

The top of the slide features two thick, solid red horizontal bars stacked vertically, with a thin, light red gradient bar at the bottom. The background is white with faint, light gray curved lines and dashed lines.

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**

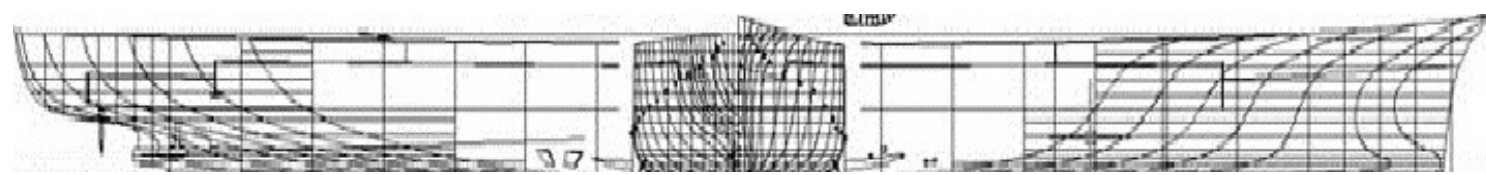
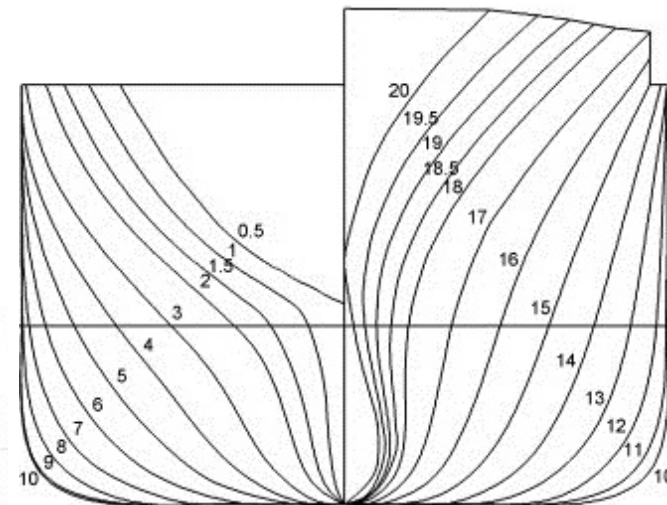
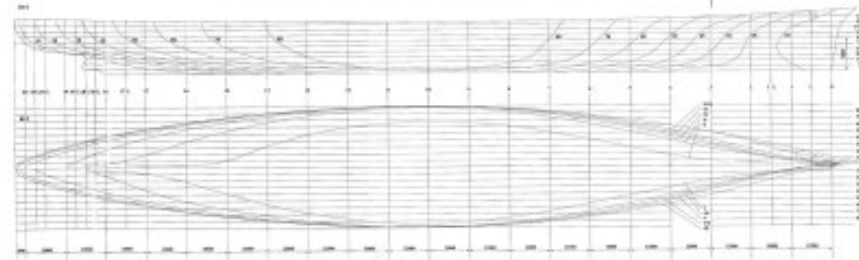
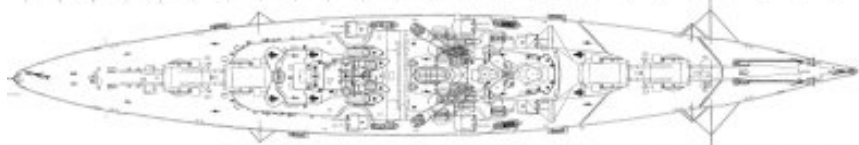
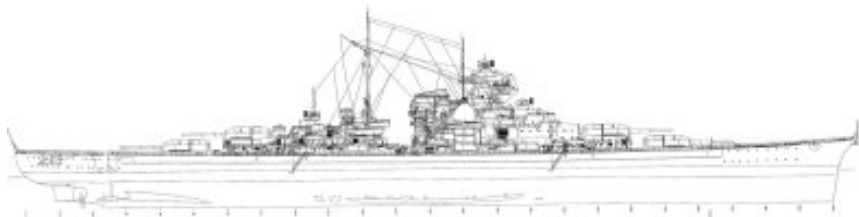
배 - 계획

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

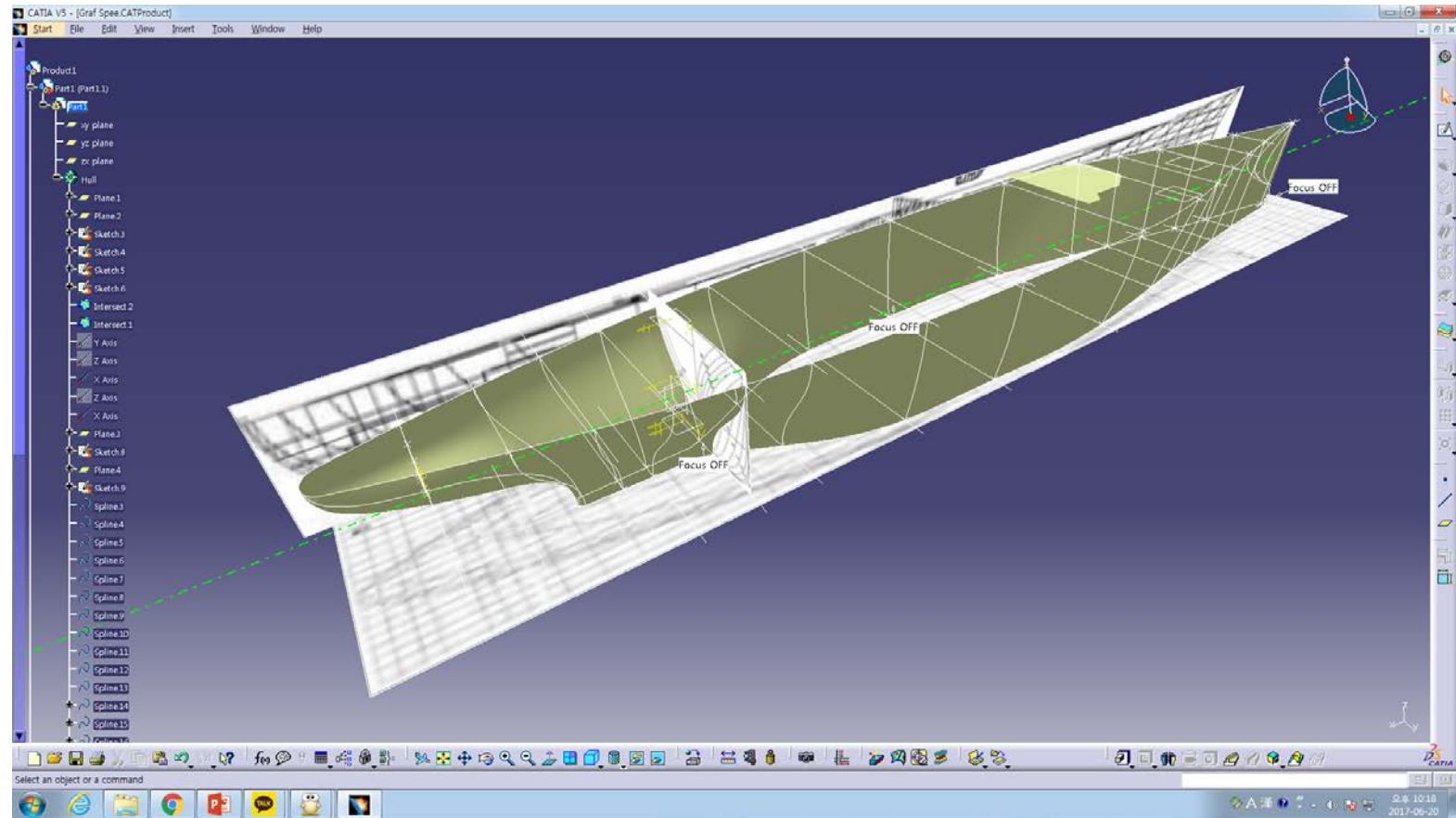
전함



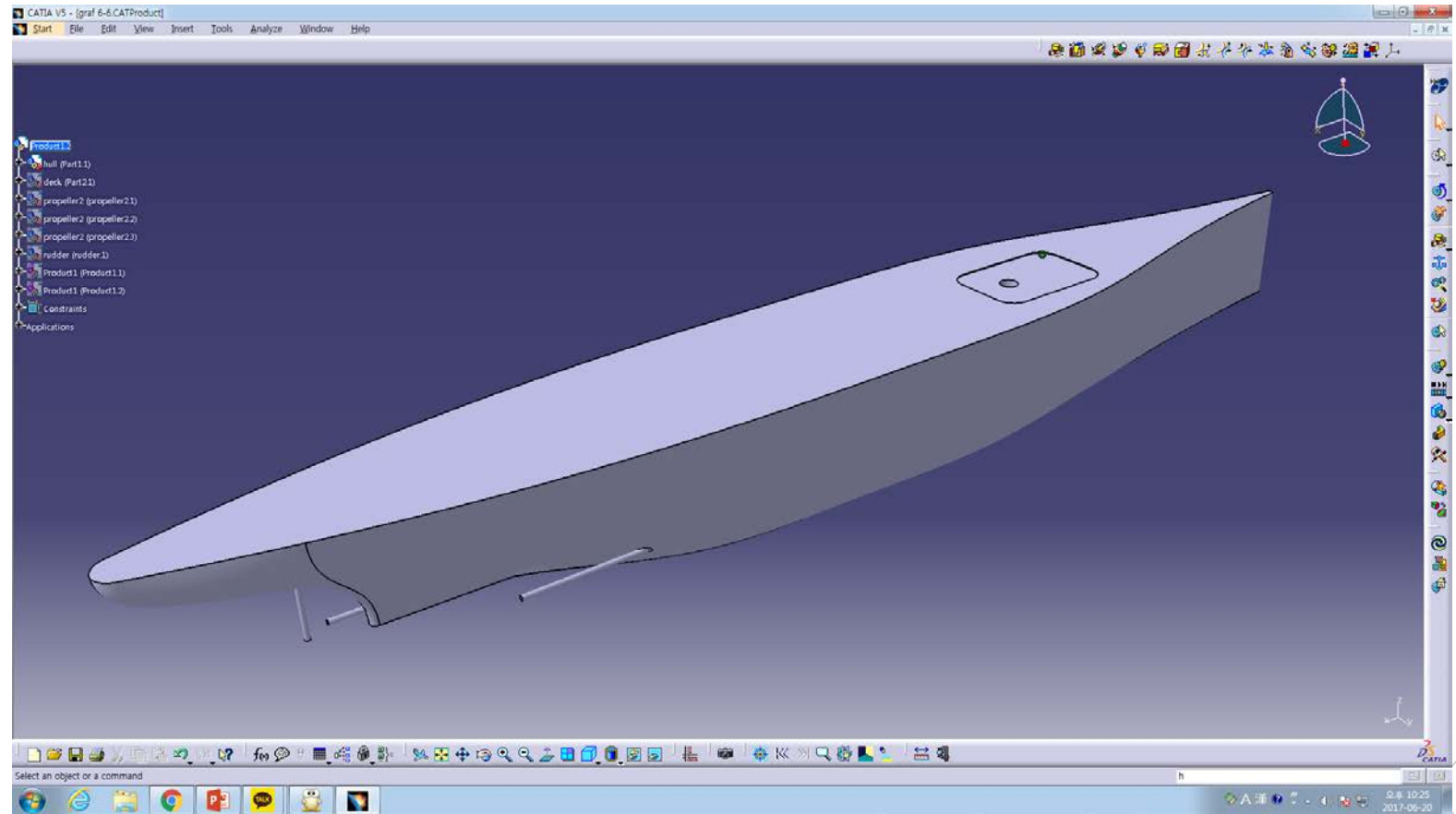
전함 - 모델링
(선체 설계 :
Bismarck)



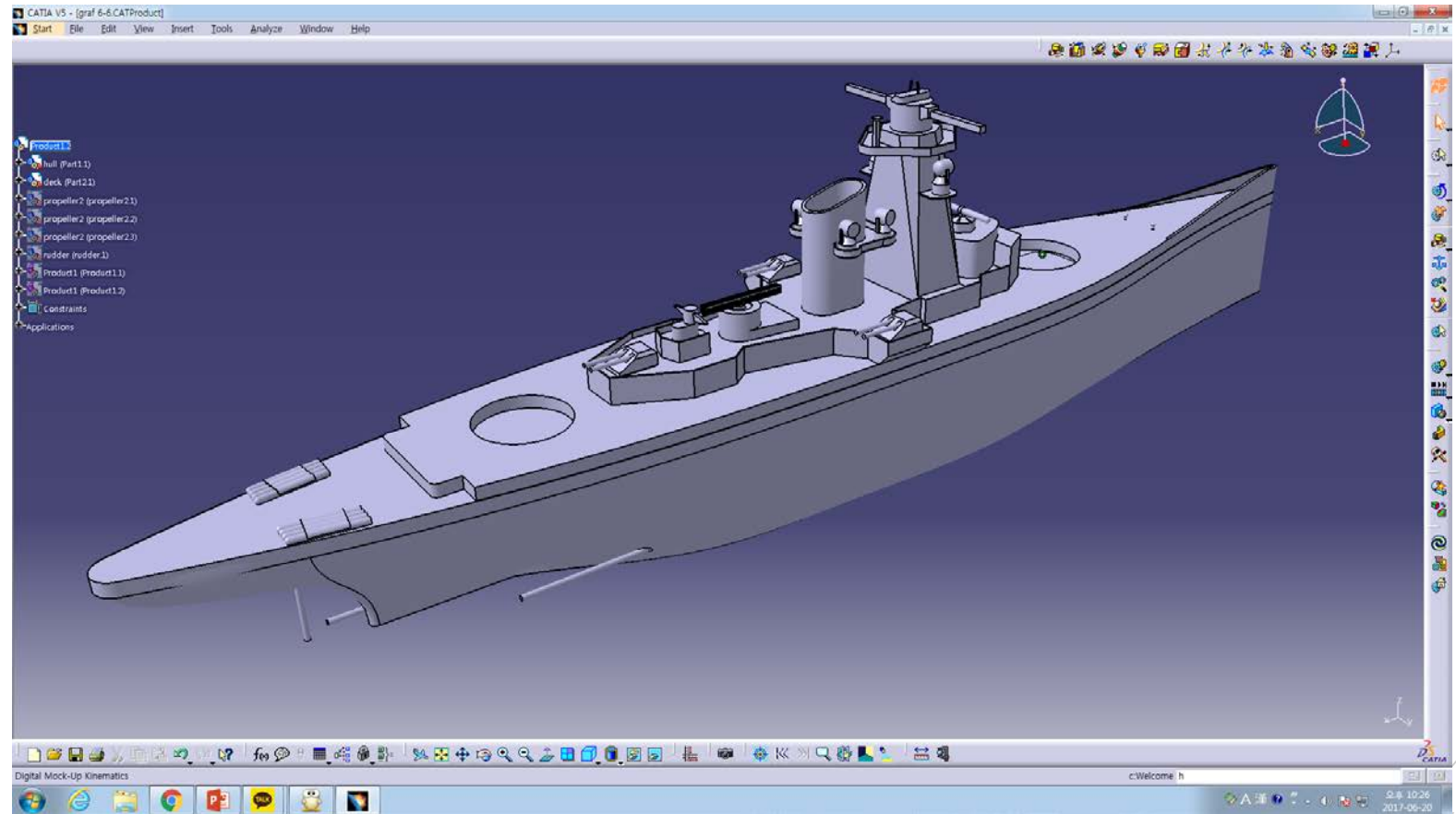
전함 - 모델링



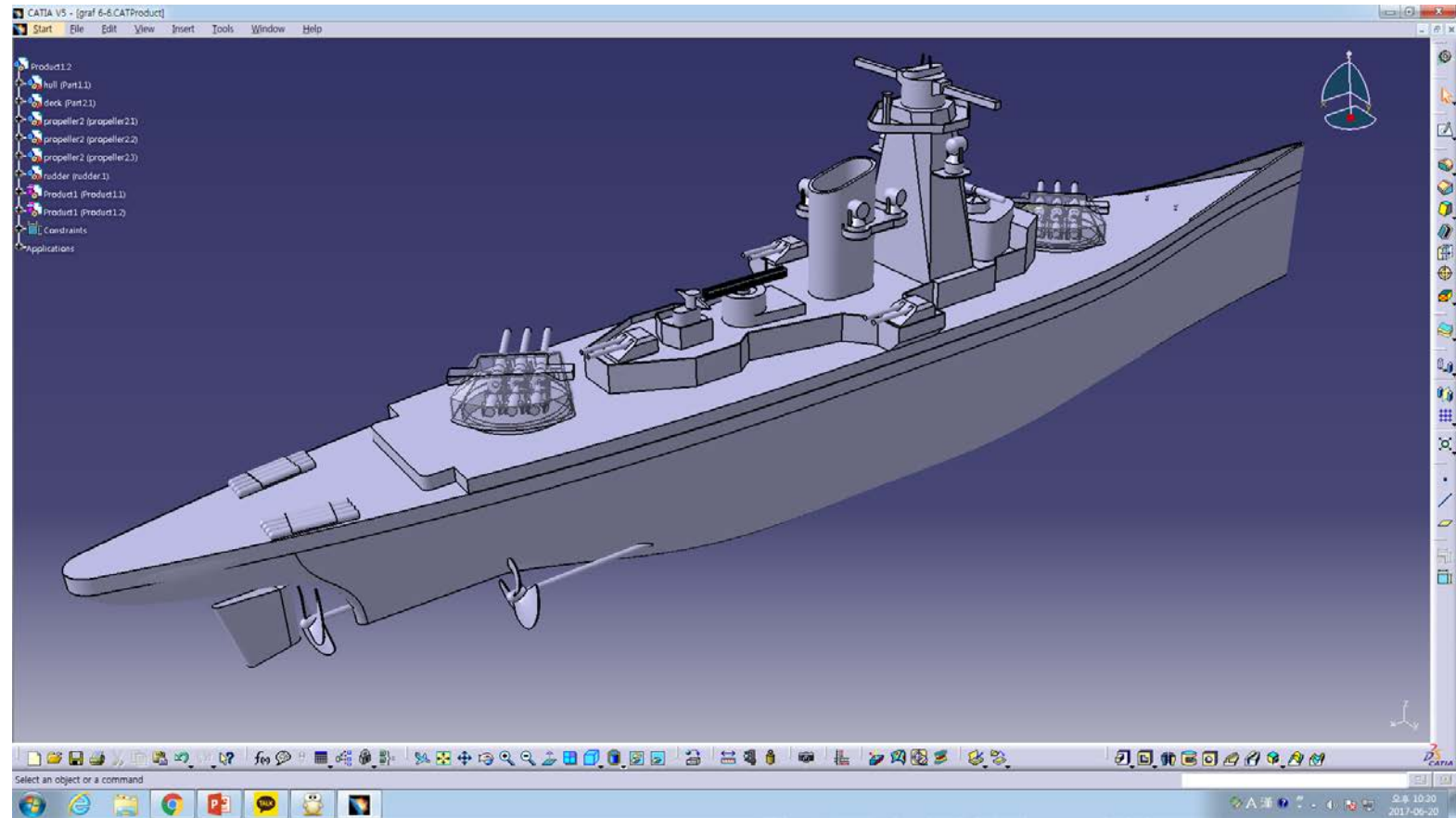
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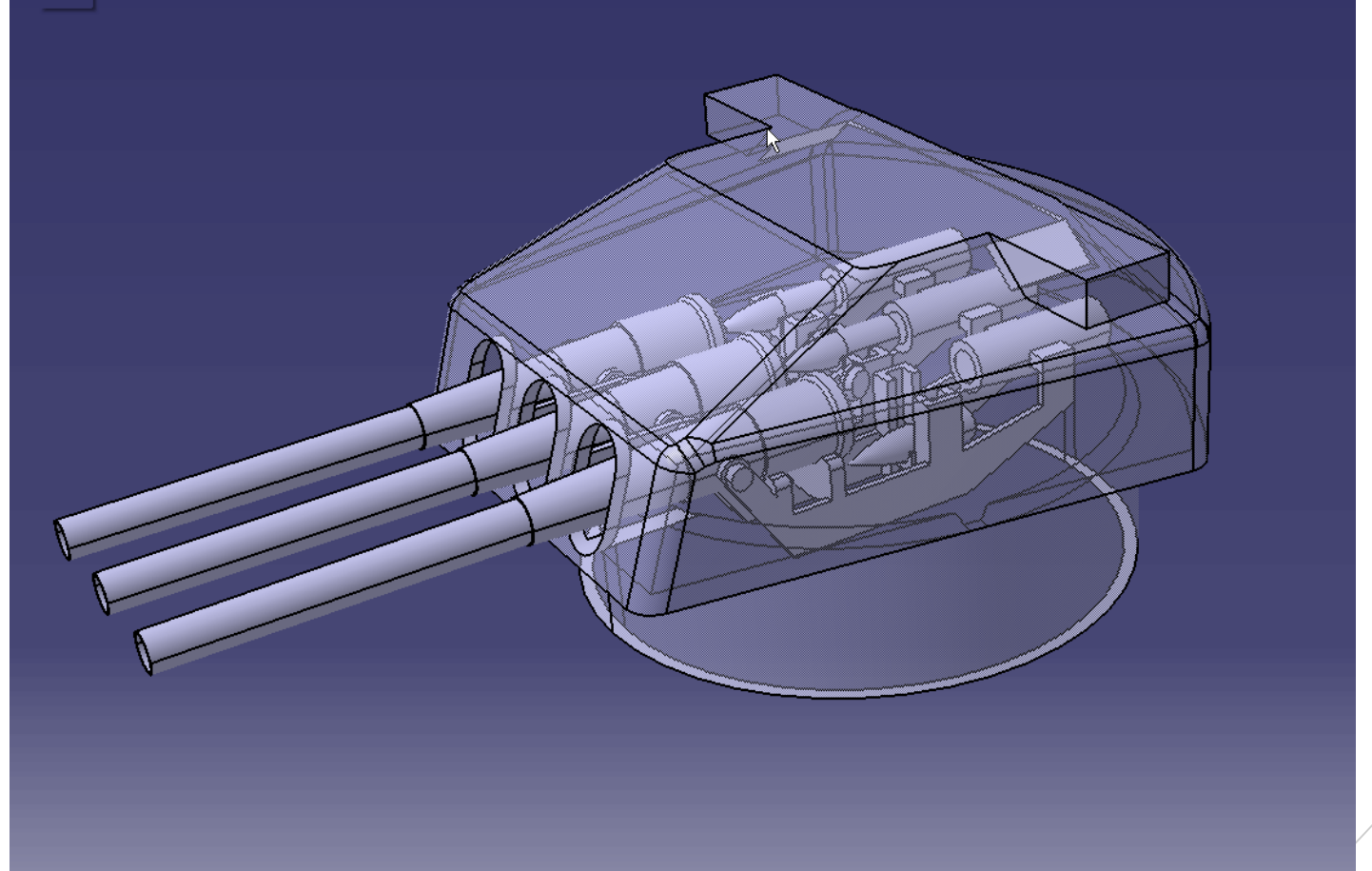
전함 - 모델링



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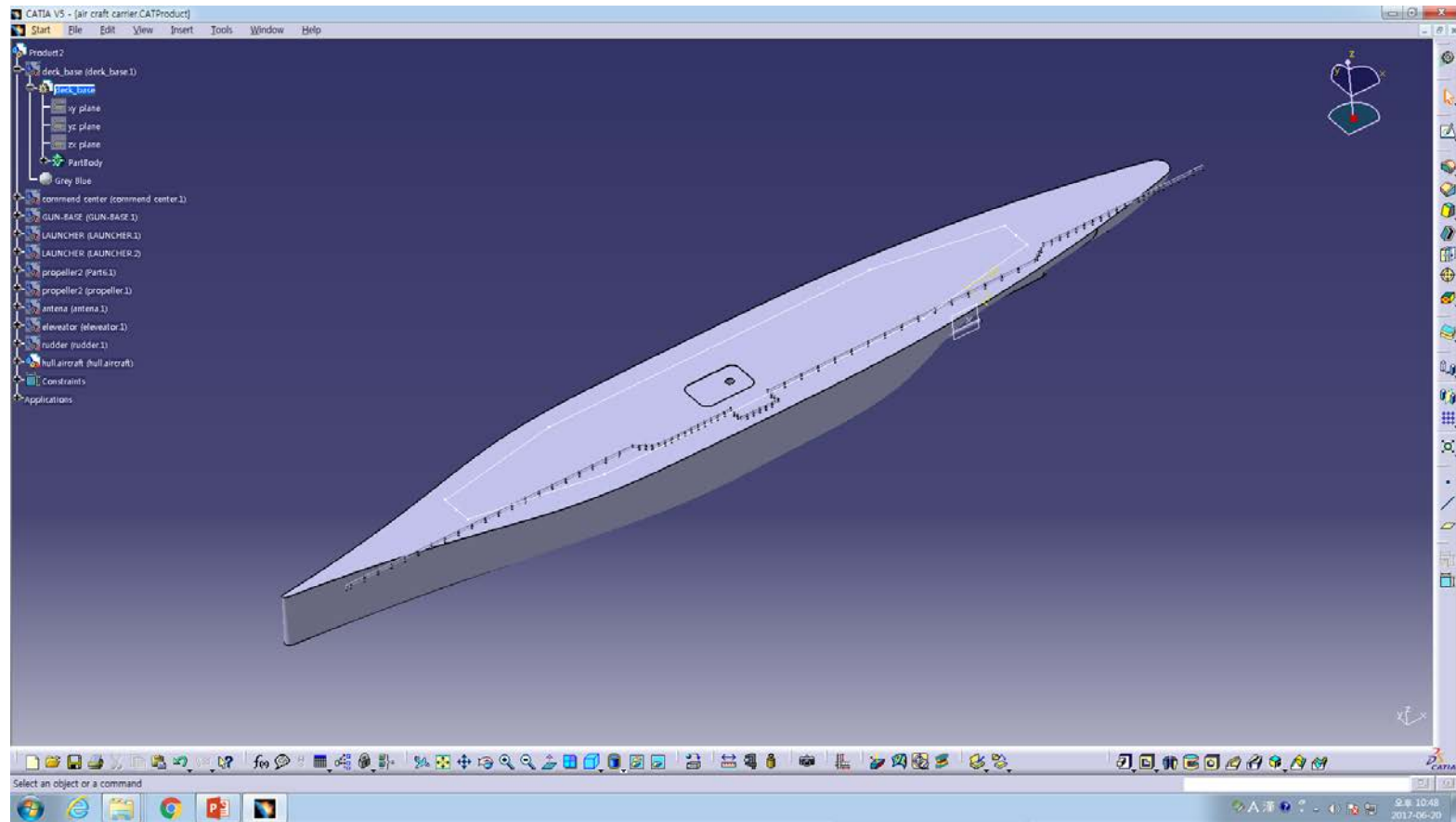
포탑



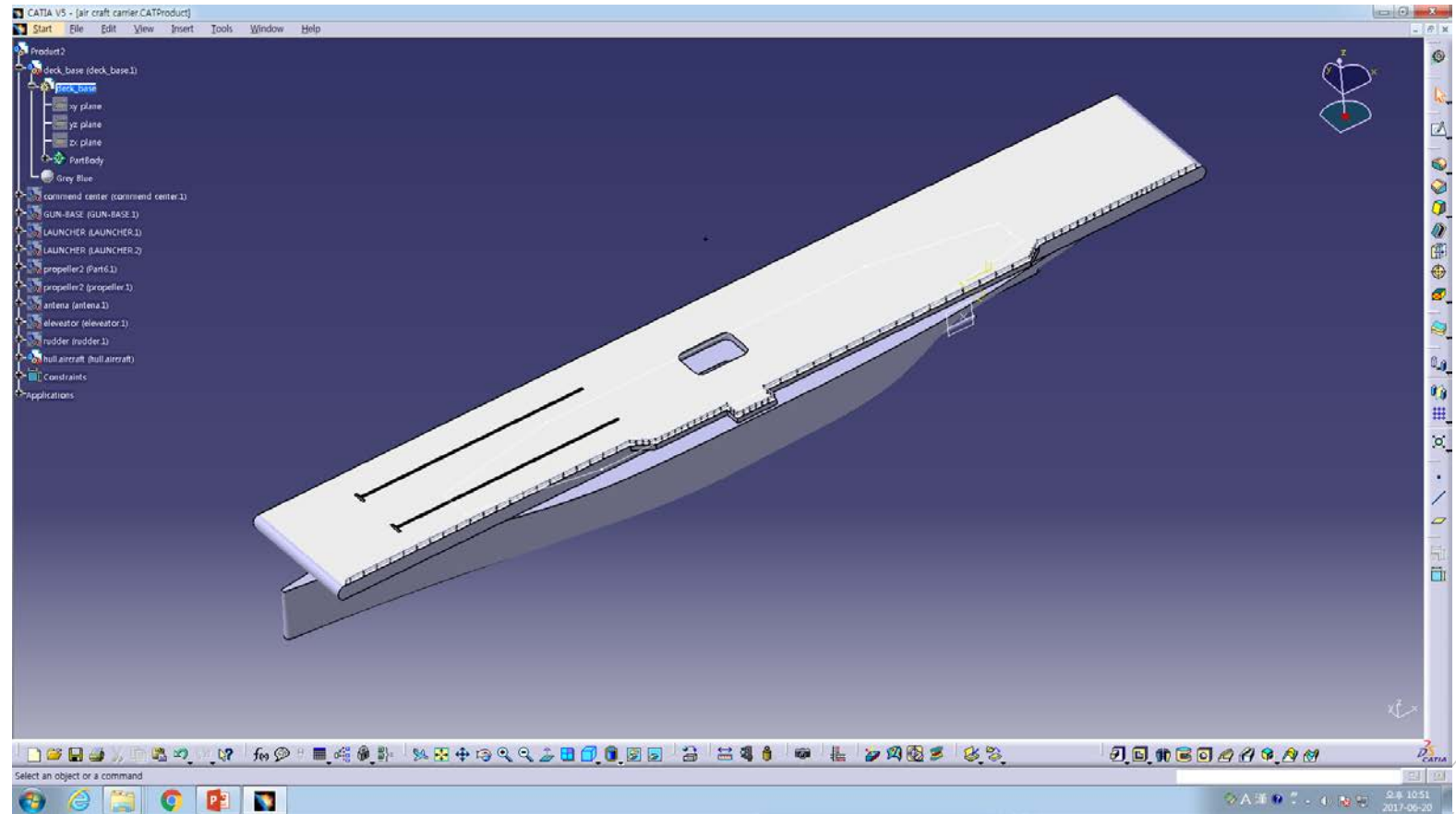
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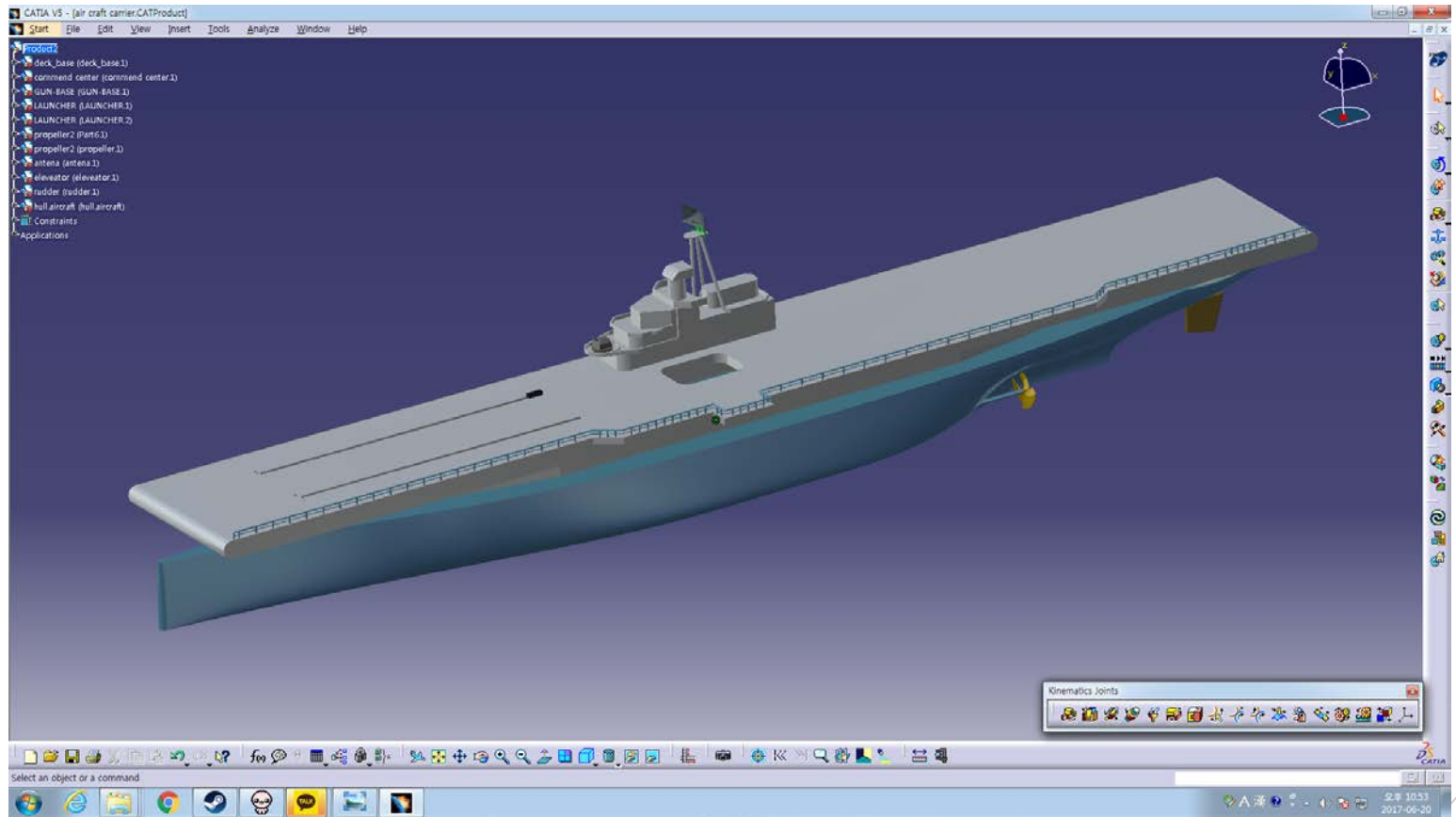
항공모함 - 설계



항공모함 - 설계



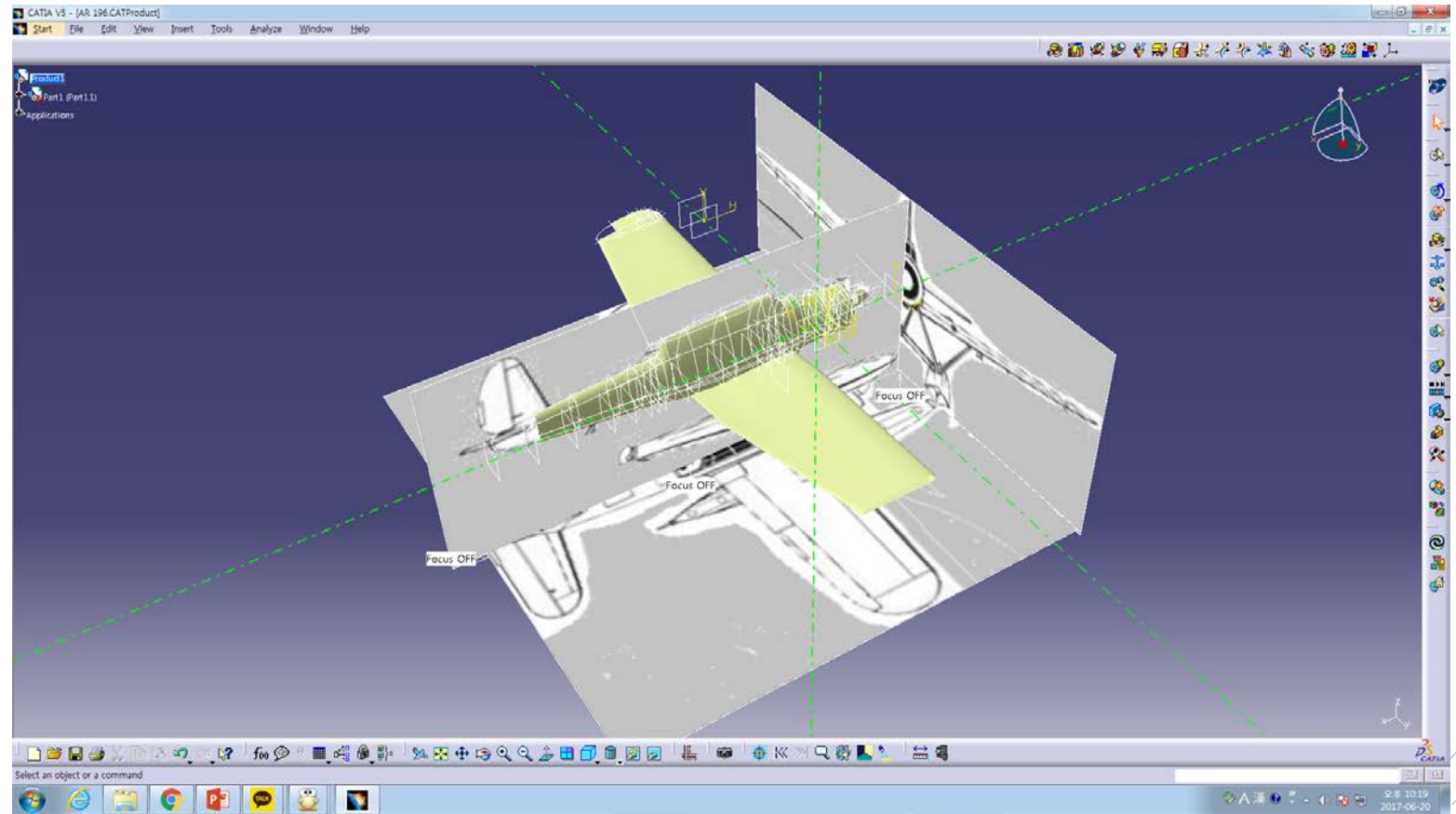
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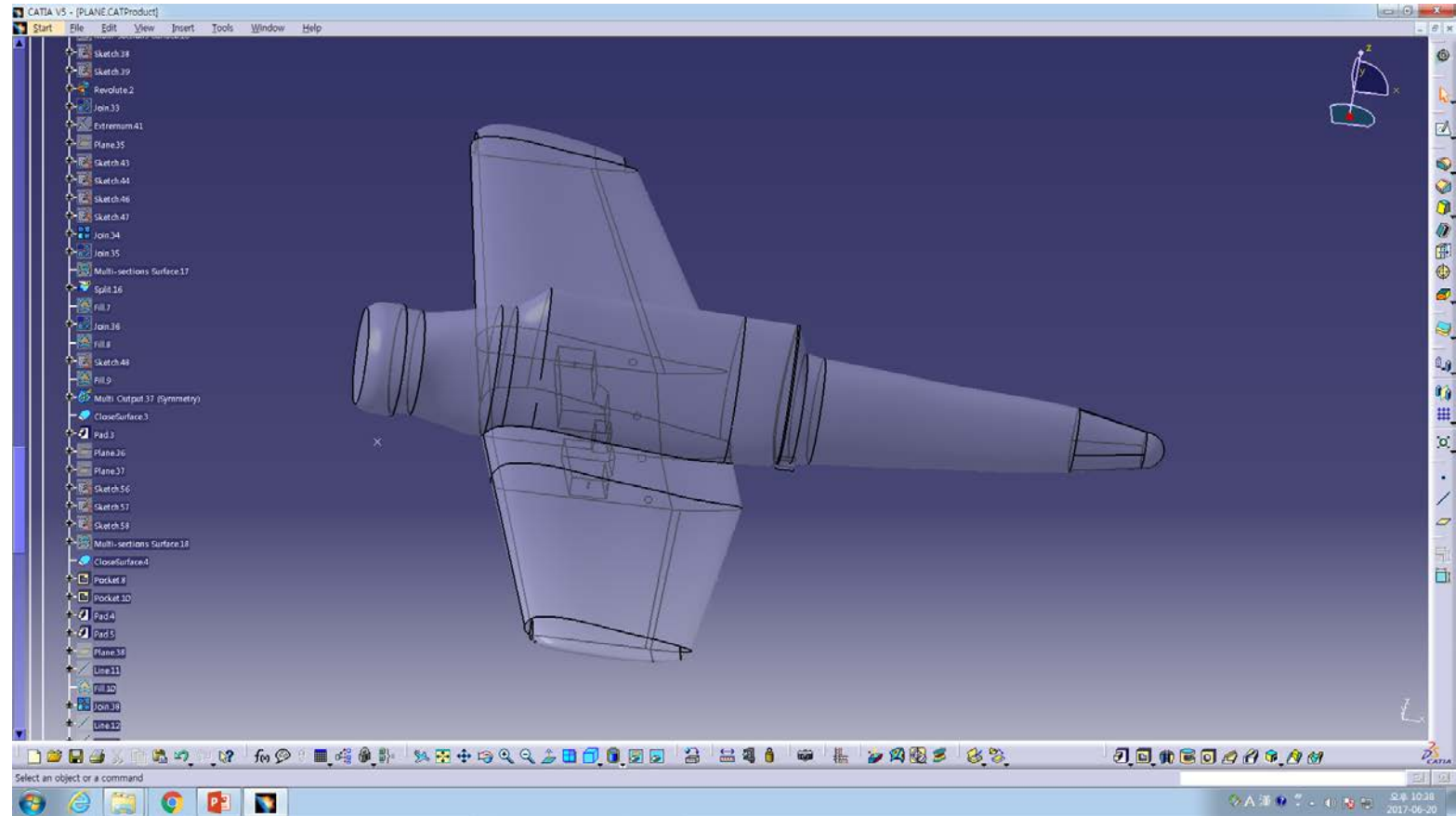
전투기



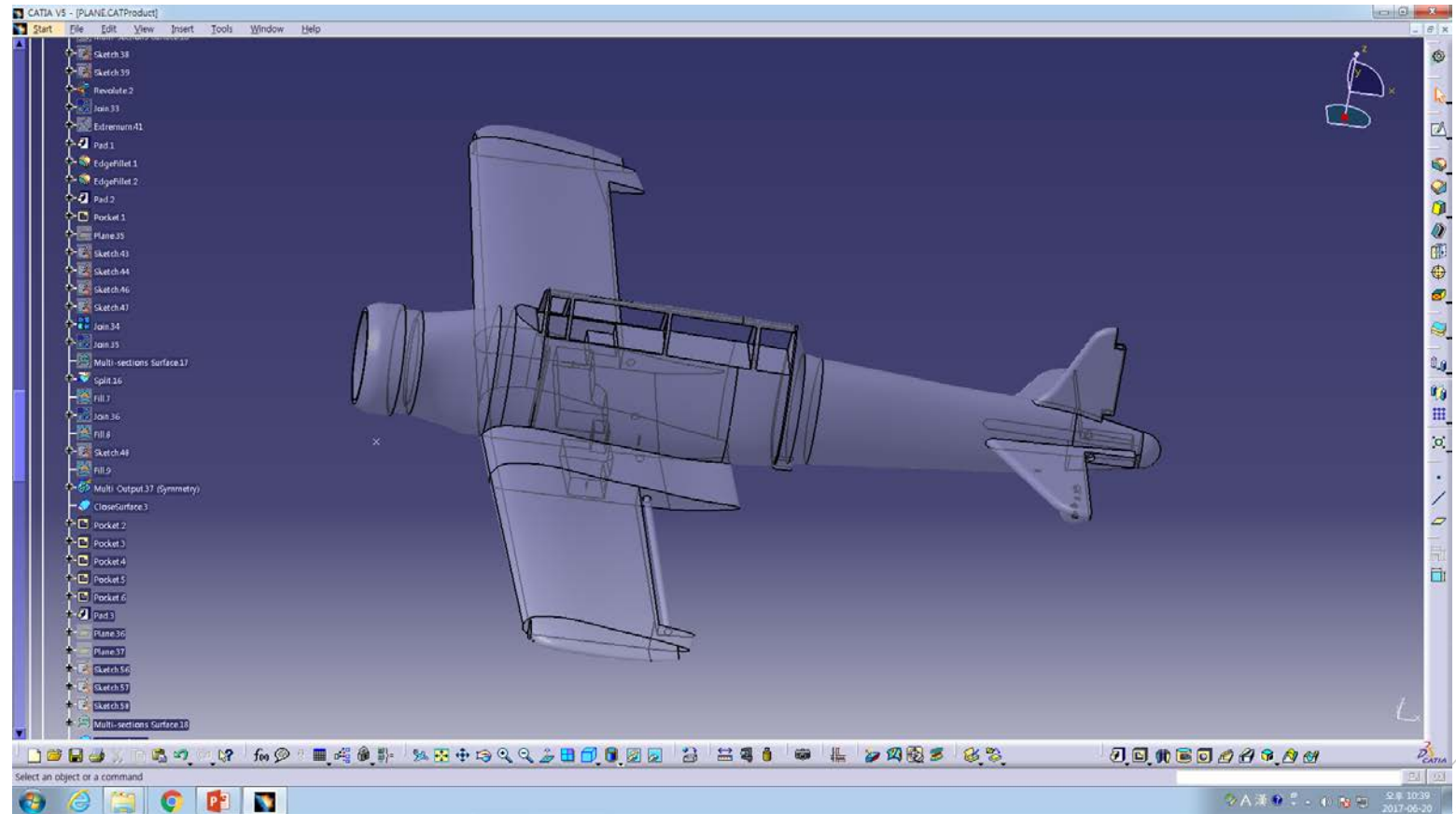
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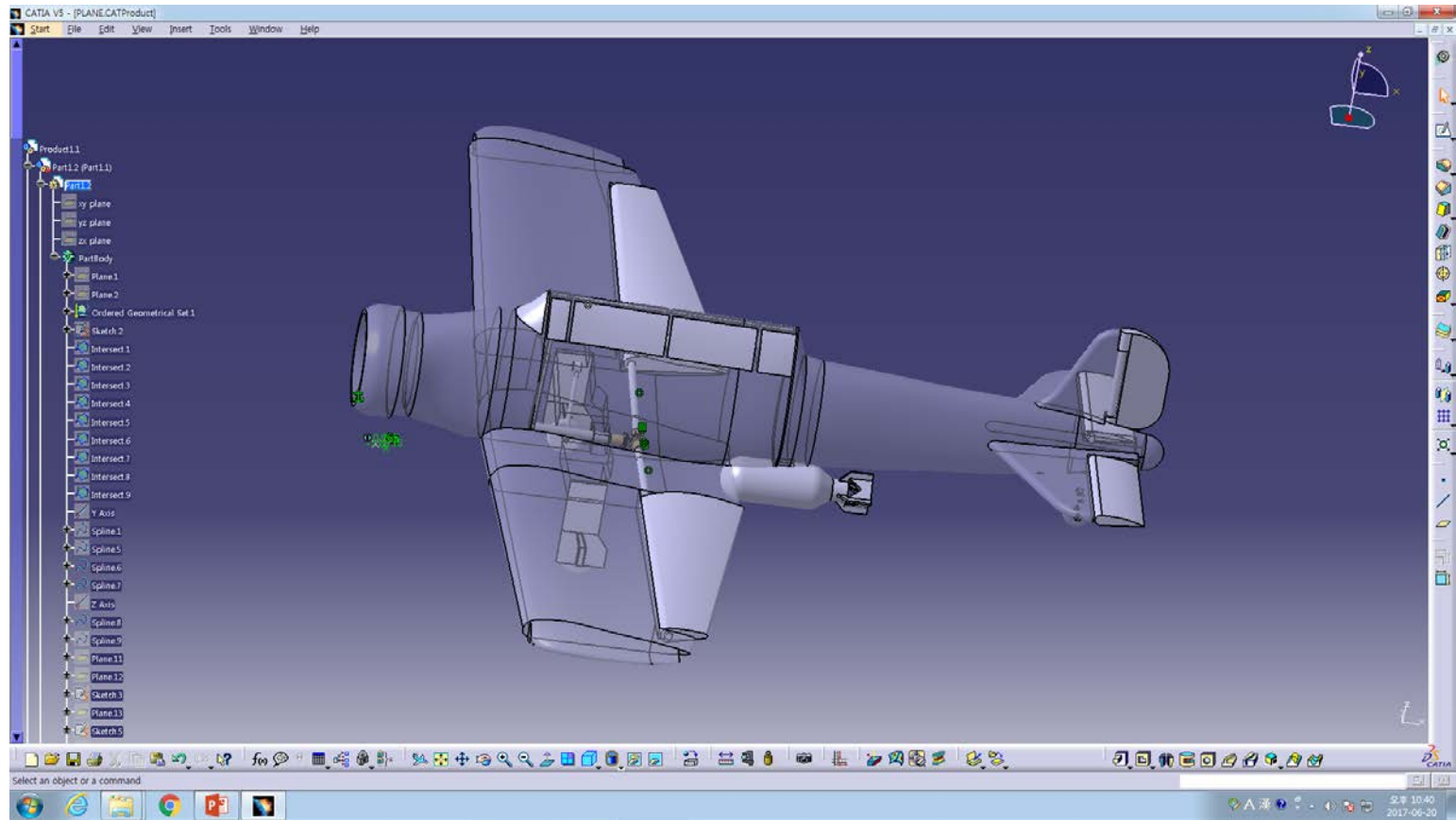
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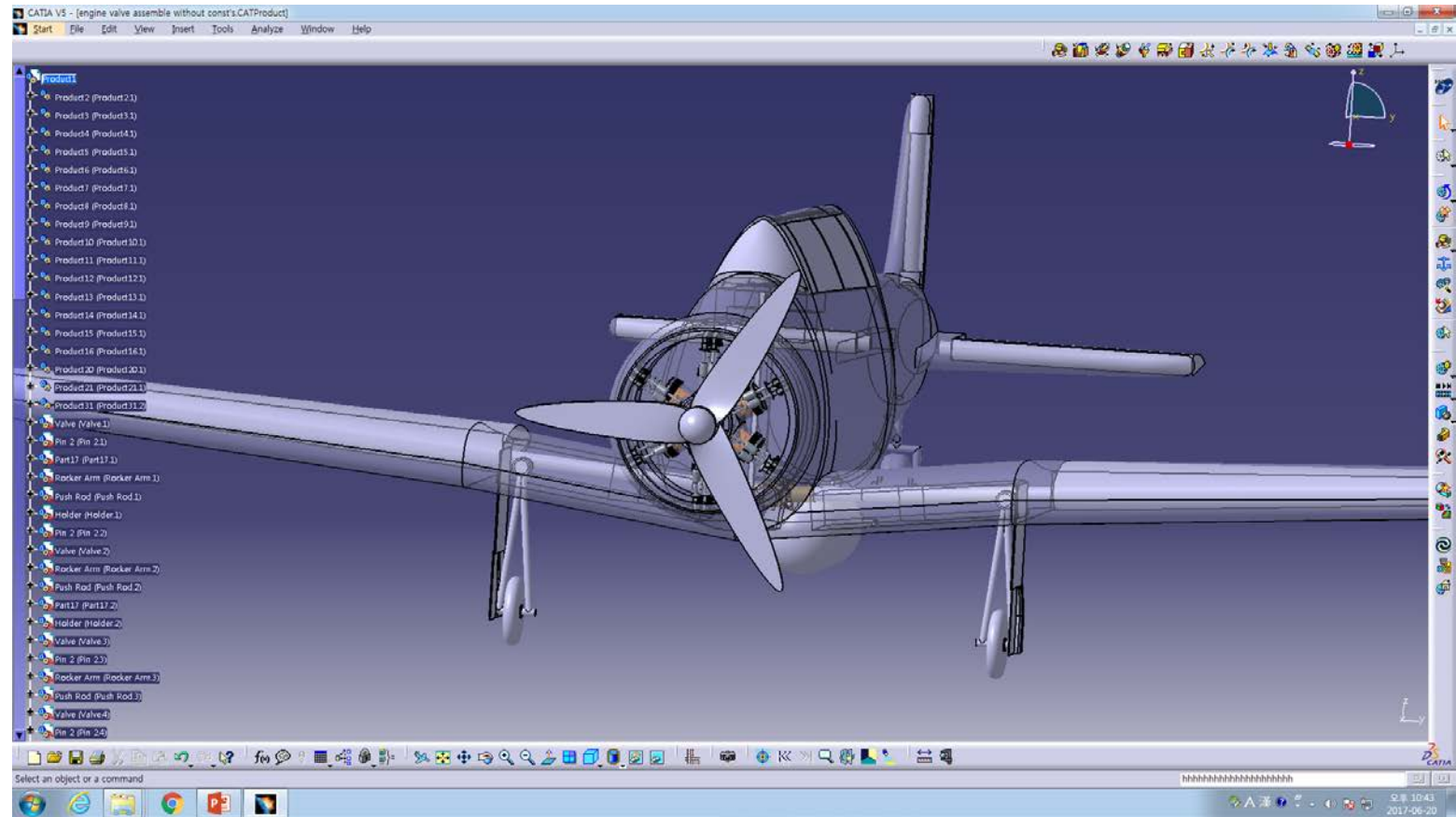
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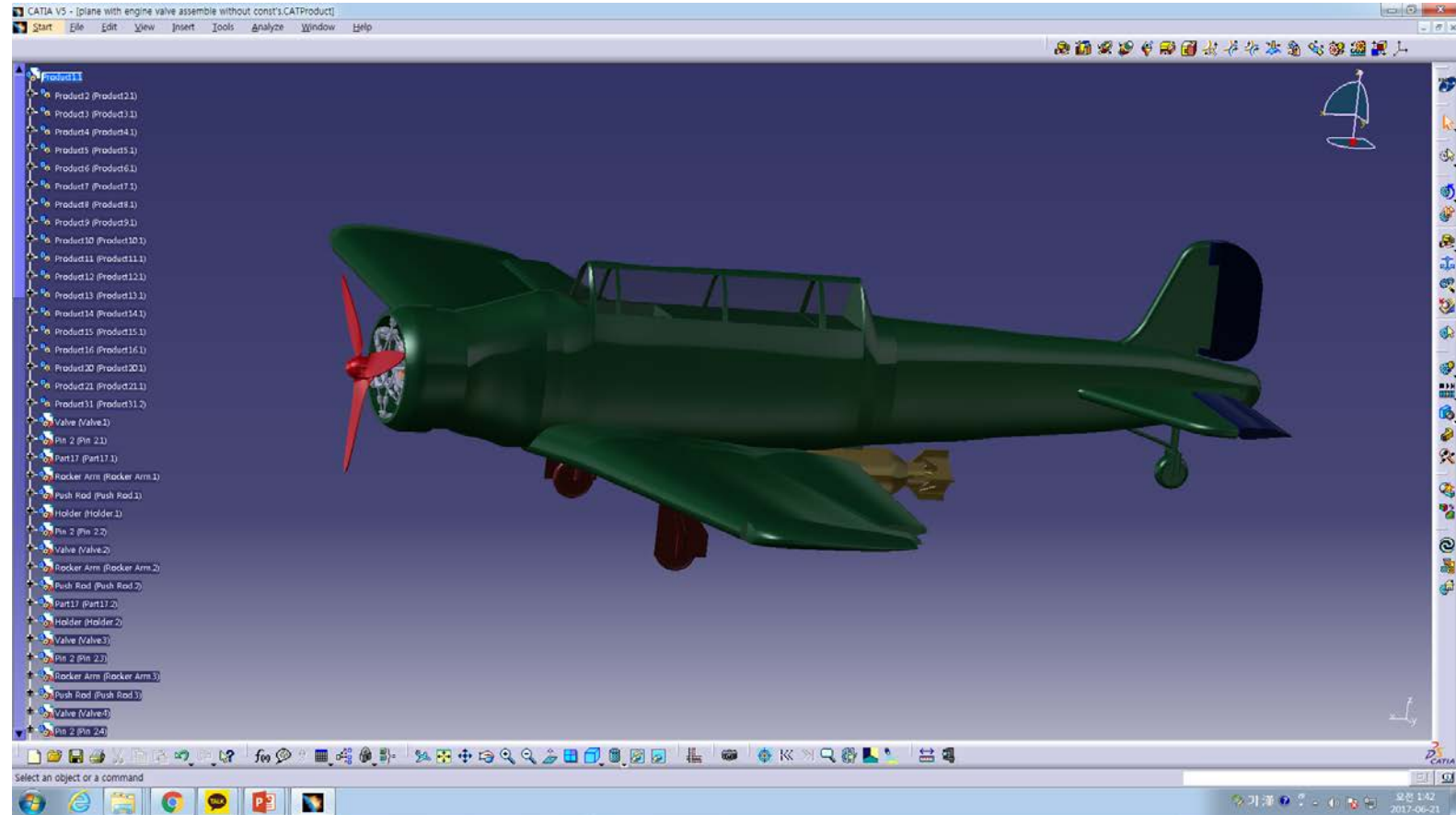
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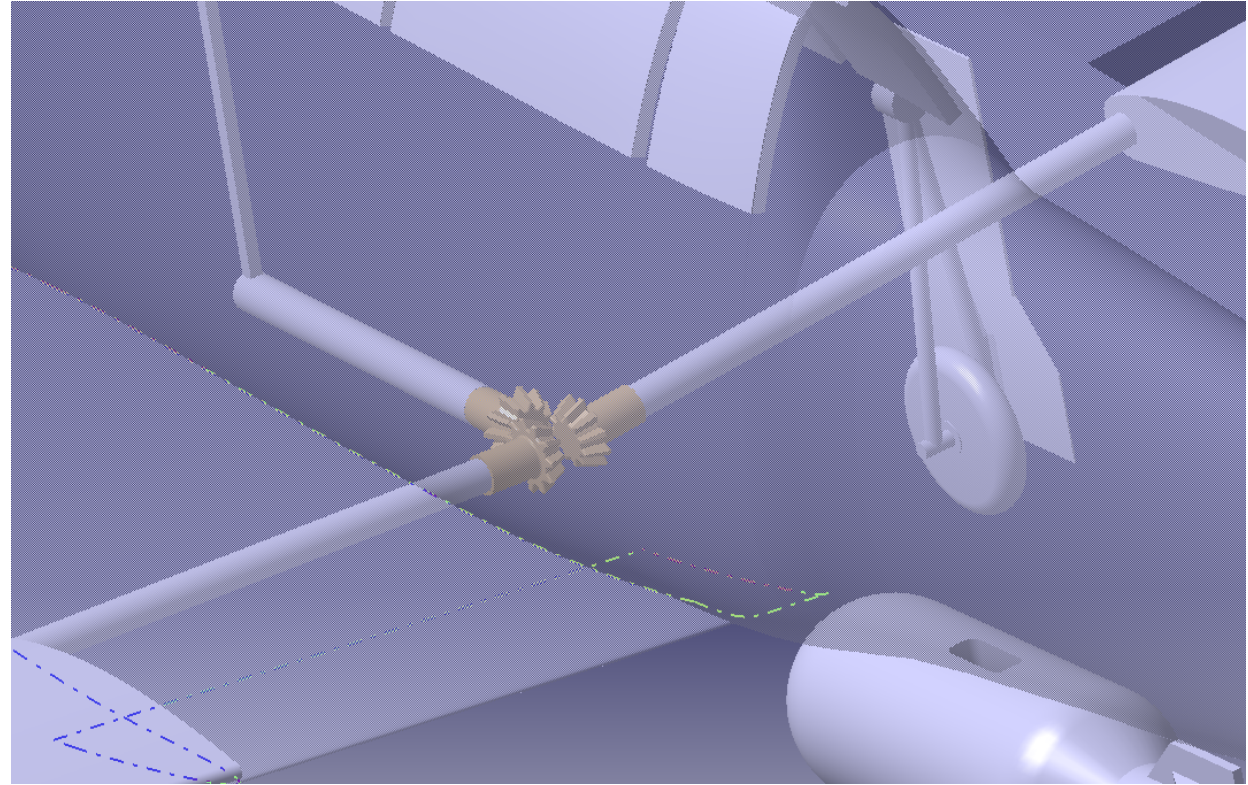
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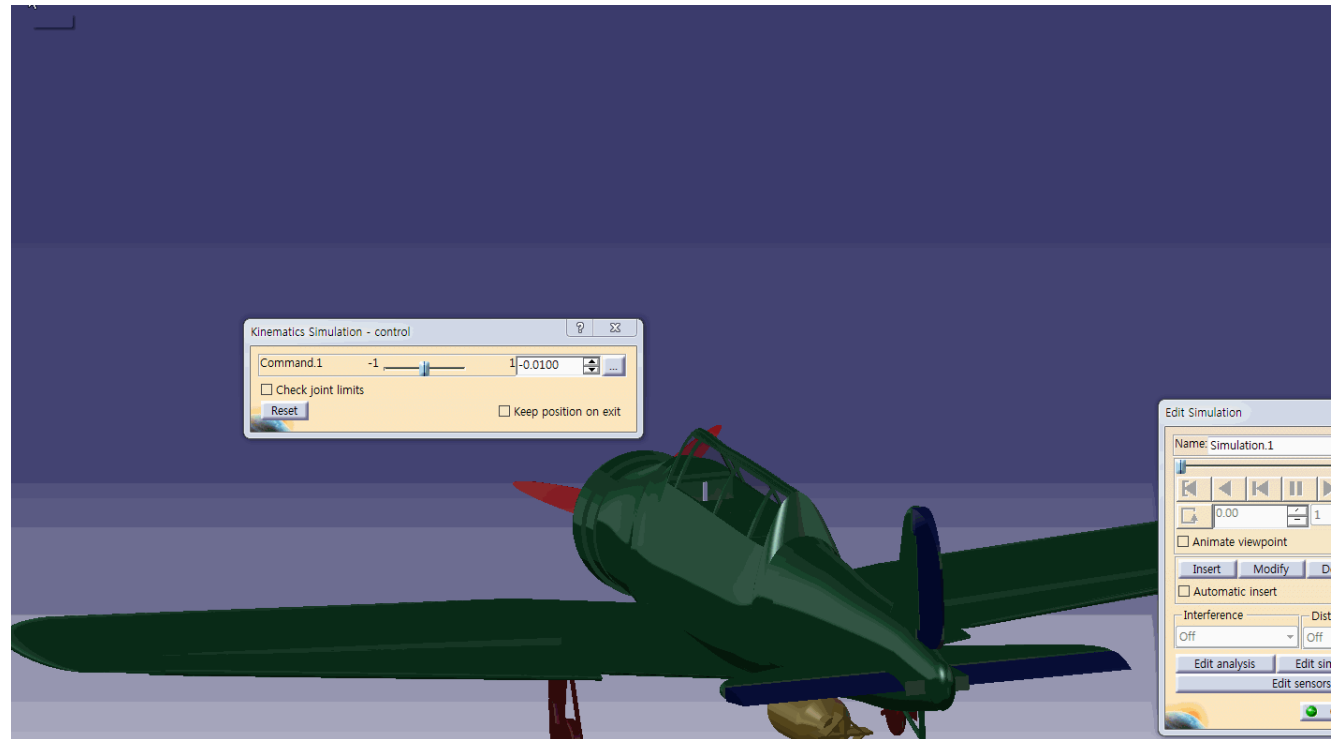
전투기 - 설계



전투기 조종석
Kinematics



전투기 조종석 Kinematics



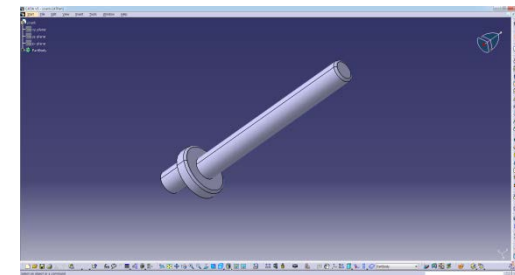
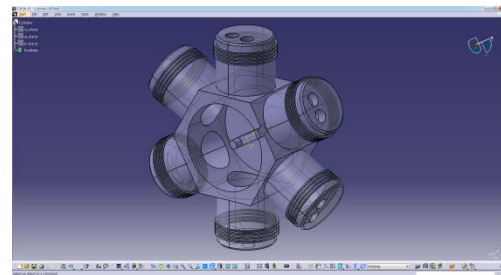
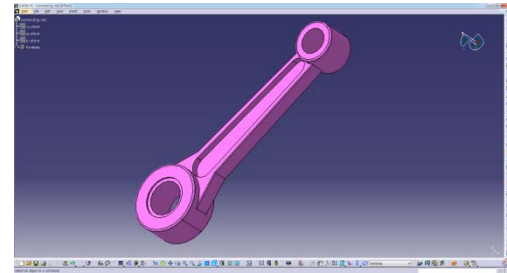
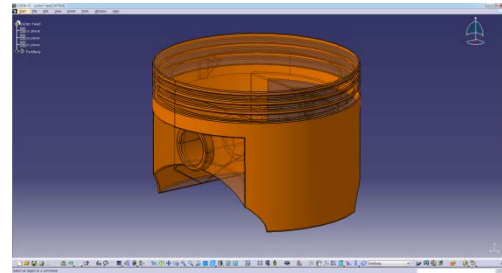
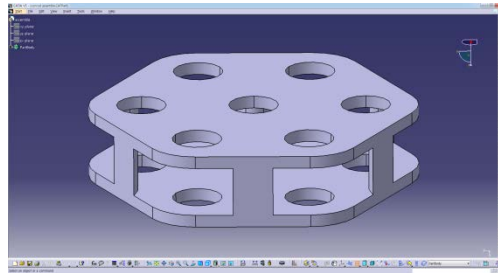
엔진 - 계획

- **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

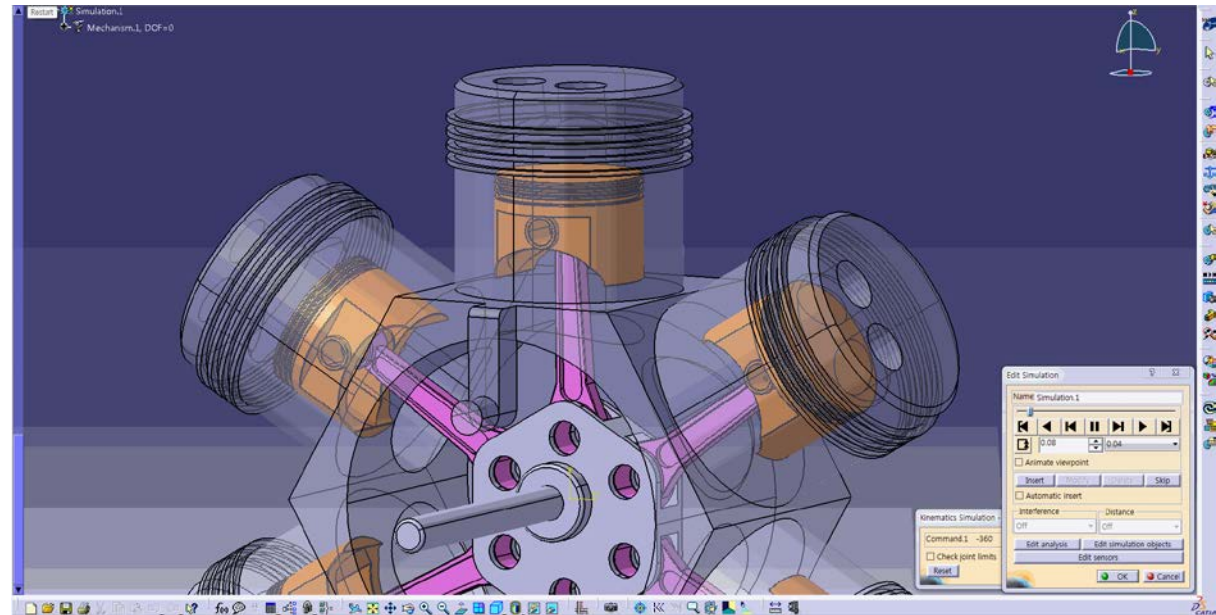
- Piston Head, Connecting Rod를 Outsourcing하여 수정 후 사용
- 많은 부품 수 및 kinematics로 인해 시뮬레이션 시 렉 발생
- 부품 수 최소화를 위해 볼트 및 너트 제거



엔진 - Modeling

■ 실린더 & 피스톤

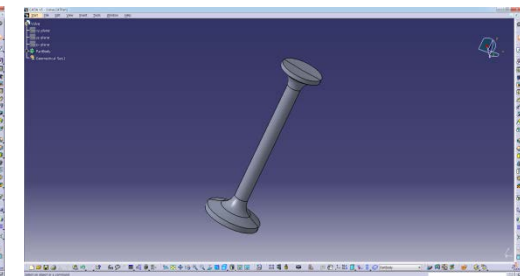
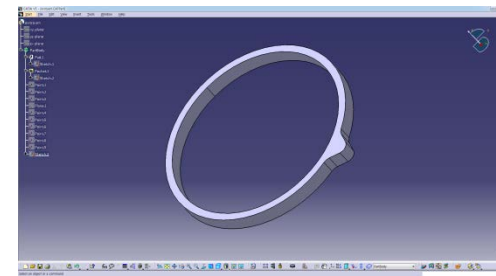
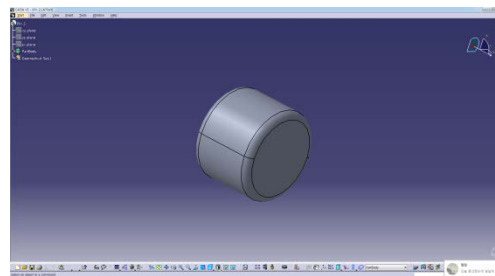
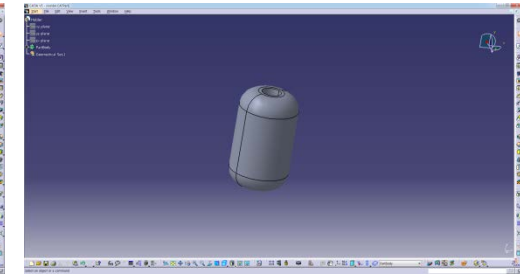
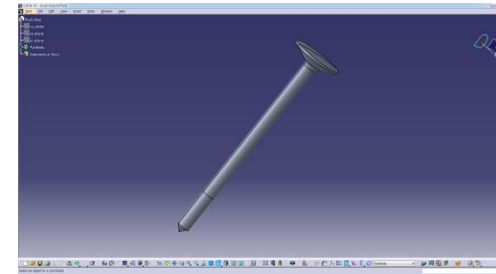
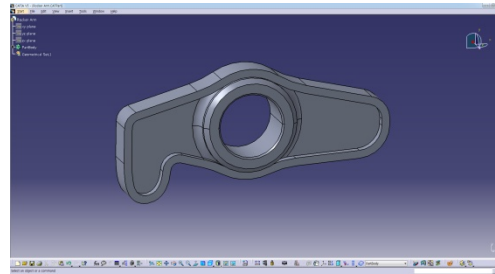
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엔진 - Modeling

■ 흡-배기 밸브

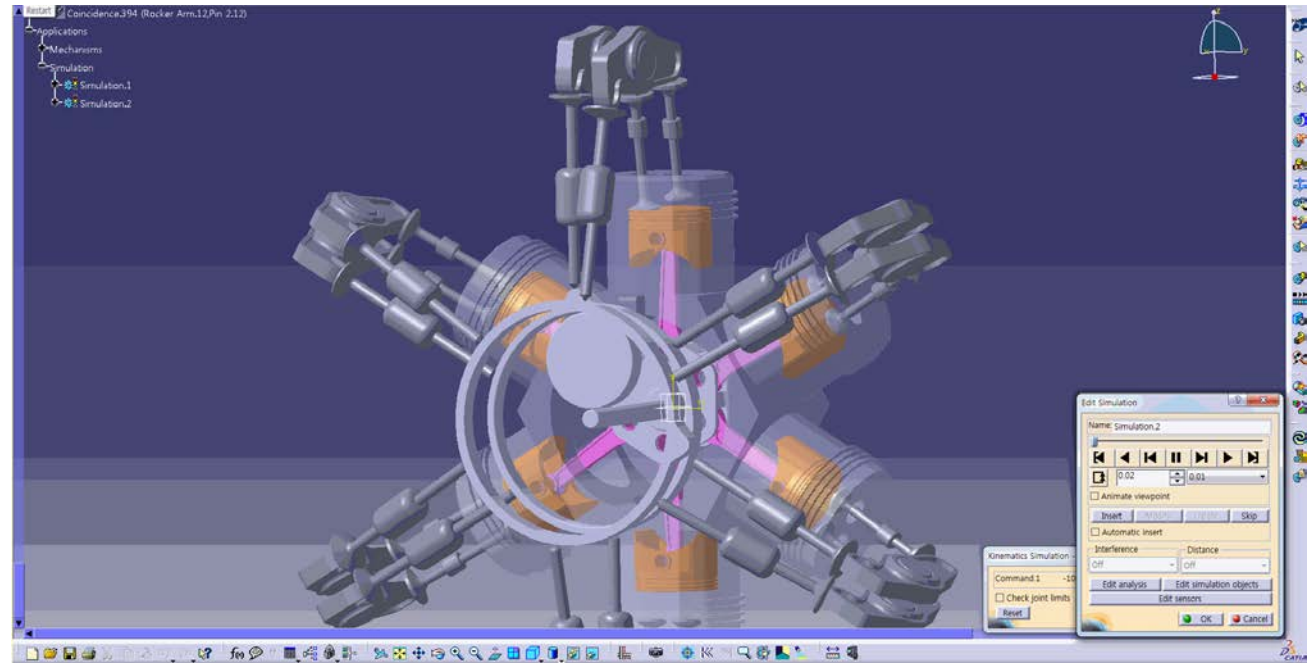
- Valve, Holder, Rocker arm, Push rod를 Outsourcing하여
수정 후 사용



엔진 - Modeling

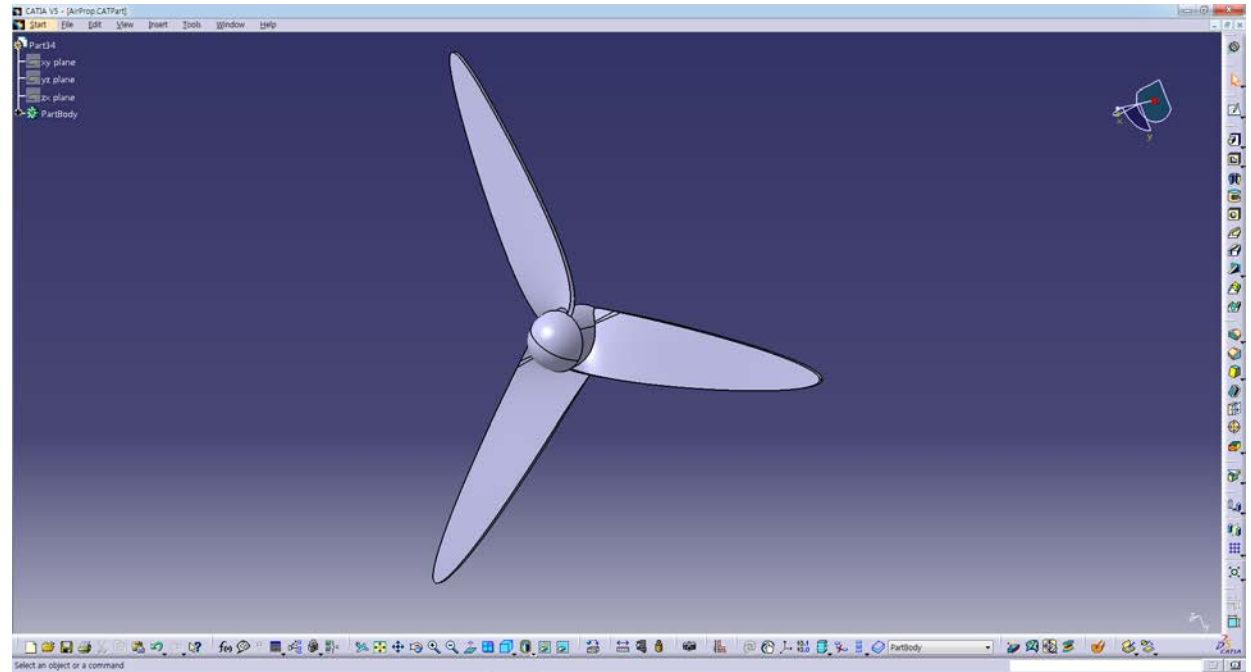
■ 흡-배기 밸브

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



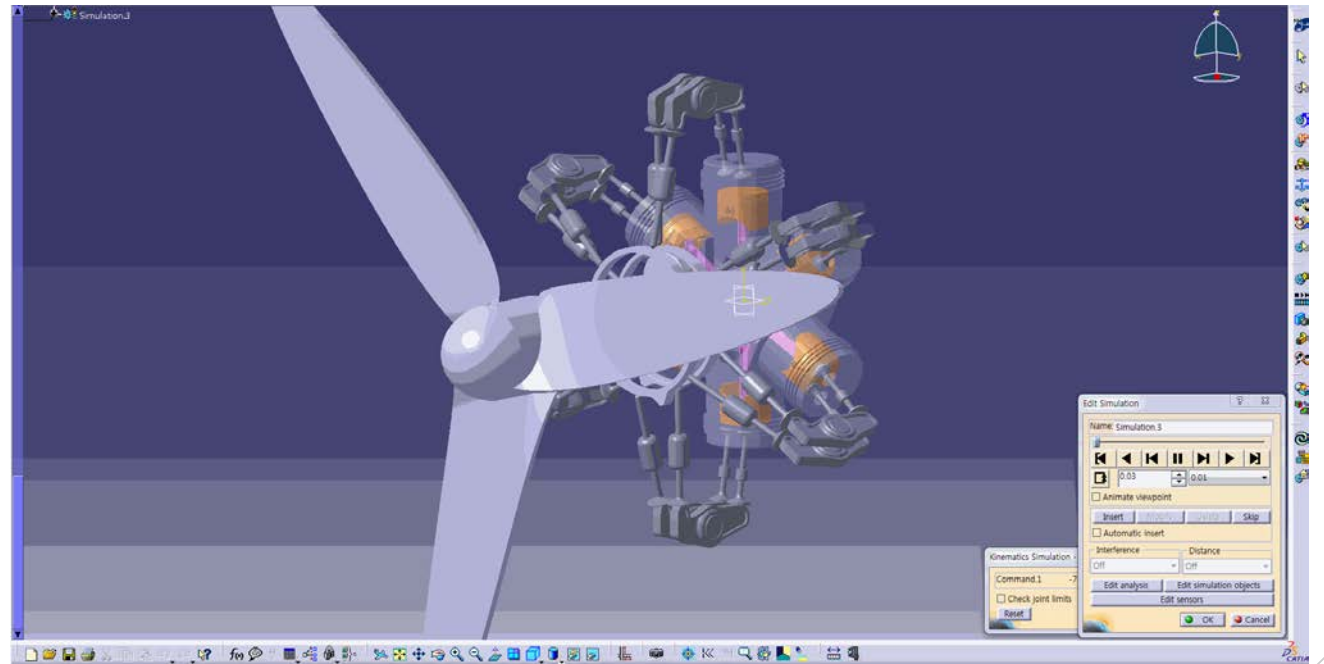
엔진 - Modeling

- 프로펠러



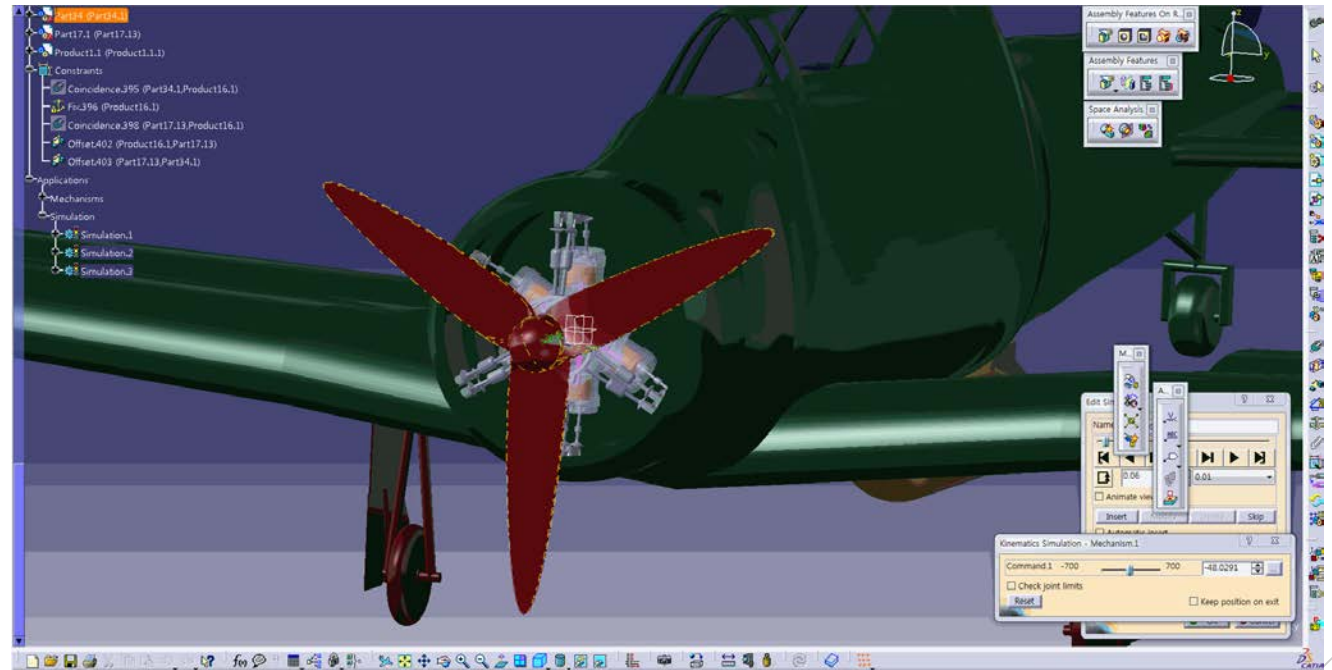
- Assembly Design

엔진 - Modeling



■ Assembly Design

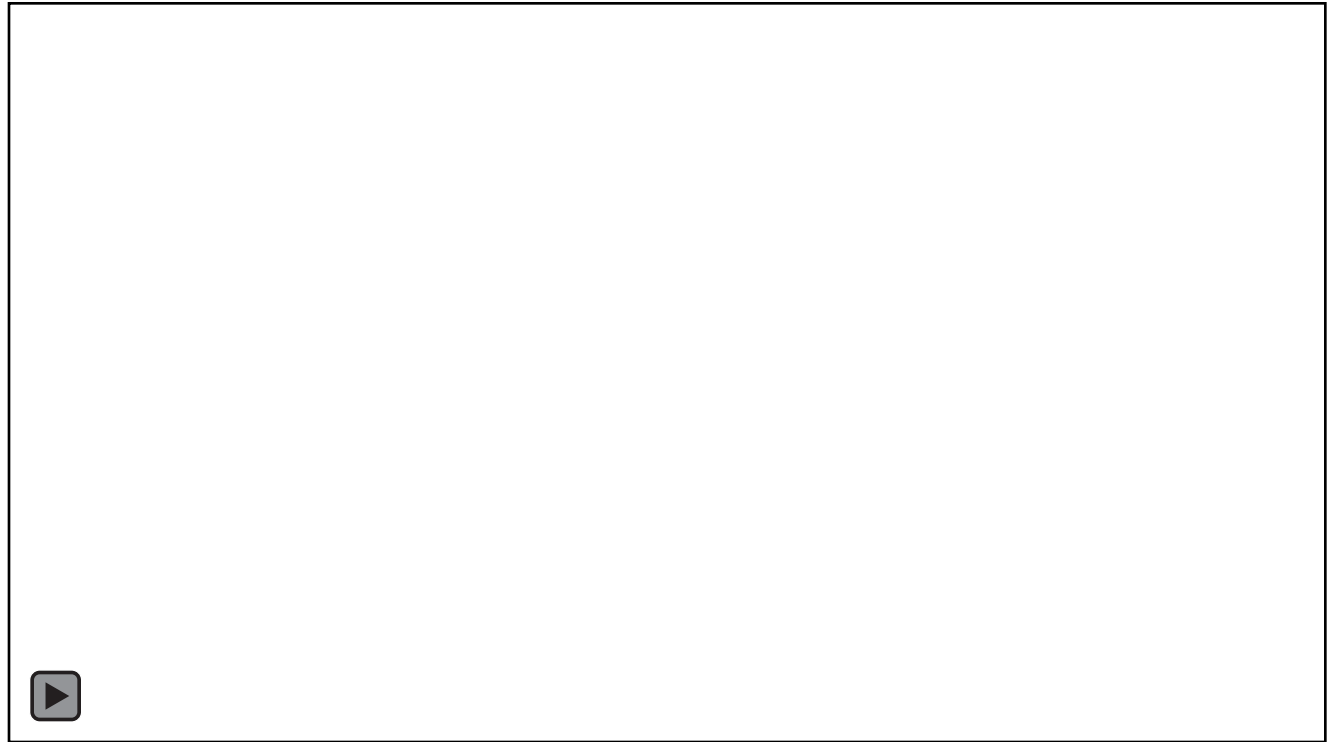
엔진 - Modeling



설계 시 어려웠던 점

- 주제의 특성상 많은 Joint를 가진 Kinematics의 사용이 빈번, 그로 인한 심한 렉 발생
- 조종간과 날개 부품간의 기어 비 설정에 어려움이 있었음
- 전투기 날개 제작 시 Tangency하지 않은 표면 발생
- Assembly된 부품들 간의 Kinematics를 정상적으로 작동시키기 위해 많은 시간 투자

Sequence



<https://youtu.be/hr766DF5k9w>

An aerial view of an aircraft carrier's deck. Several vintage propeller-driven aircraft are parked on the deck, with crew members in dark uniforms and yellow hard hats working around them. The deck is marked with white lines. In the background, the ocean and parts of other ships are visible. A large green propeller plane with a red propeller is in the foreground, partially obscuring the view of the deck.

**Thank
You**