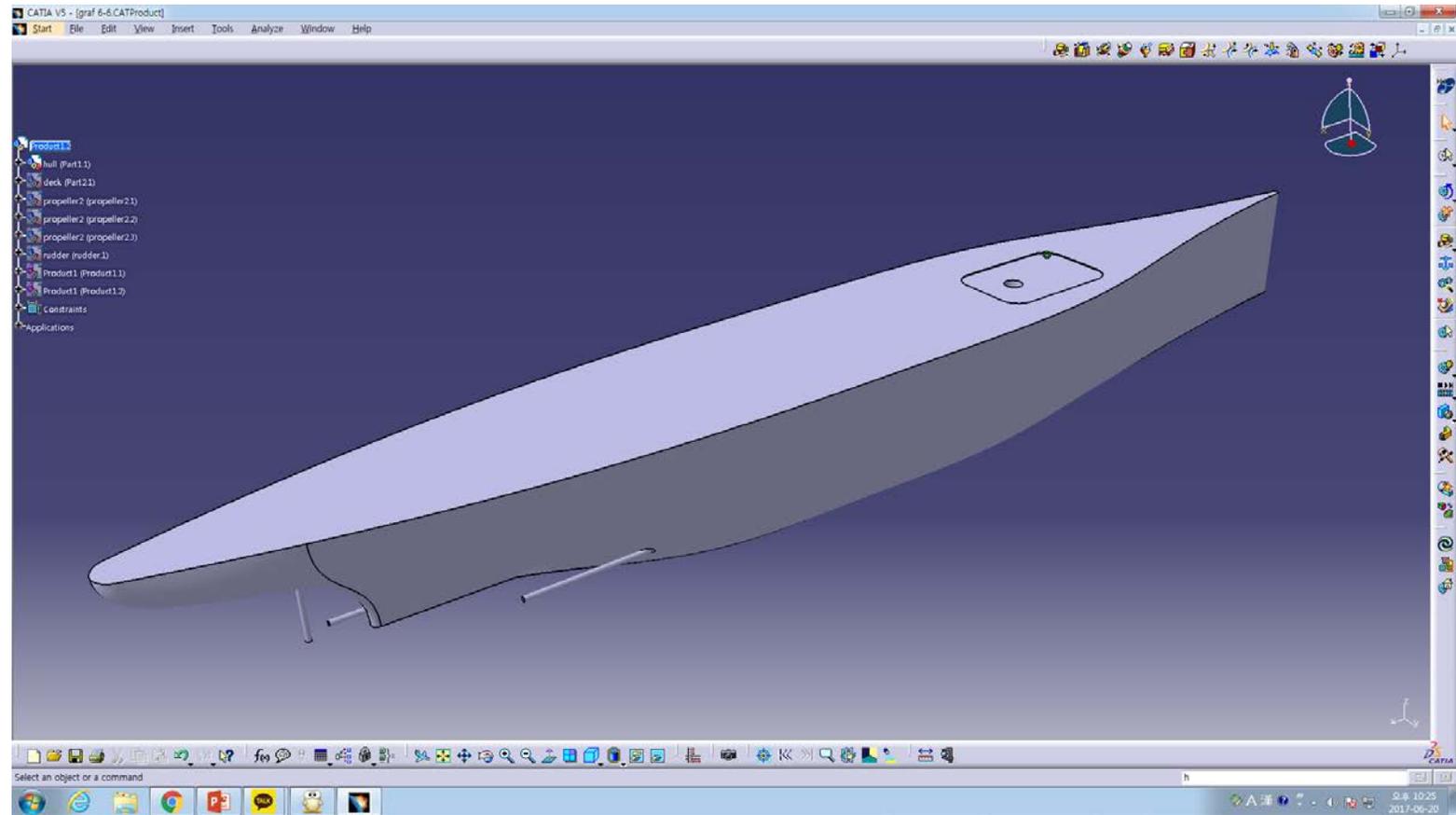
전함 - 모델링
(선체 설계 :
Bismarck)



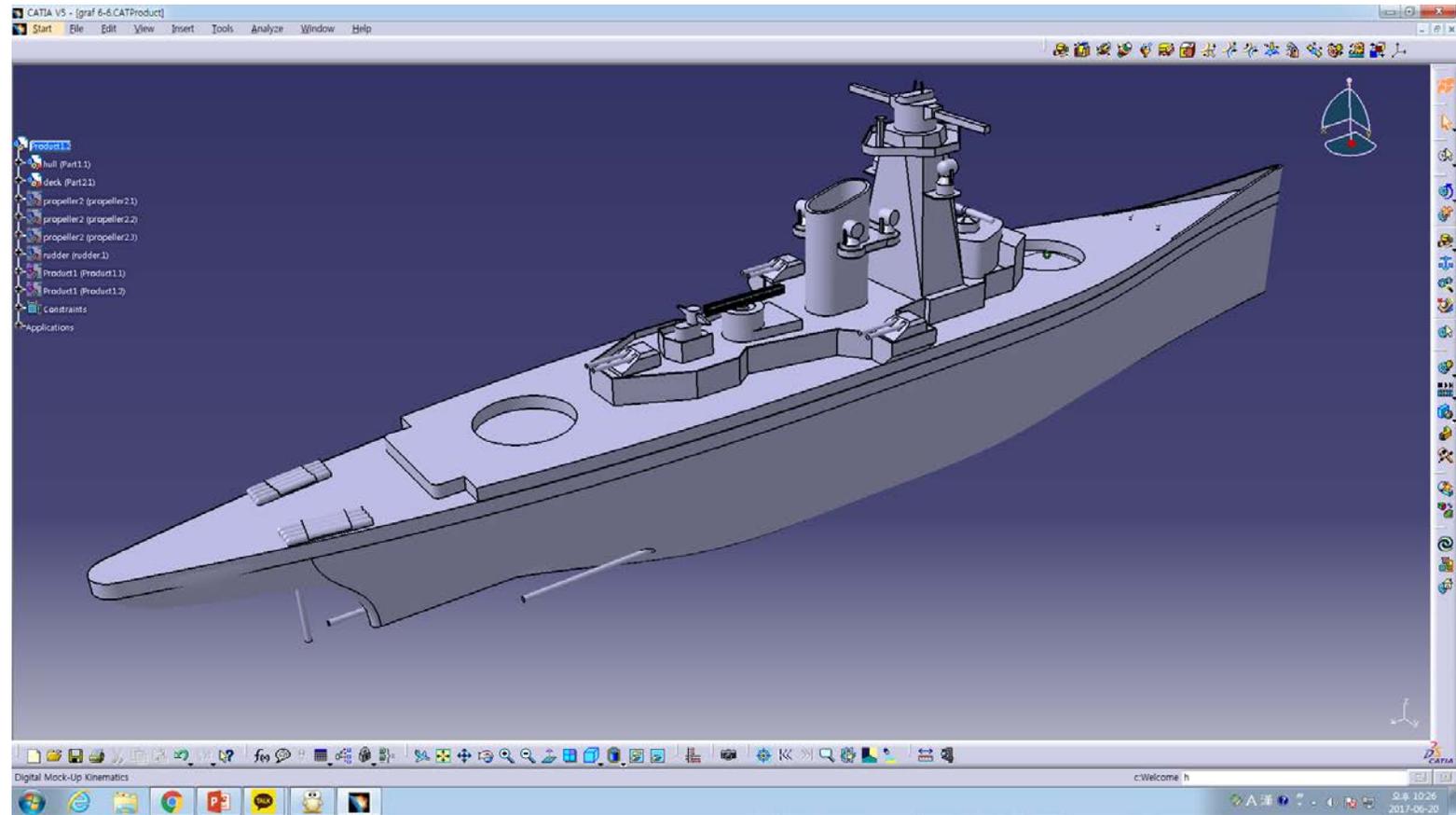
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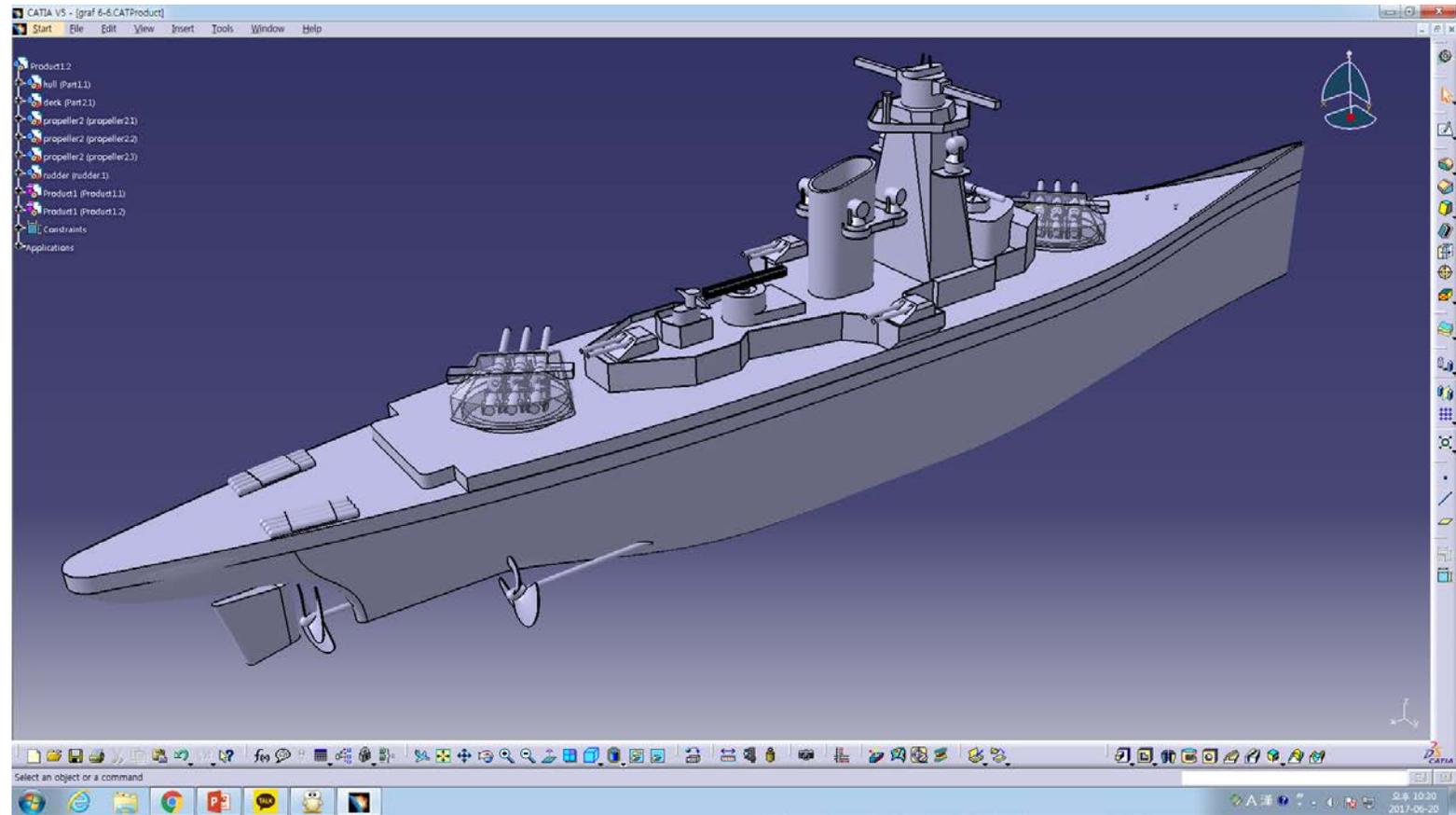
전함 - 모델링



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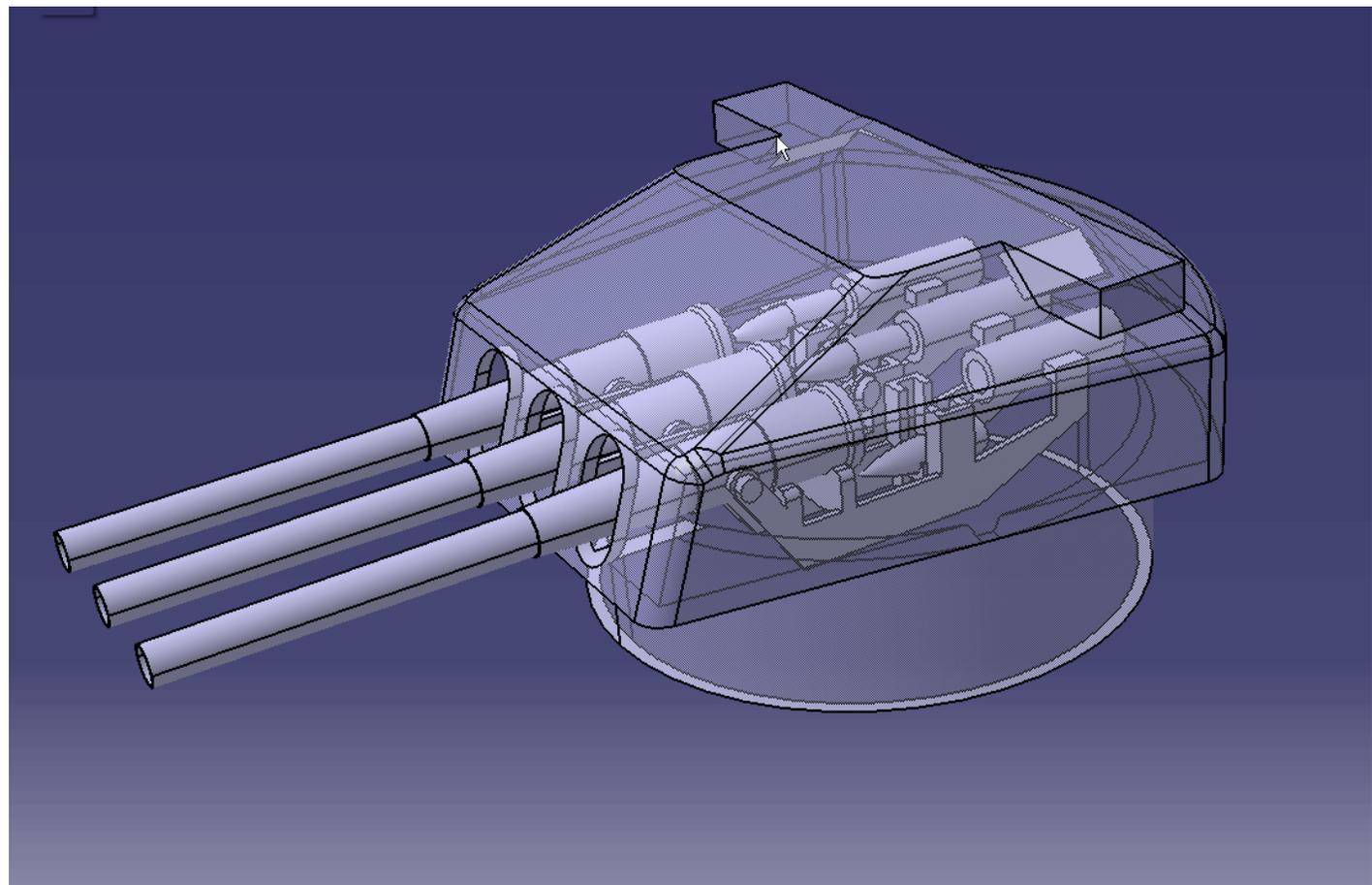
전함 - 모델링



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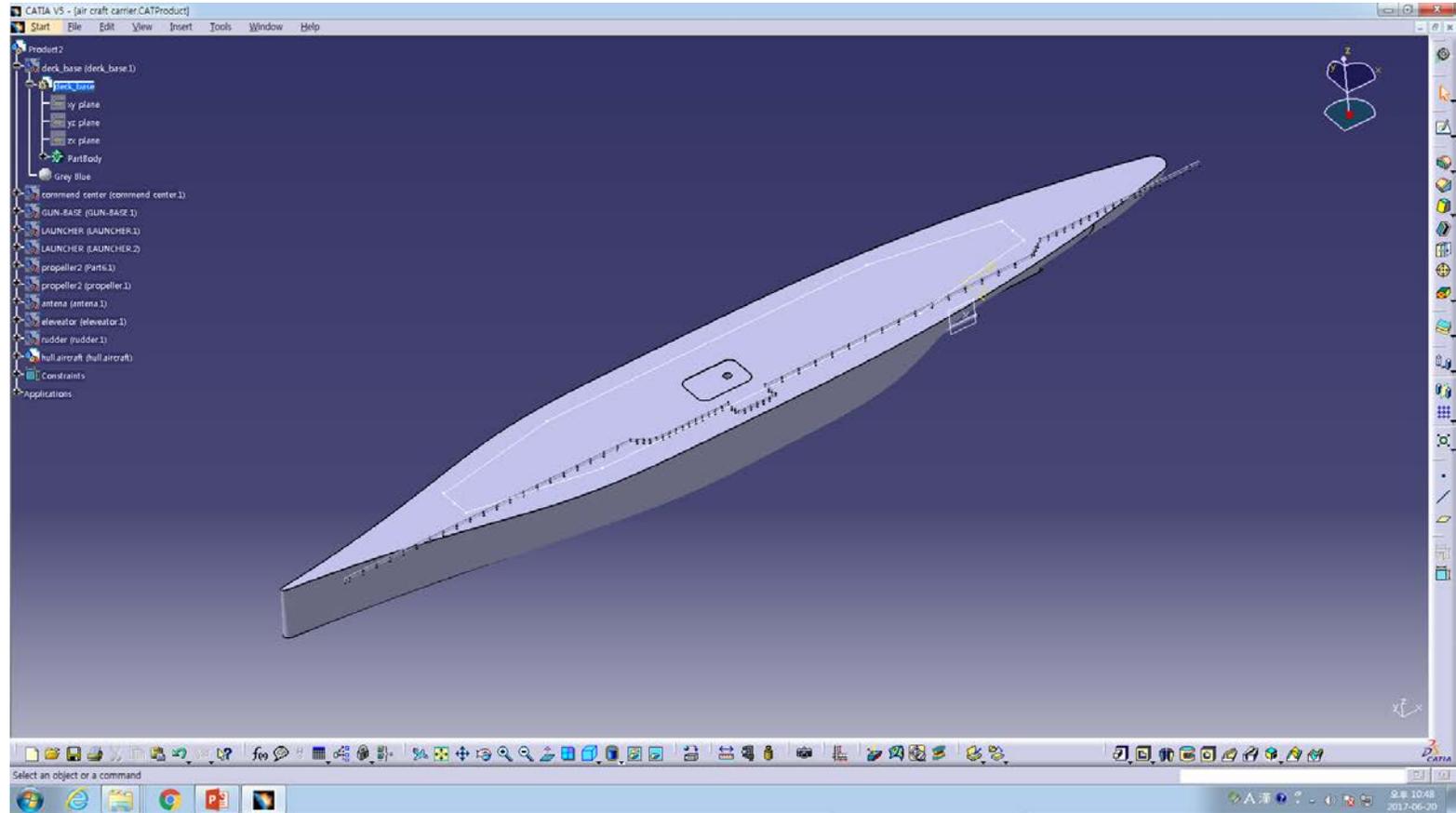
포탑



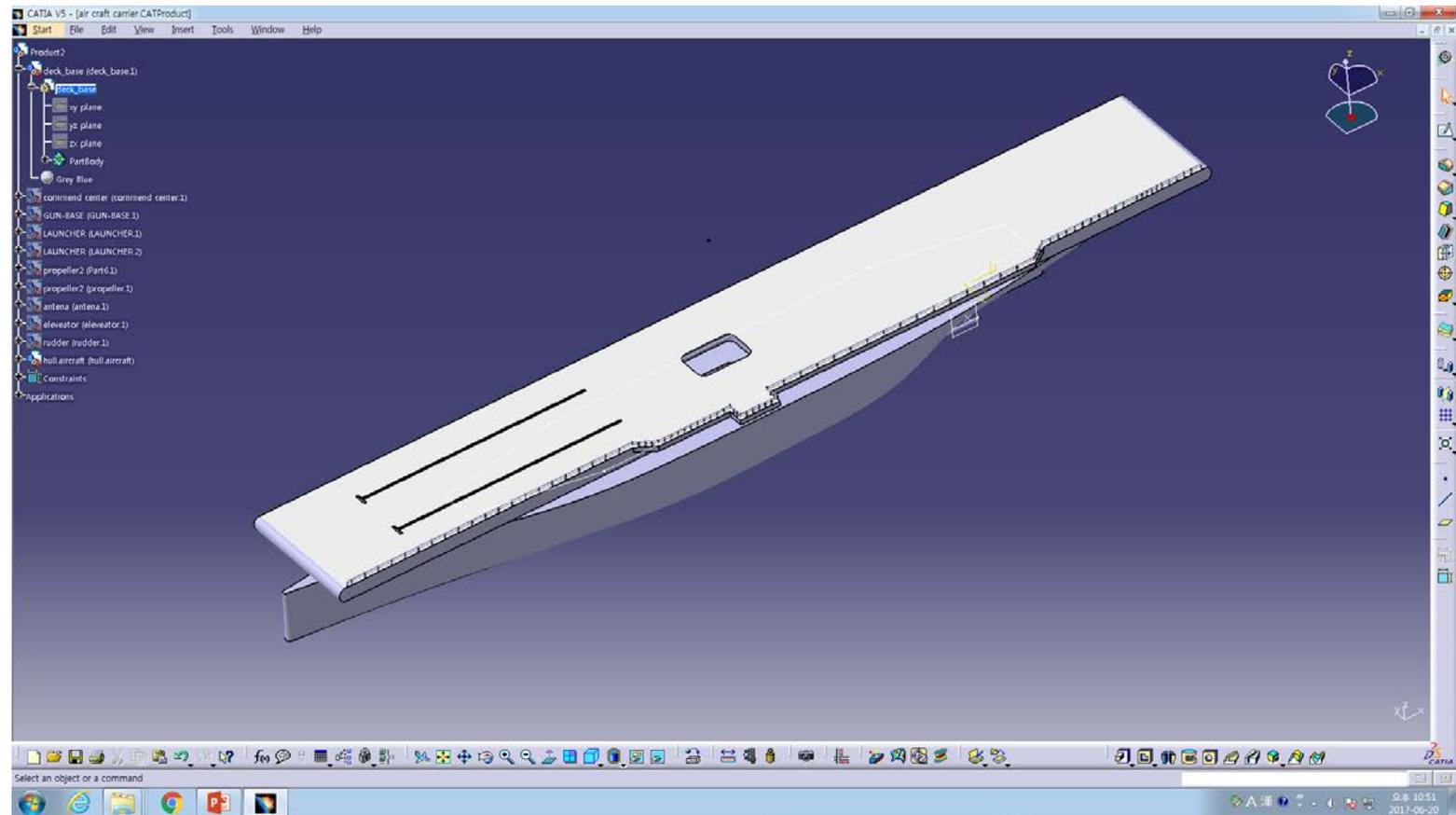
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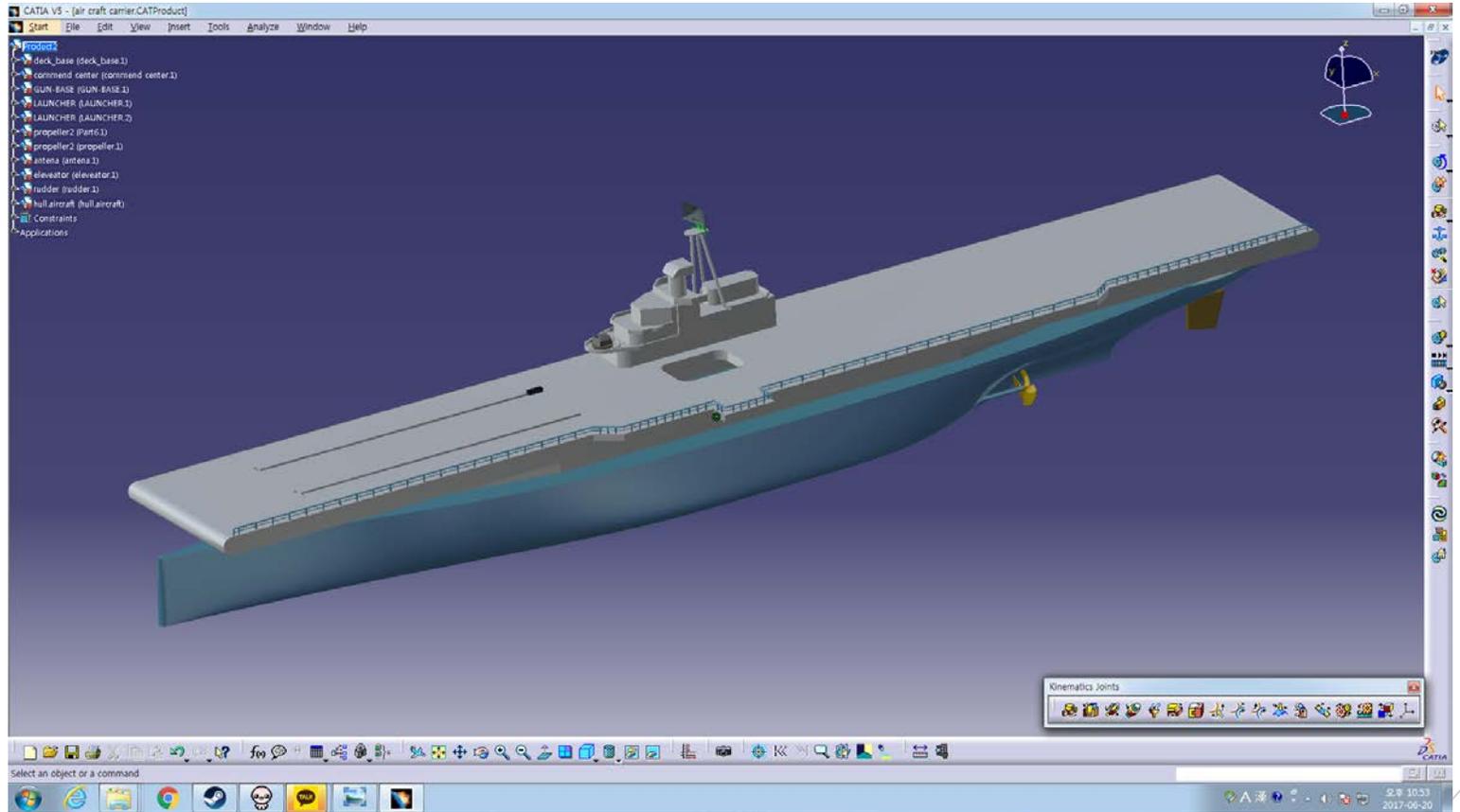
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항공모함 - 설계



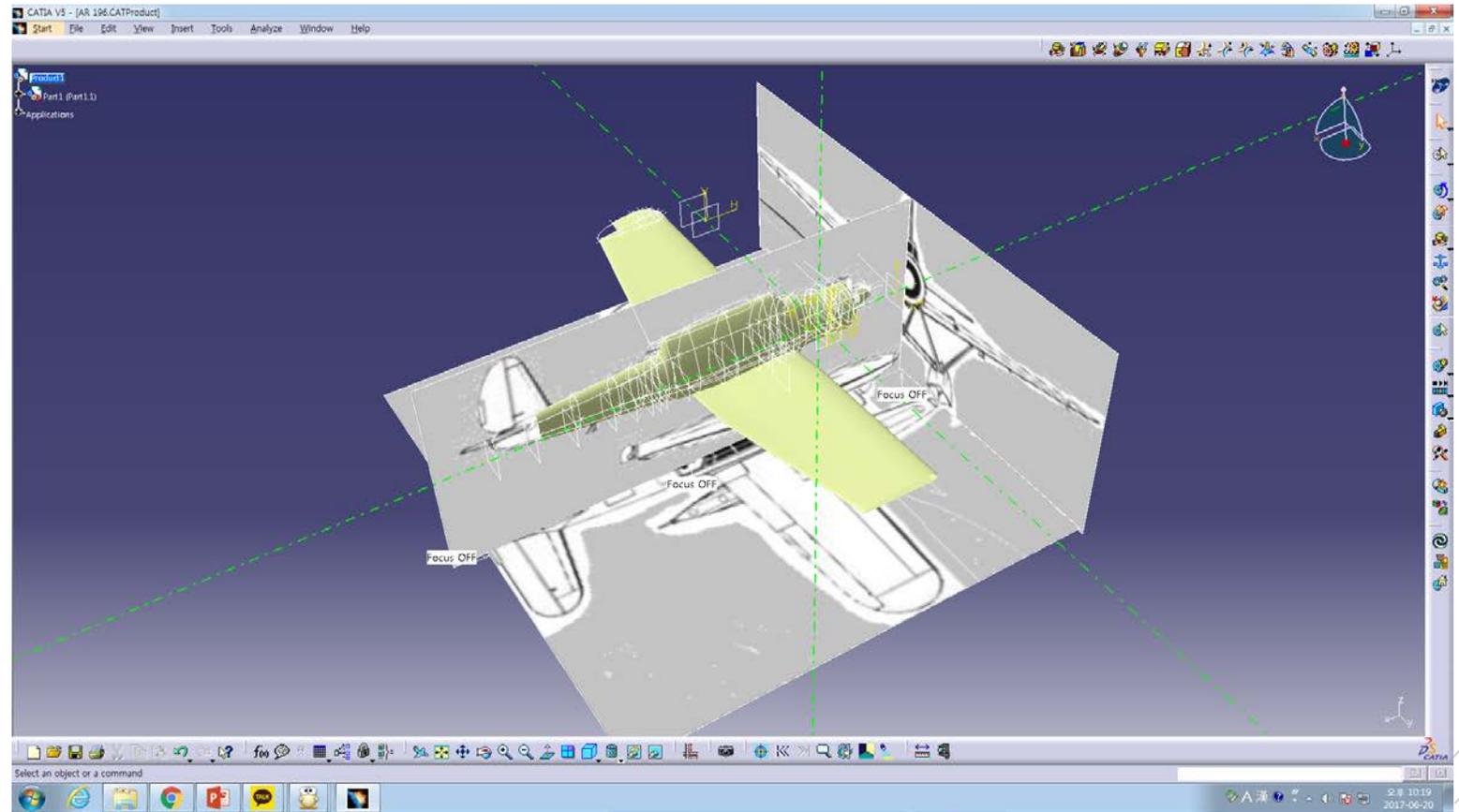
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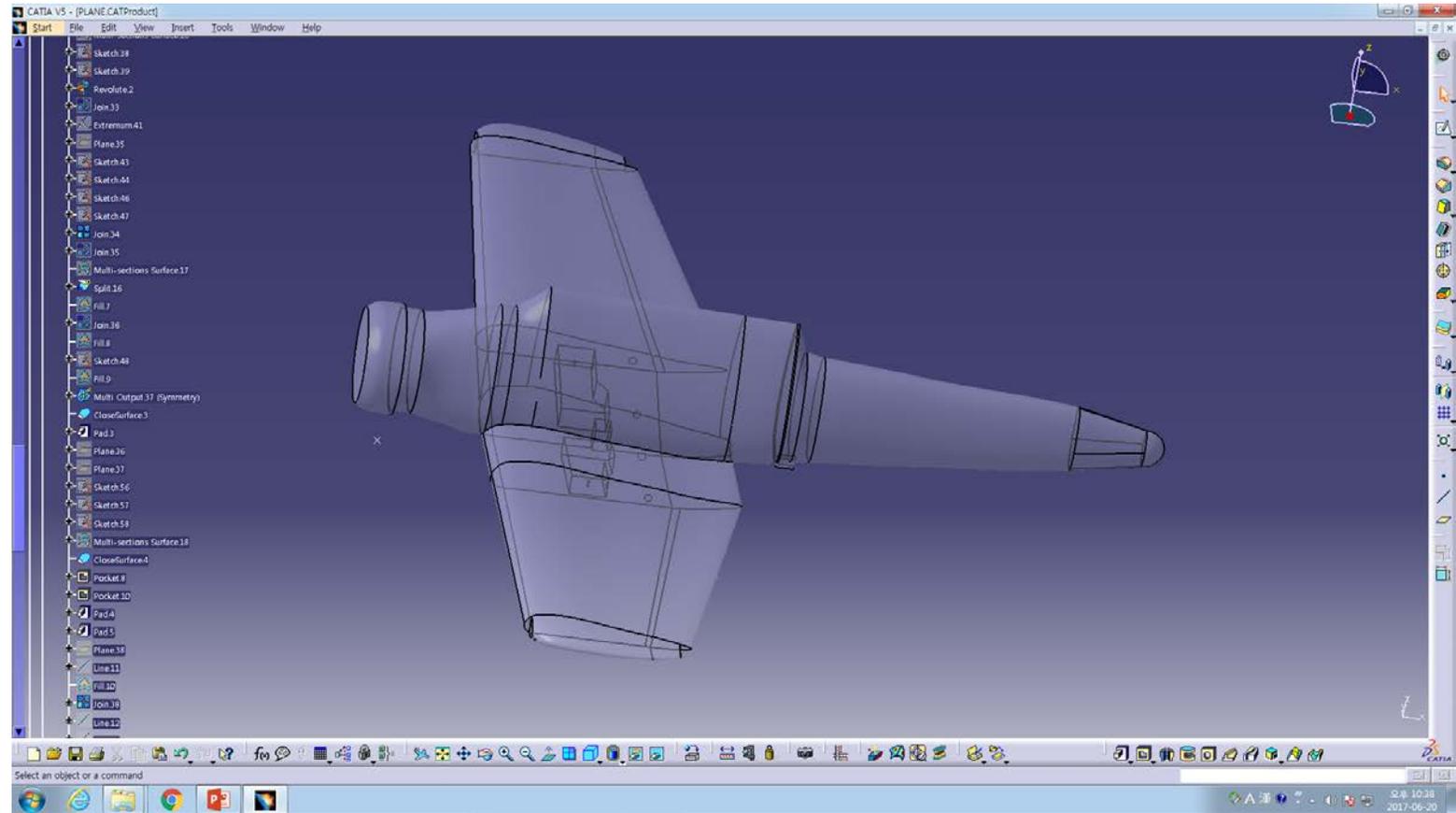
전투기



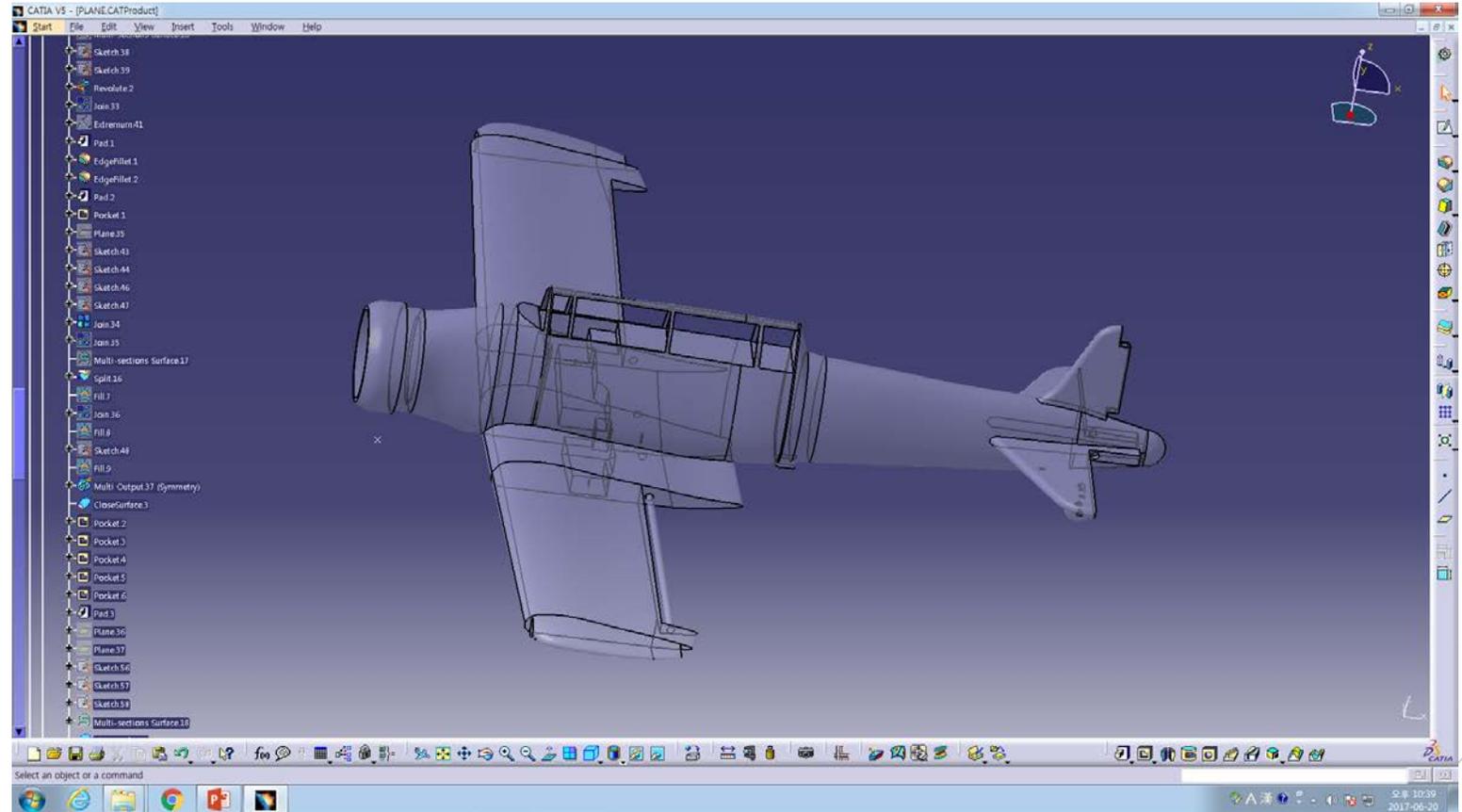
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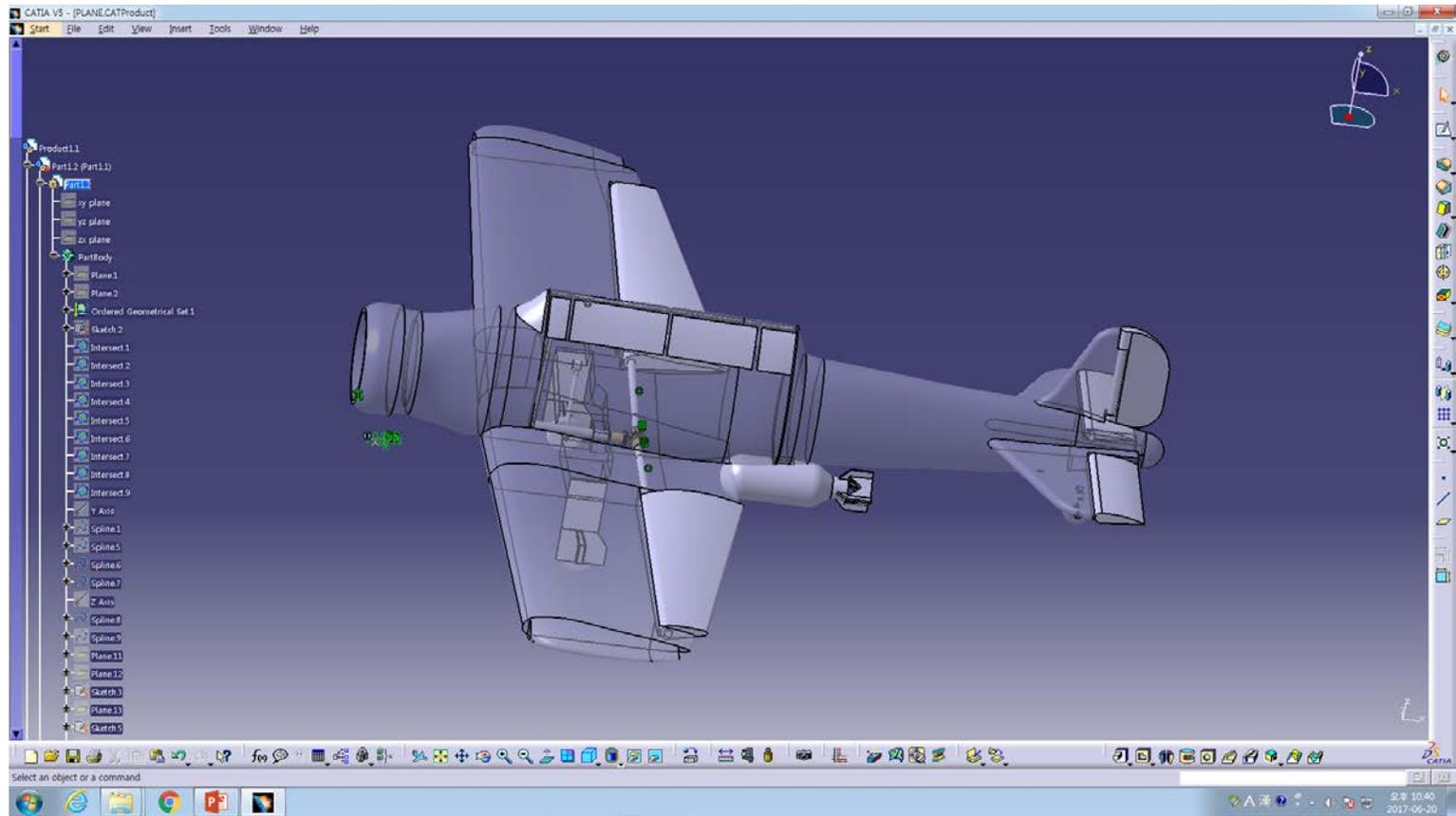
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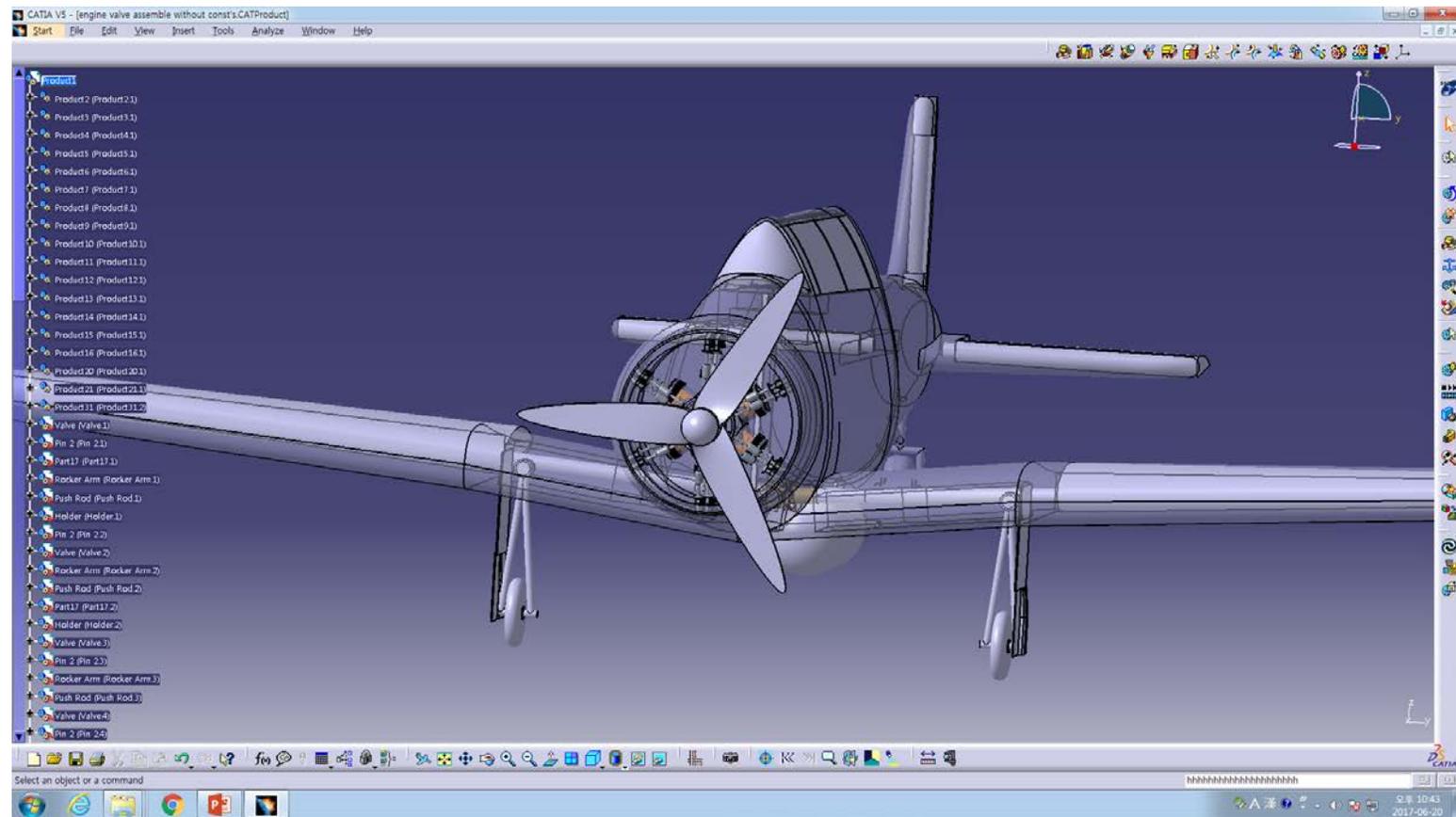
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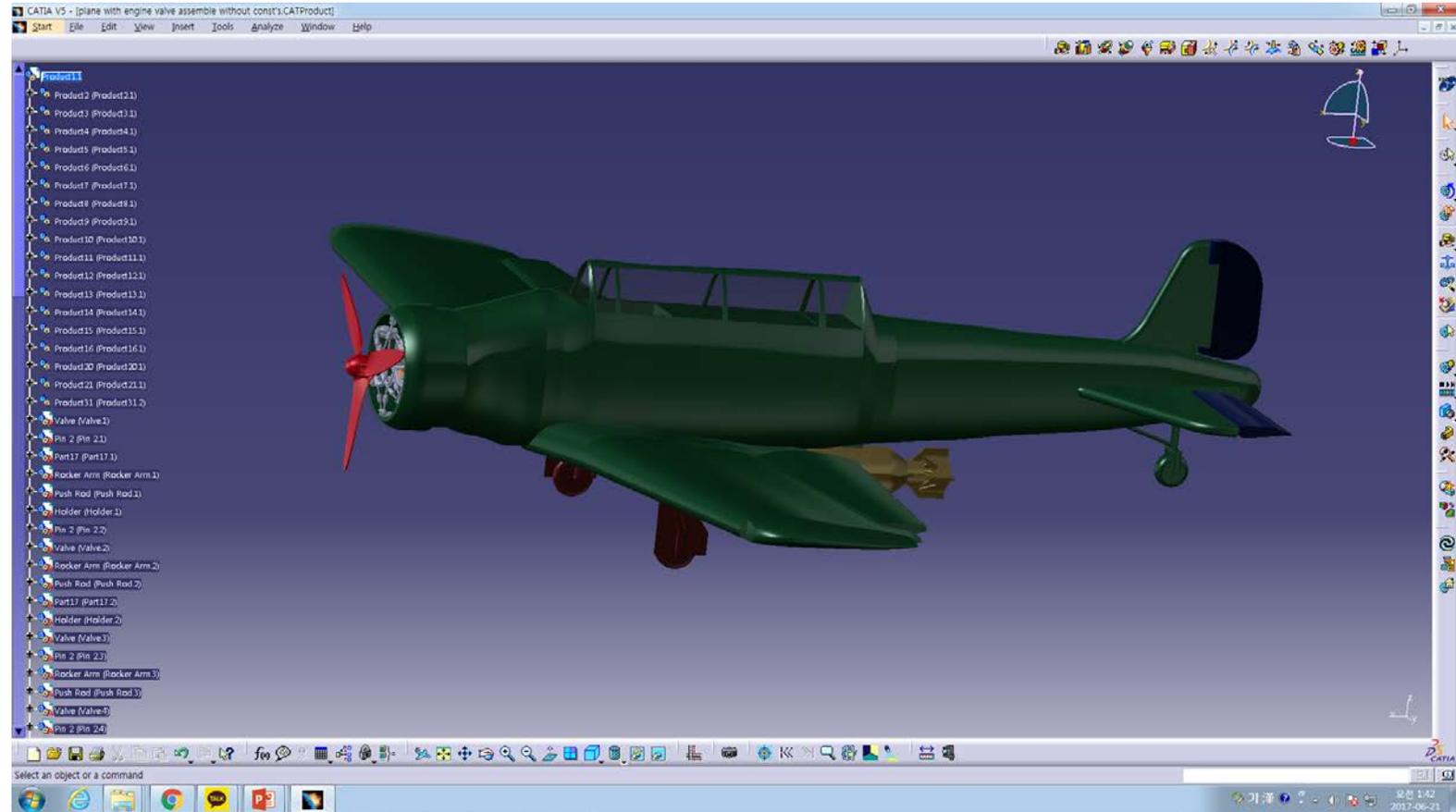
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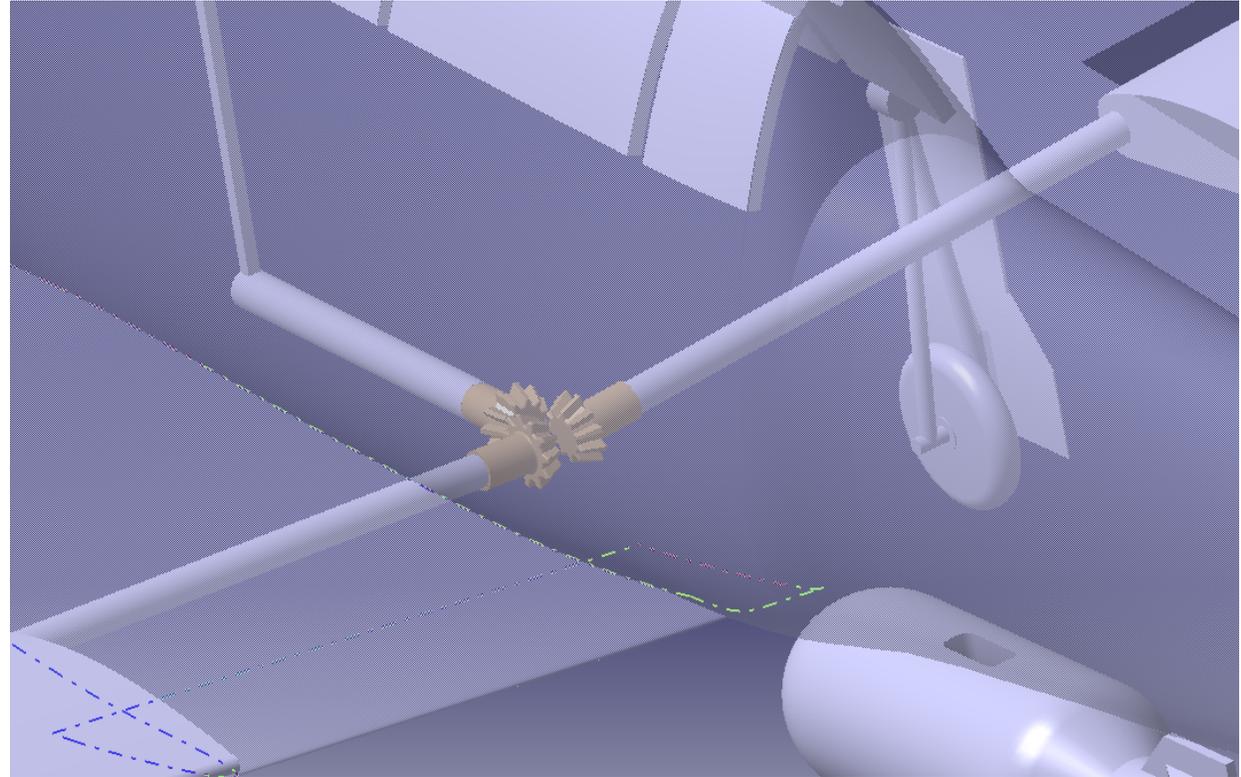
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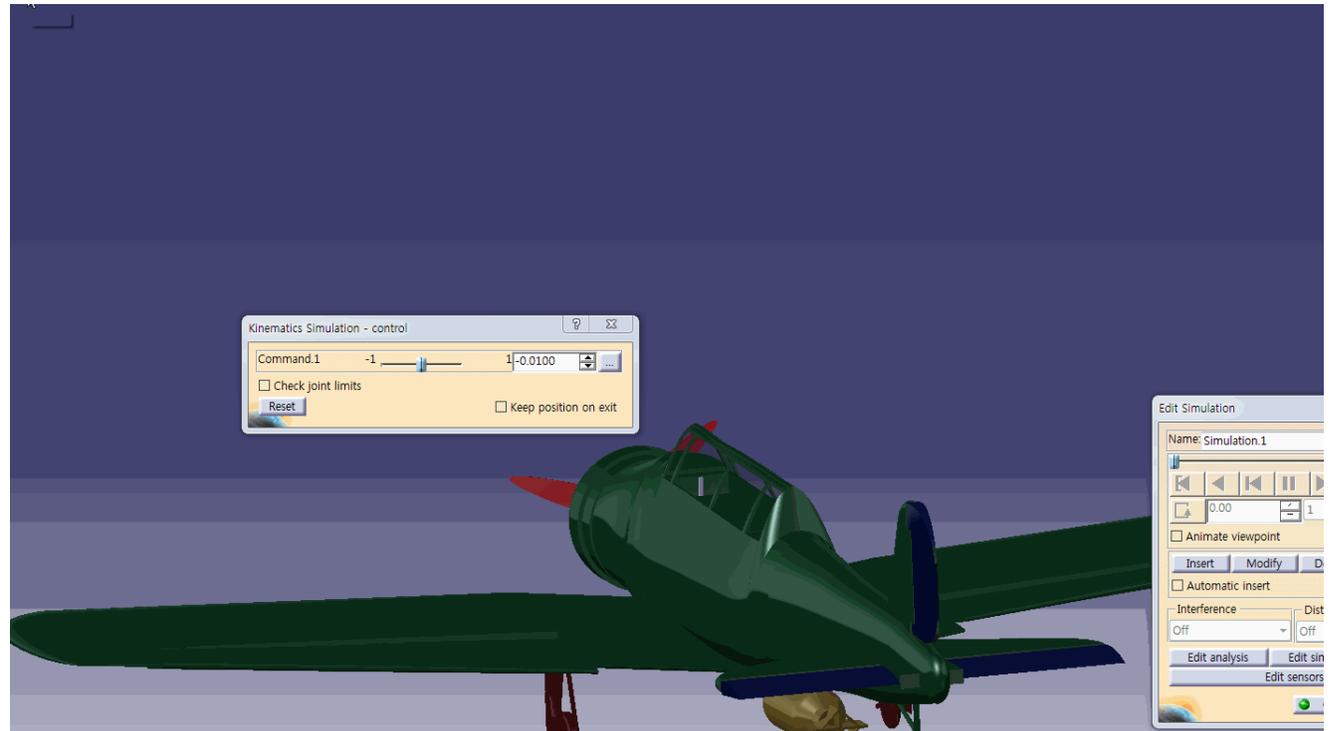
전투기 - 설계



전투기 조종석
Kinematics



전투기 조종석 Kinematics



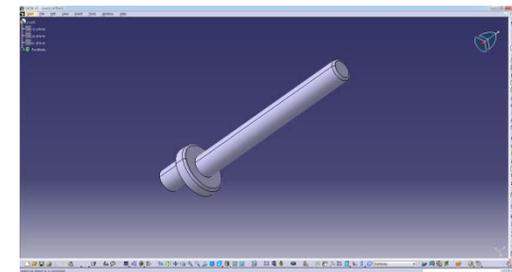
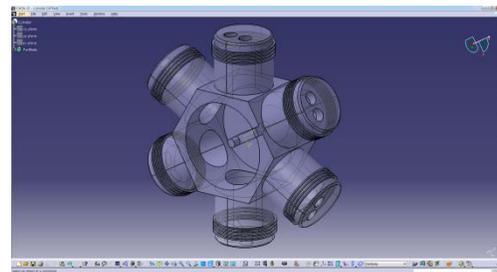
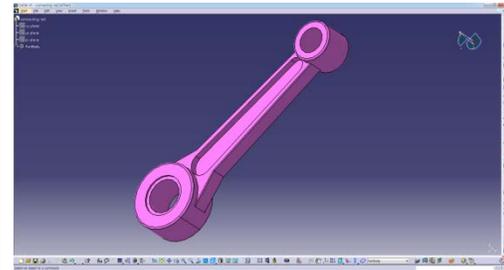
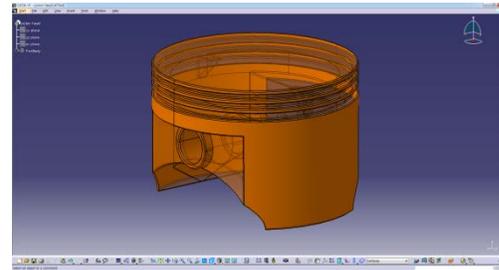
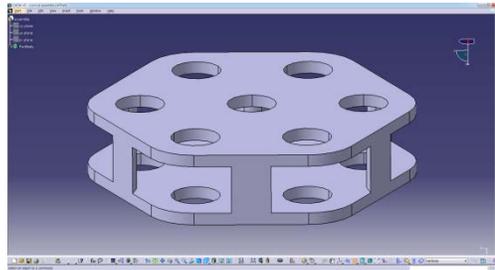
엔진 - 계획

- **Radial Engine** : 주로 항공기의 엔진 형태. 1개의 크랭크축을 중심으로 실린더를 방사상으로 배열한 엔진.
- 실린더 및 피스톤, 크랭크샤프트, 흡-배기 밸브 및 프로펠러 구현 계획

엔진 - Modeling

■ 실린더 & 피스톤

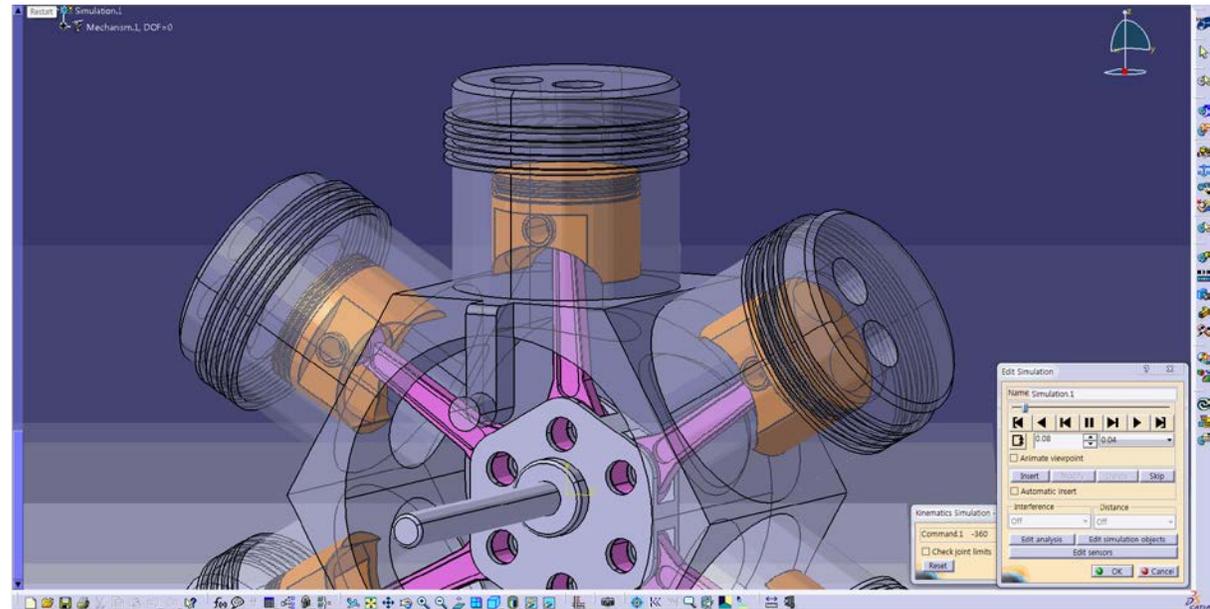
- Piston Head, Connecting Rod를 Outsourcing하여 수정 후 사용
- 많은 부품 수 및 kinematics로 인해 시뮬레이션 시 렉 발생
- 부품 수 최소화를 위해 볼트 및 너트 제거



엔진 - Modeling

■ 실린더 & 피스톤

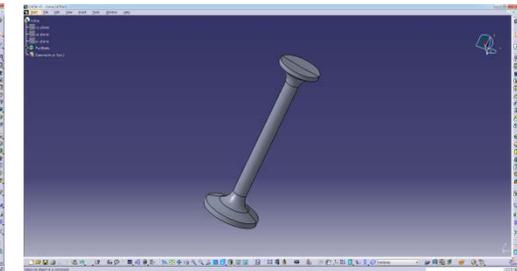
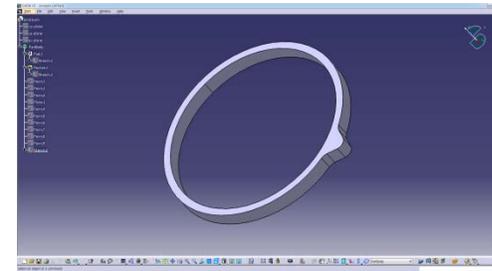
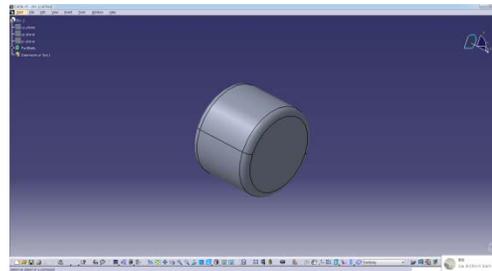
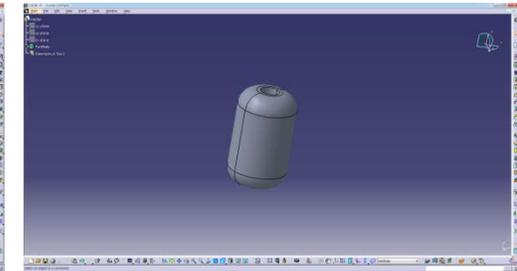
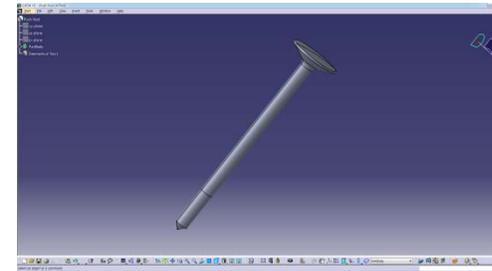
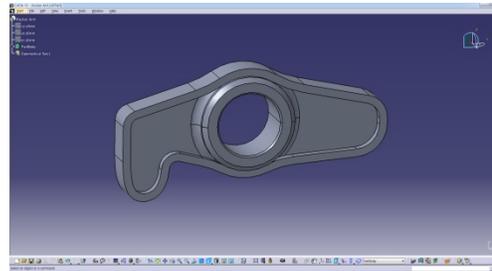
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엔진 - Modeling

■ 흡-배기 밸브

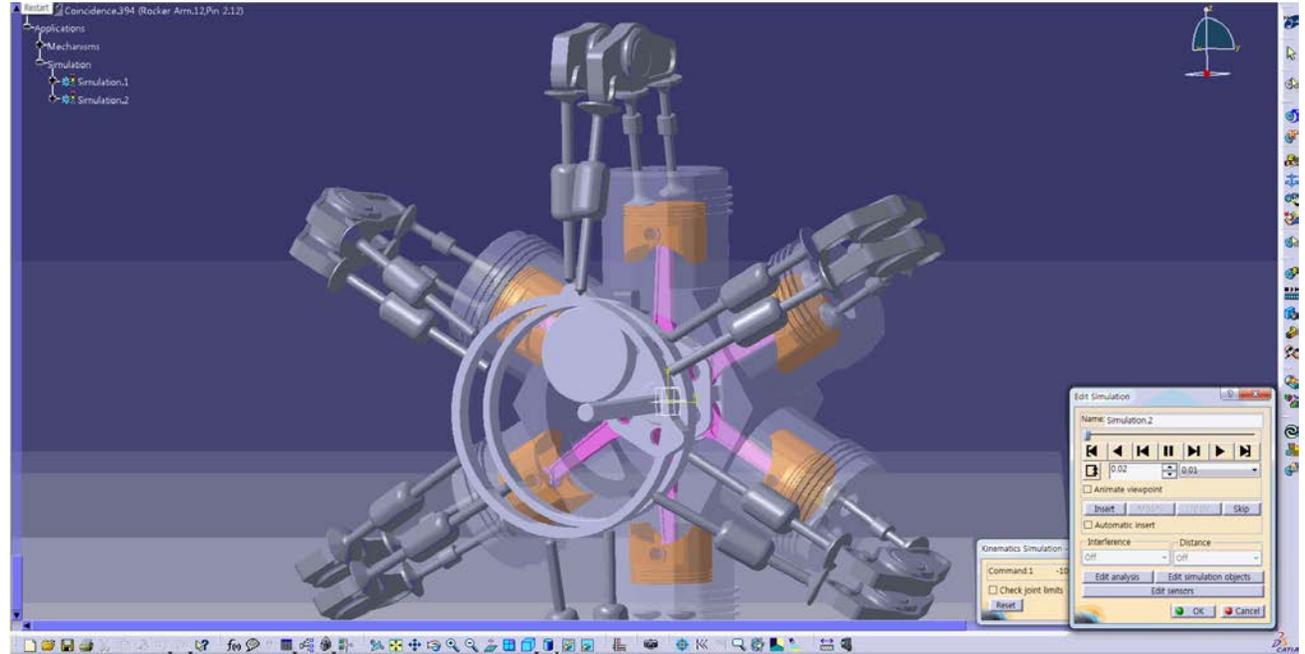
- Valve, Holder, Rocker arm, Push rod를 Outsourcing하여
수정 후 사용



엔진 - Modeling

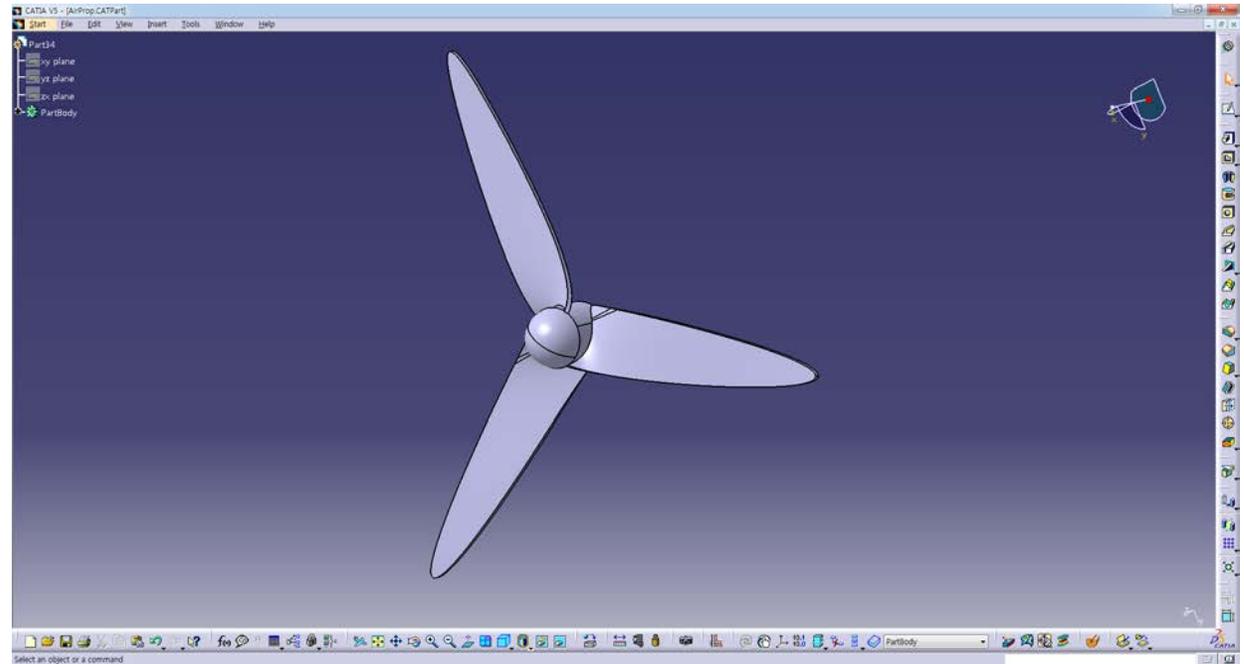
■ 흡-배기 밸브

- Valve, Holder, Rocker arm, Push rod를 Outsourcing하여
수정 후 사용



엔진 - Modeling

- 프로펠러



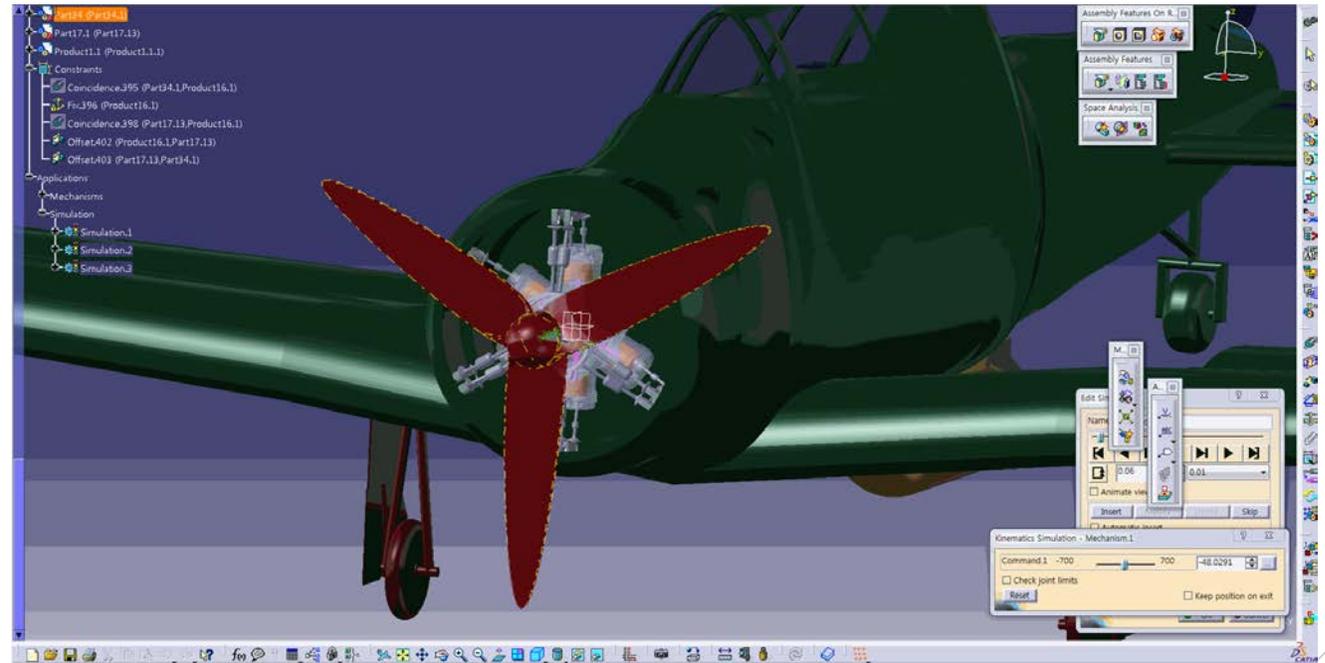
- Assembly Design

엔진 - Modeling



■ Assembly Design

엔진 - Modeling



설계 시 어려웠던 점

- 주제의 특성상 많은 **Joint**를 가진 **Kinematics**의 사용이 빈번, 그로 인한 심한 렉 발생
- 조종간과 날개 부품간의 기어 비 설정에 어려움이 있었음
- 전투기 날개 제작 시 **Tangency**하지 않은 표면 발생
- **Assembly**된 부품들 간의 **Kinematics**를 정상적으로 작동 시키기 위해 많은 시간 투자

Sequence



<https://youtu.be/hr766DF5k9w>

**Thank
You**

