우주 왕복선

우주(would you) CAD?

2011012120 강종민
2012000922 심재훈
2014012760 한상원

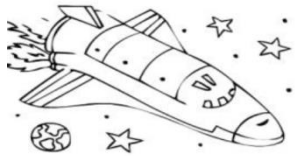
우주 왕복선

◆소개
- ➢팀 명 선정 배경
- ➢프로젝트 선정 배경

◆프로젝트 설명
- ➢발표자: 한상원
- ➢발표자: 심재훈
- ➢발표자: 강종민(팀장)

◆프로젝트 영상

◆Q&A



팀 명 선정 배경

우주(would you) CAD?

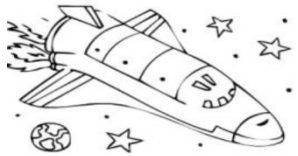
팀장
(강종민)

→ "CAD 한번 하실래요?" 발언

→ 강종민 = 미자공 1기

→ 주제인 우주왕복선과 CAD를 연동

→ 팀장의 언어유희적 유머 센스가 돋보인 다며 모두 어쩔 수 없이 찬성!



프로젝트 선정 배경

주제: 우주 왕복선

➢테슬라 스페이스 X

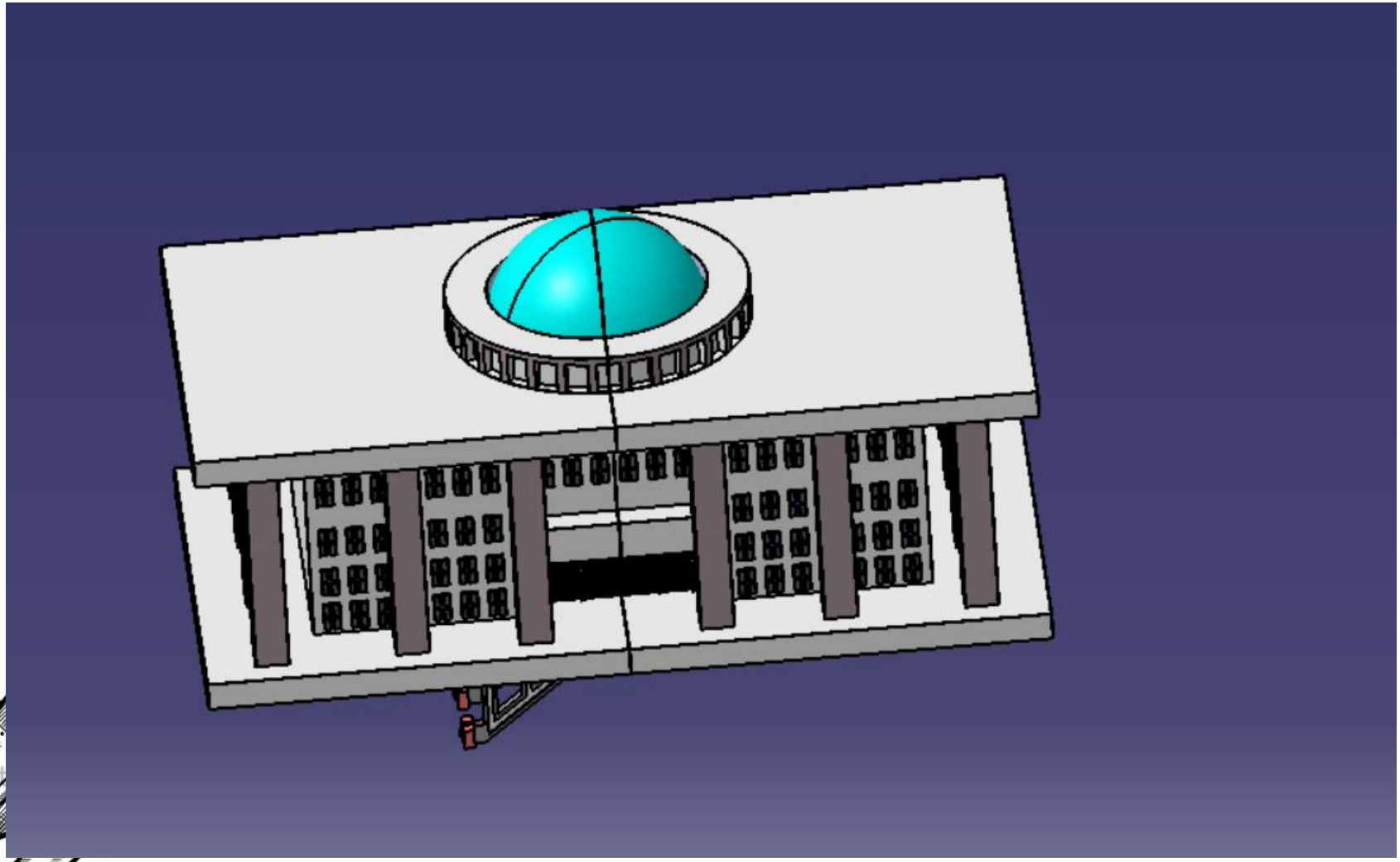
우주선의 후미부분을 재사용 가능 하게 만든 프로젝트

테슬라 스페이스 X 프로젝트를 보며 우주왕복선 발사를 만들게 되는 계기가 됨.

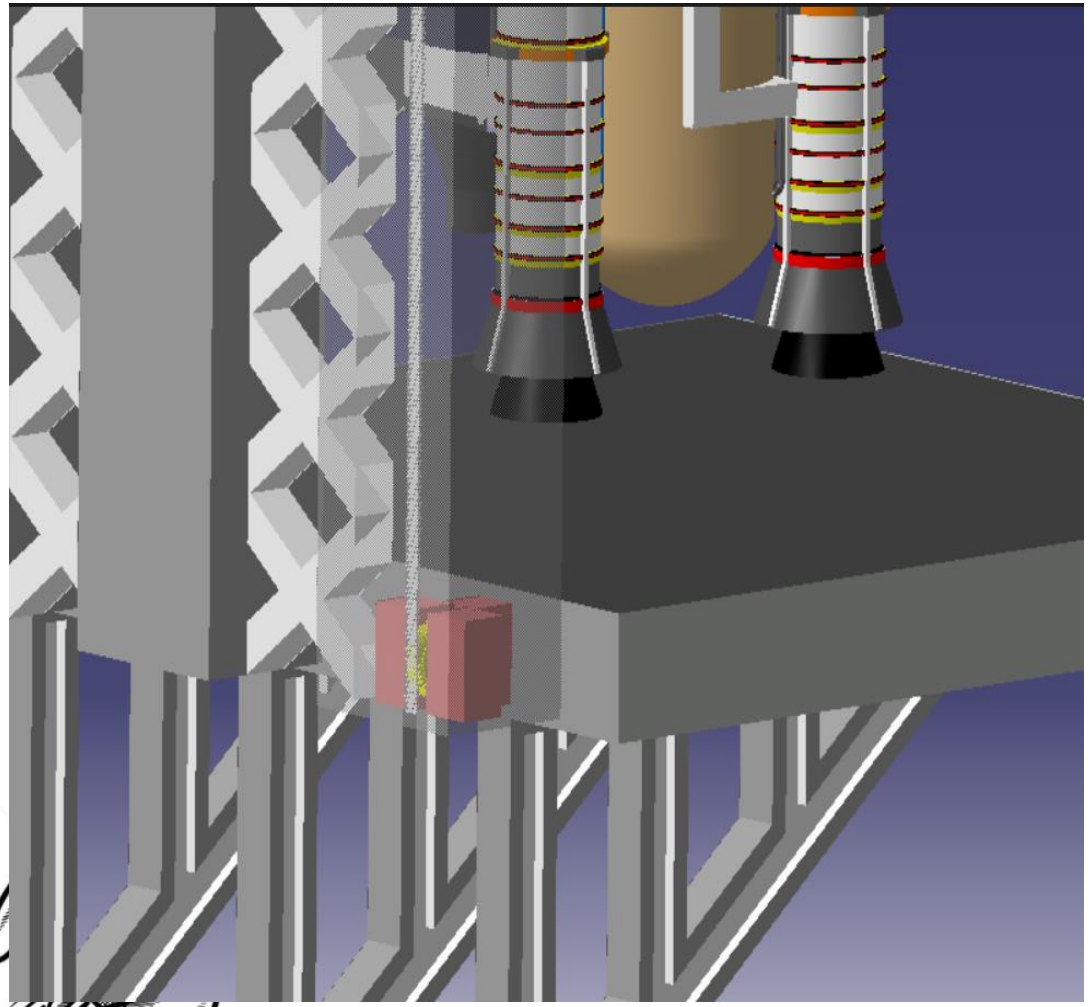
PART 설명(1) : 발사배경 장소

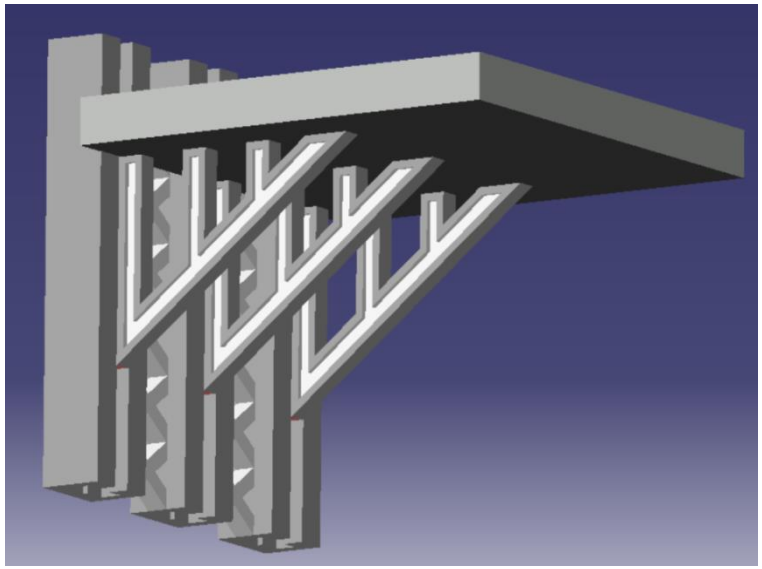
사진 출처: http://photo.naver.com/view/20130417171823050 81

PART 설명(1) : 발사배경 장소

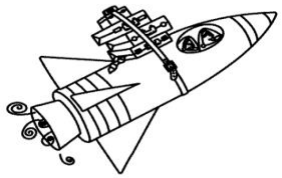


PART 설명(2) : 발사체

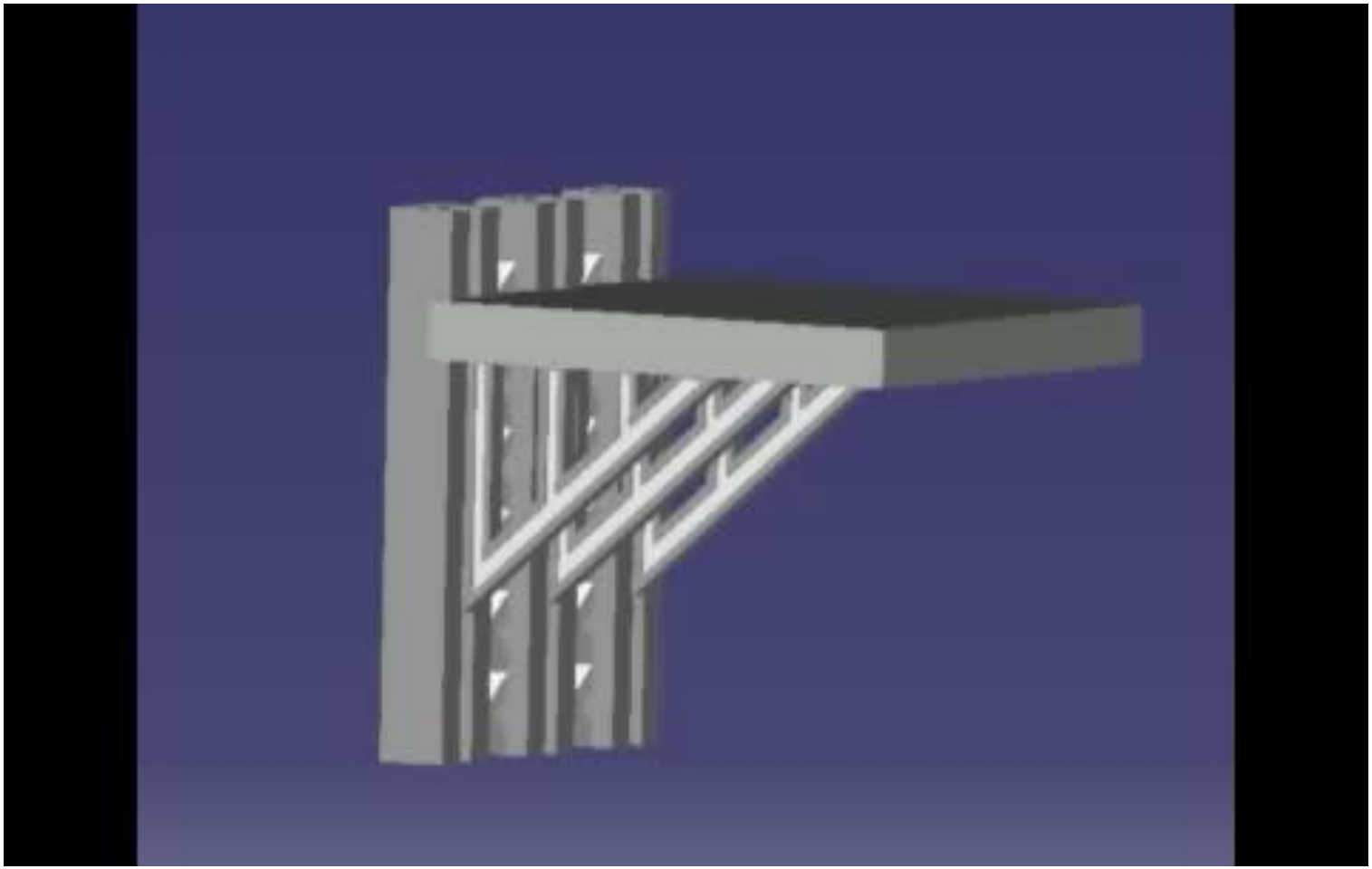


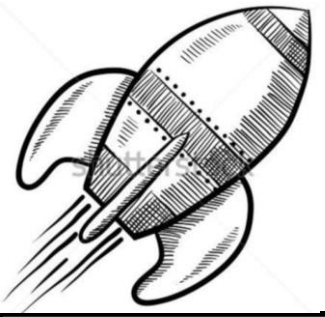


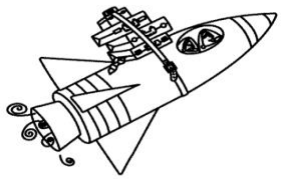
- 발사체는 왕복선의 출발을 도와준다.
- 초기에 동시에 상승 운동



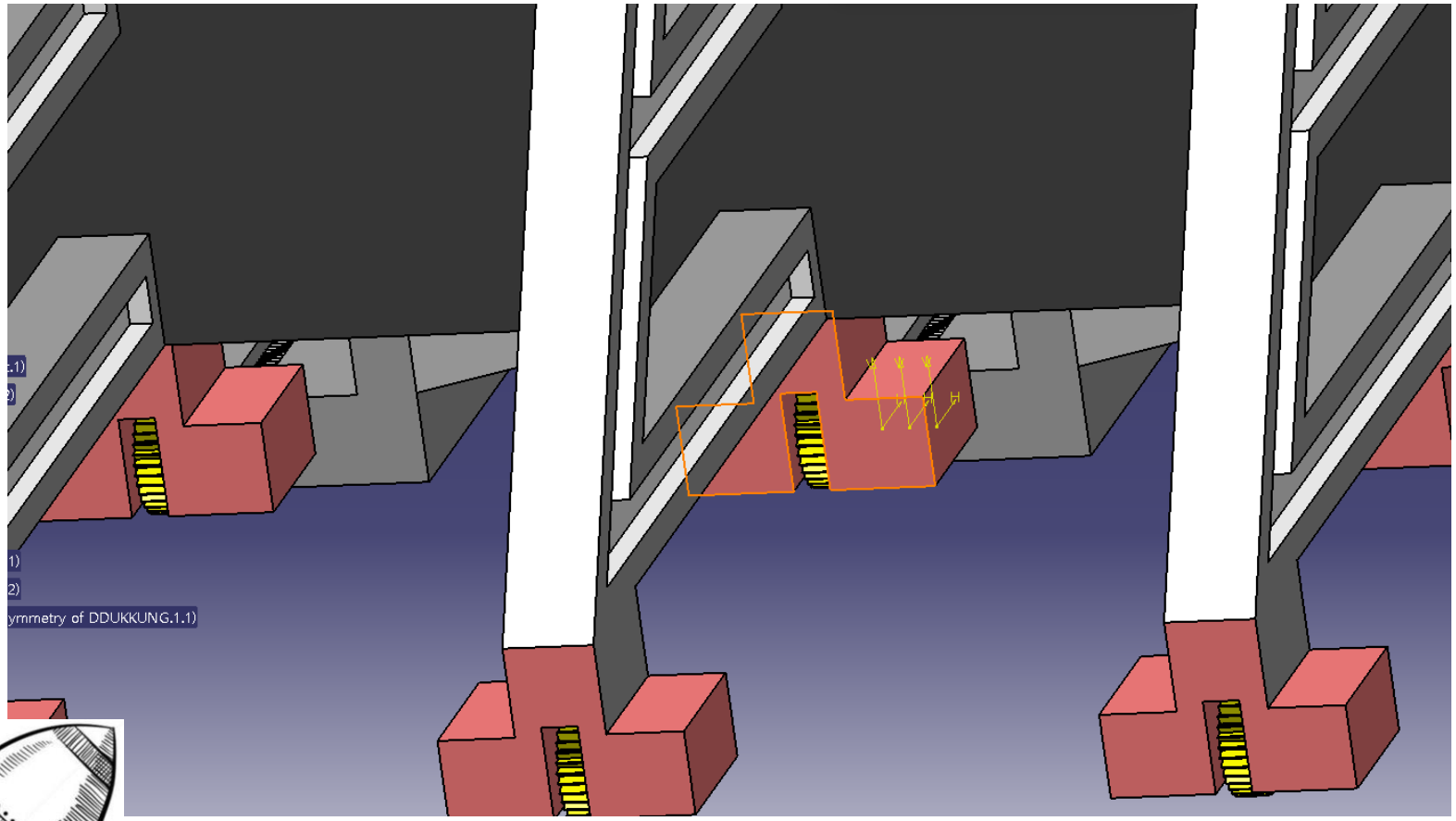
PART 설명(2) : 발사체





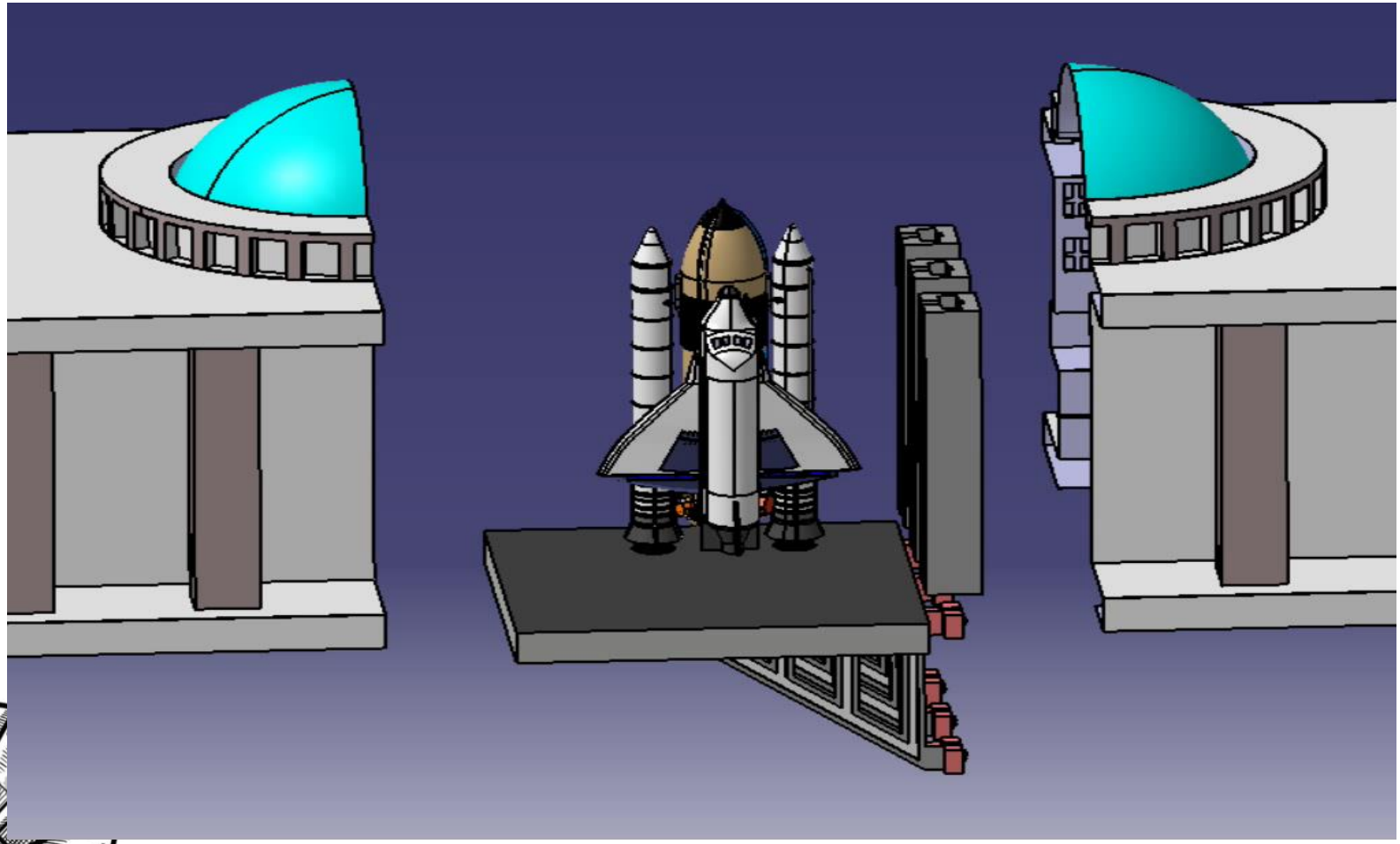


PART 설명(2) : 발사체

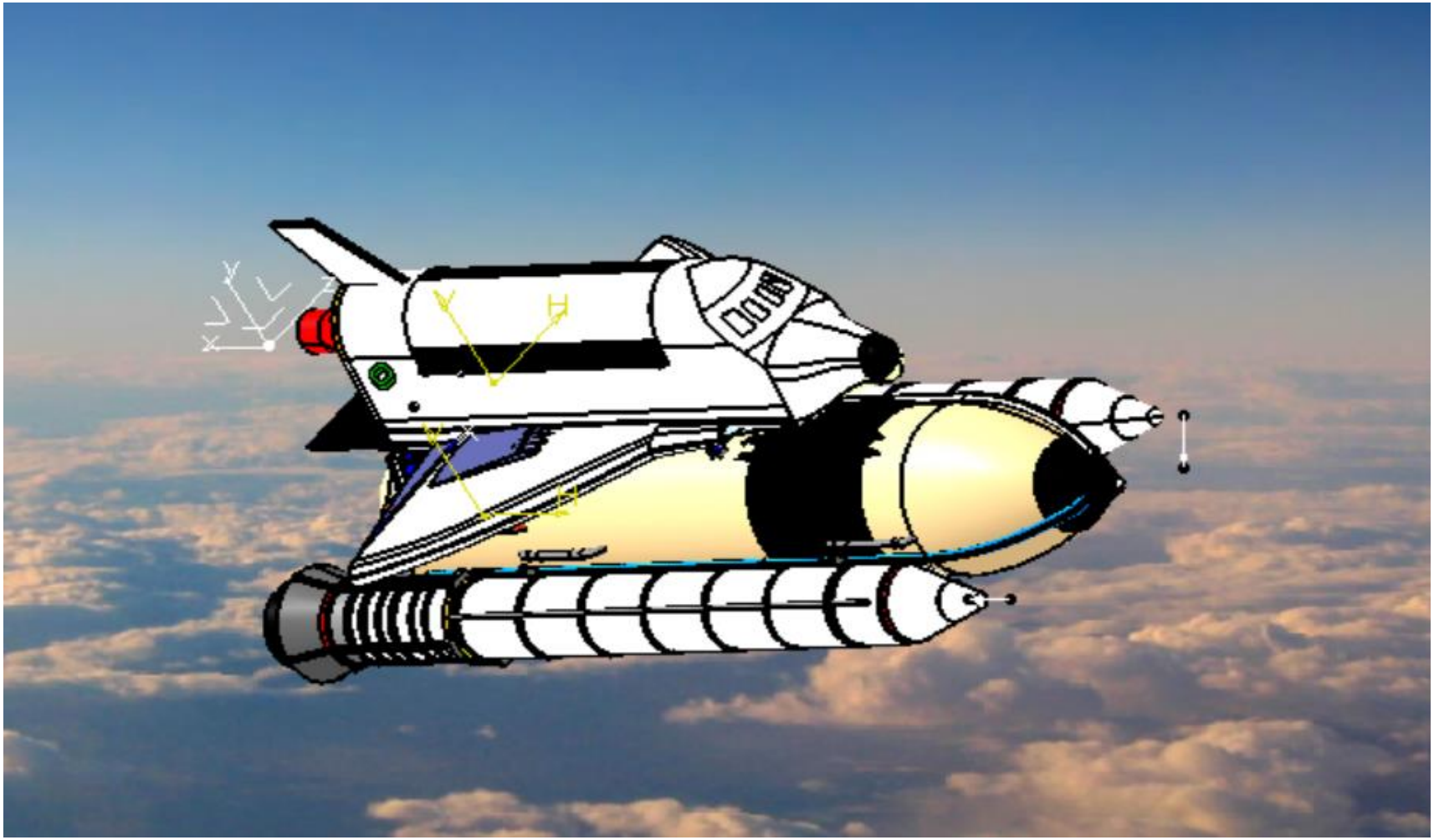


- 6개의 톱니바퀴가 Rack Joint 운동을 하며 발사받침대를 들어올린다.

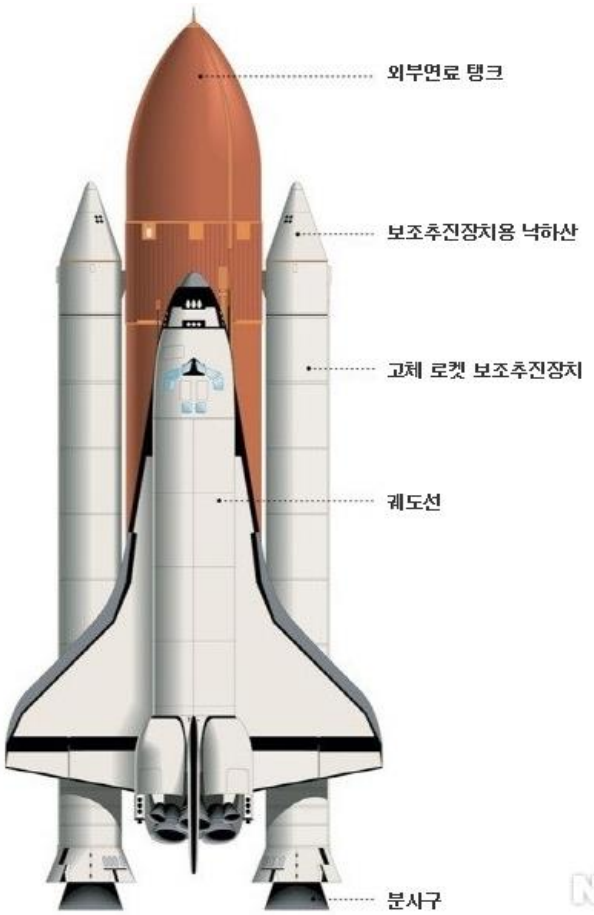
PART 설명(2) : 발사체

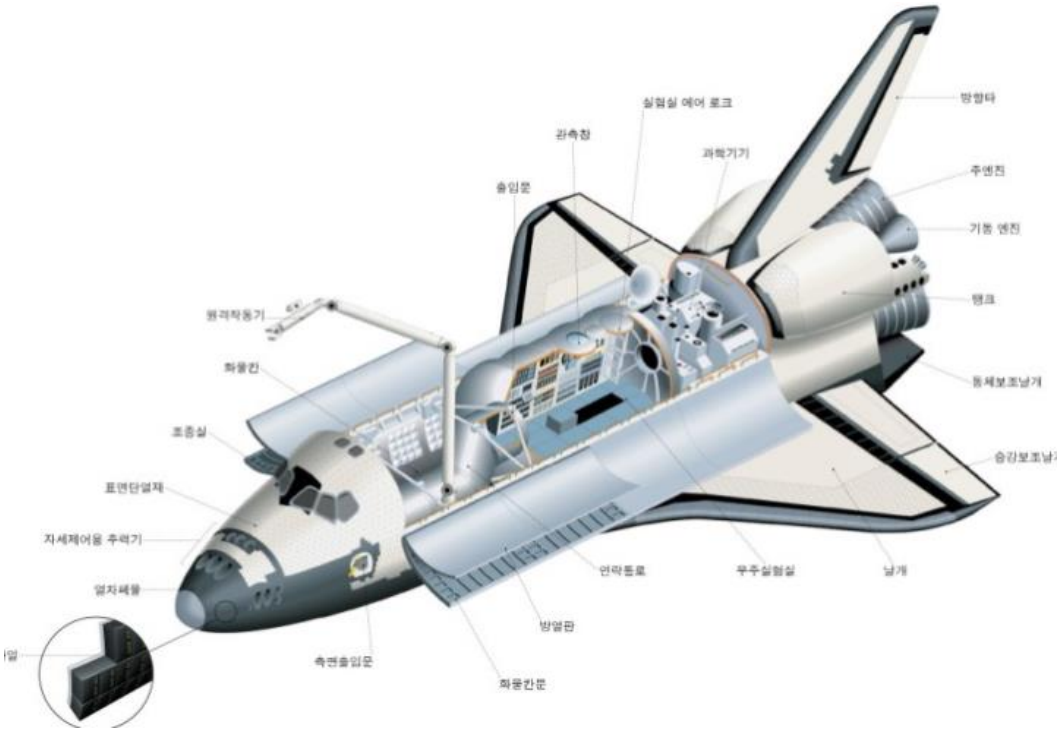


PART 설명(3) : 우주왕복선



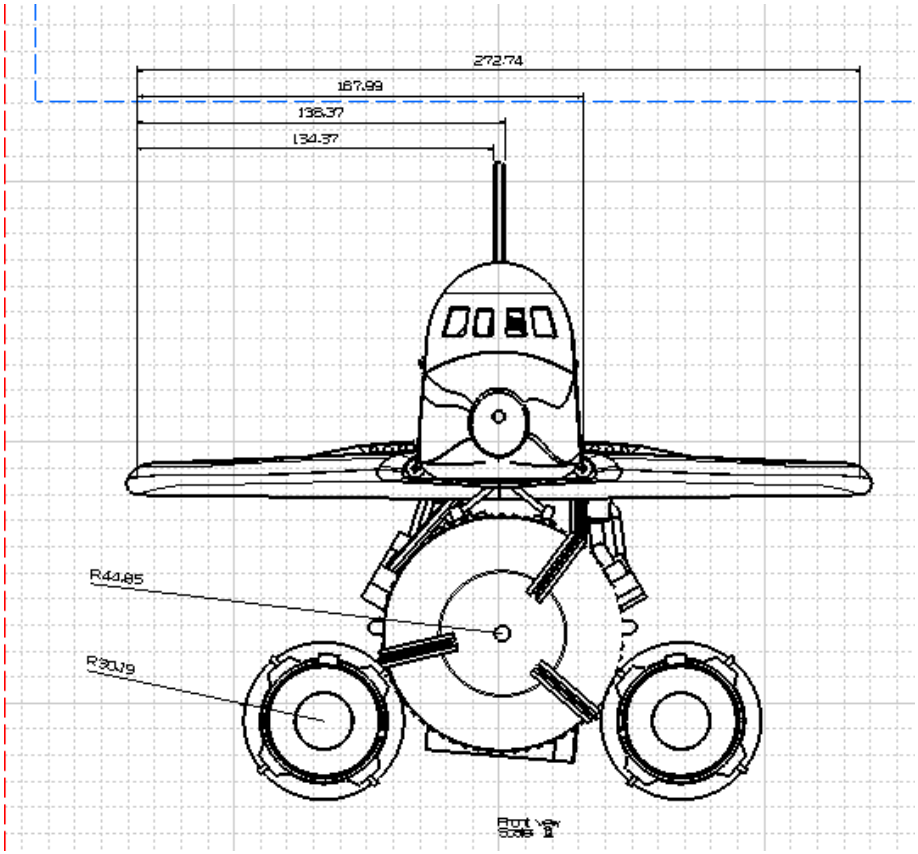
참고 : 우주왕복선 구조

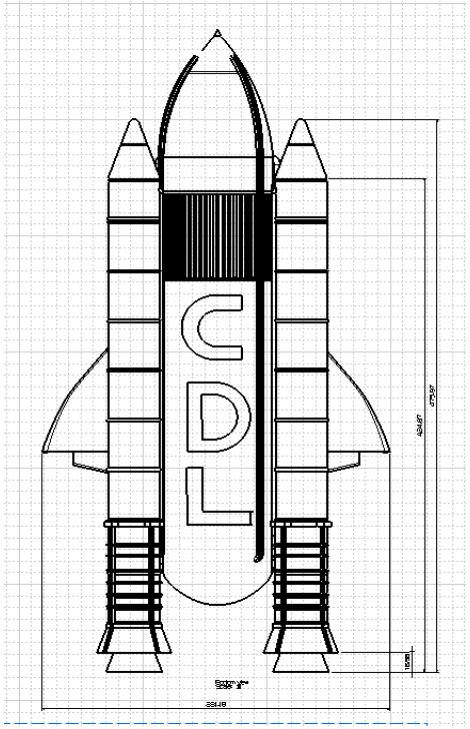


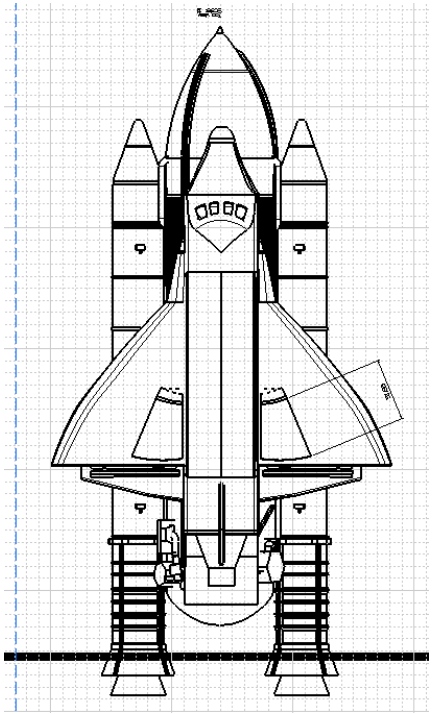


참조 링크
http://blog.naver.com/creamsalad?Redirect=Log&logNo=70159445810

PART 설명(3) : 우주왕복선

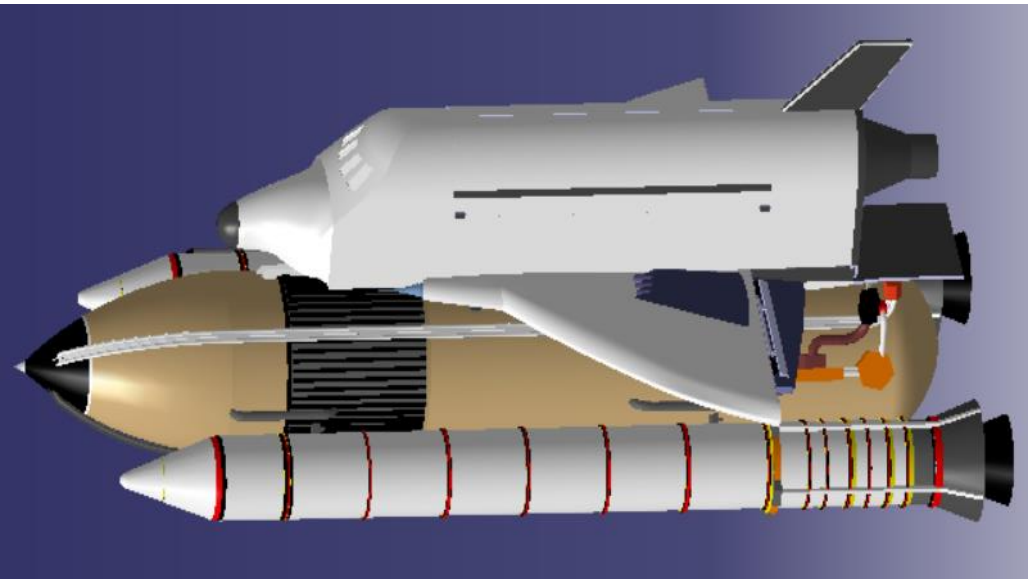


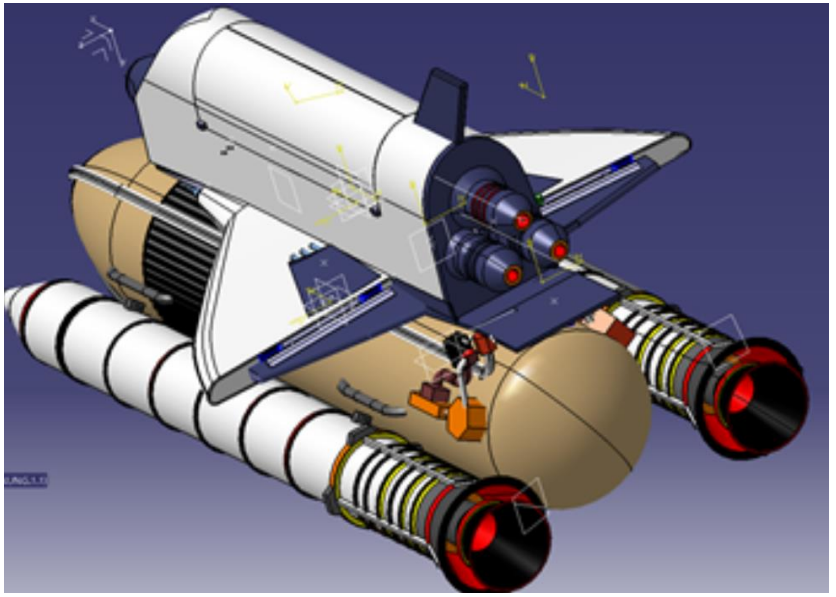




- 외부 연로통, 보조 추진 장치를 결합한 우주왕복선의 도면

PART 설명(3) : 우주왕복선

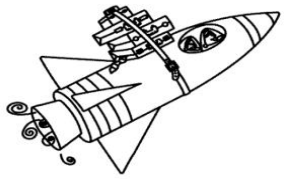




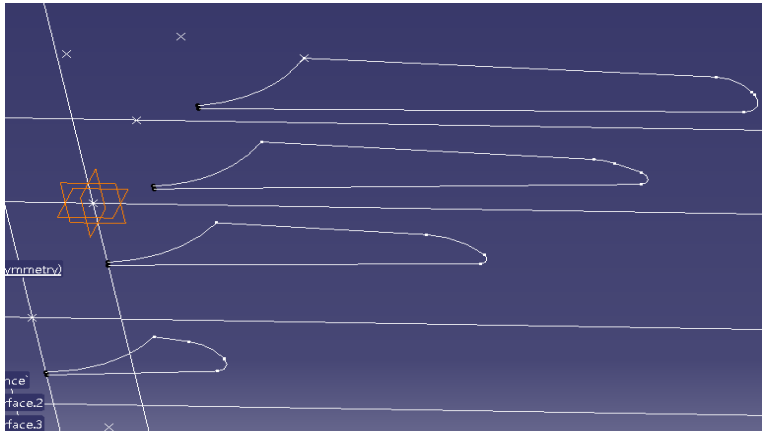
우주 왕복선

외부 연료통

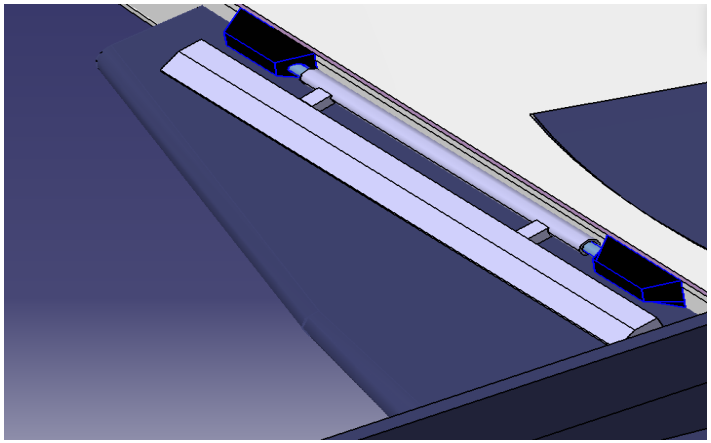
보조 추진장치



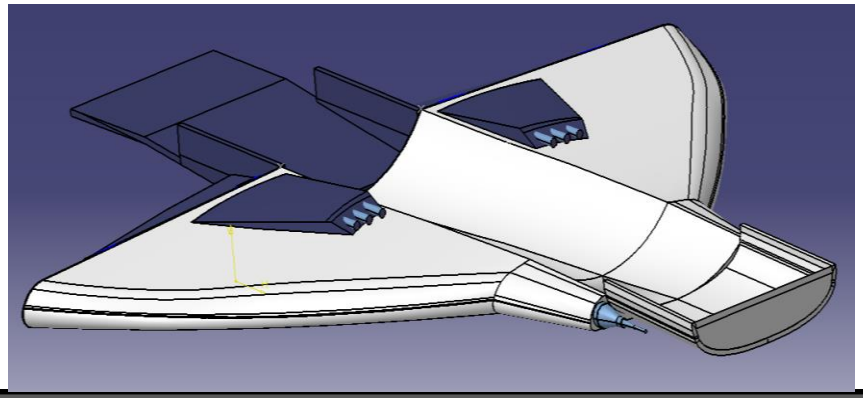
스페이스셔틀 날개부 제작과정



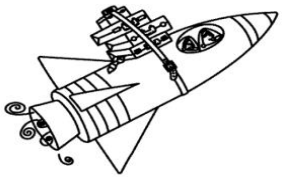
멀티섹션서페이스 이용하여 곡면 날개형성



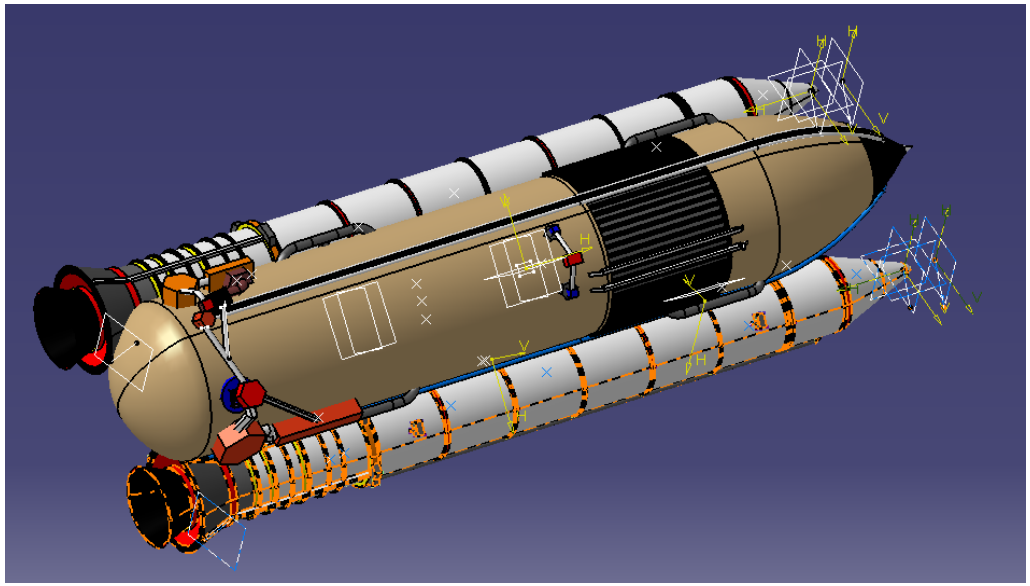
부가적인 장치를 설치하여, 곡면 날개생성의 난이도를 더하였다.

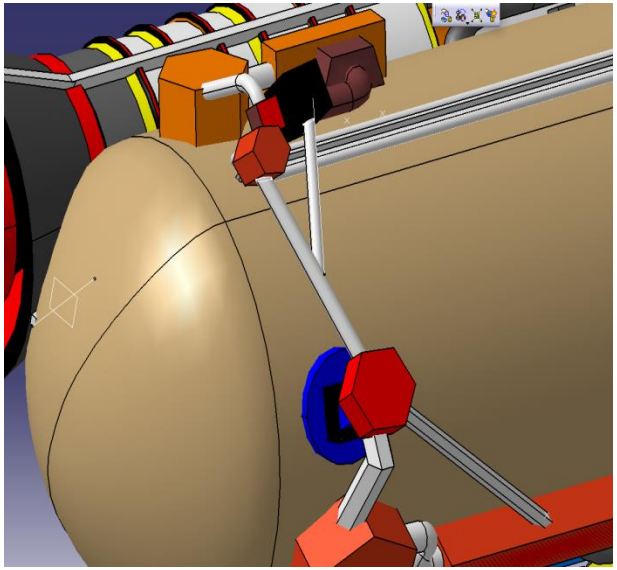


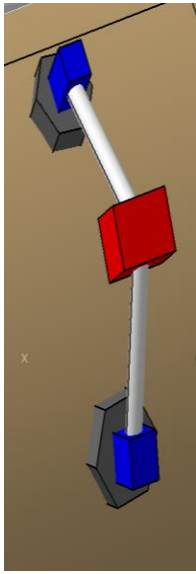
최종 완성된 셔틀의밑면



스페이스셔틀 연료통 및 보조 추진장치



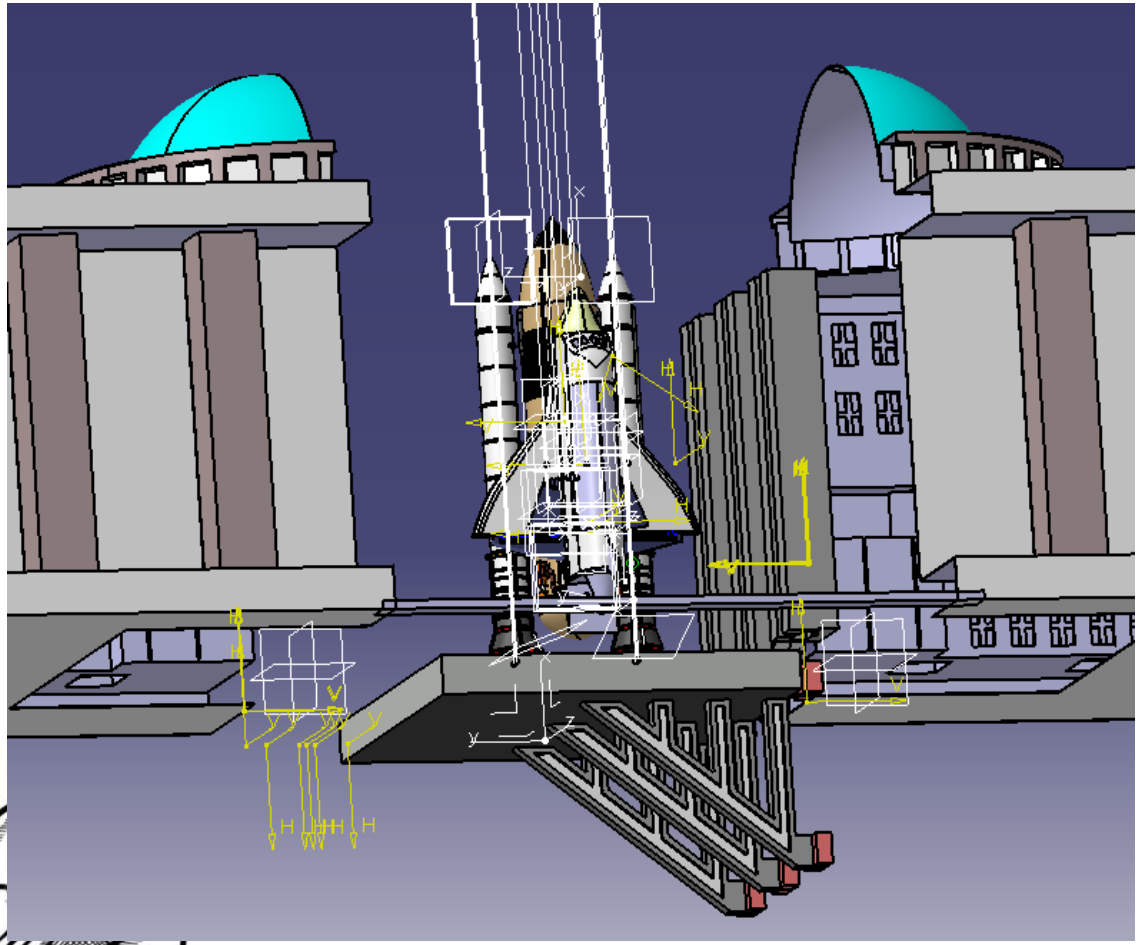


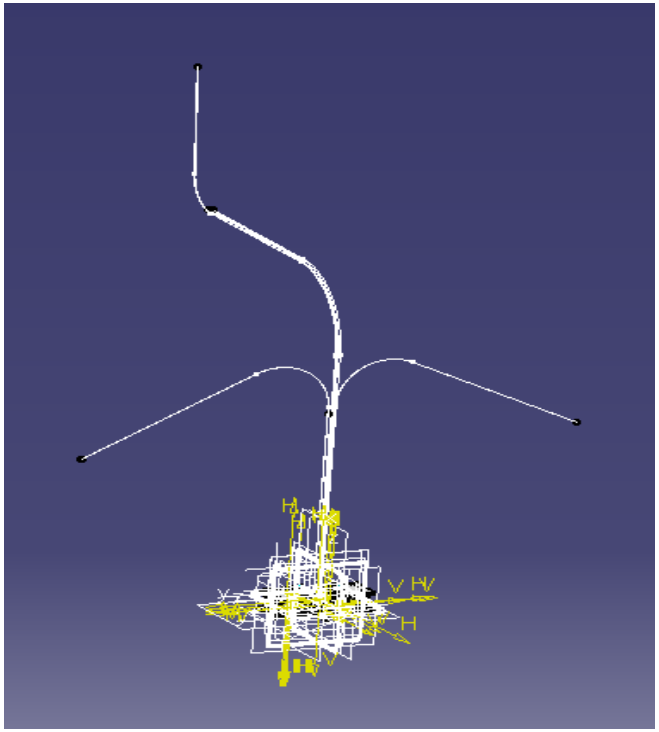


파트 디자인을 이용한 연료통 및 보조 추진장치 생성

평평한 파트를 이용하여 셔틀 날개의 아랫부분과 어셈블리를 진행한다.

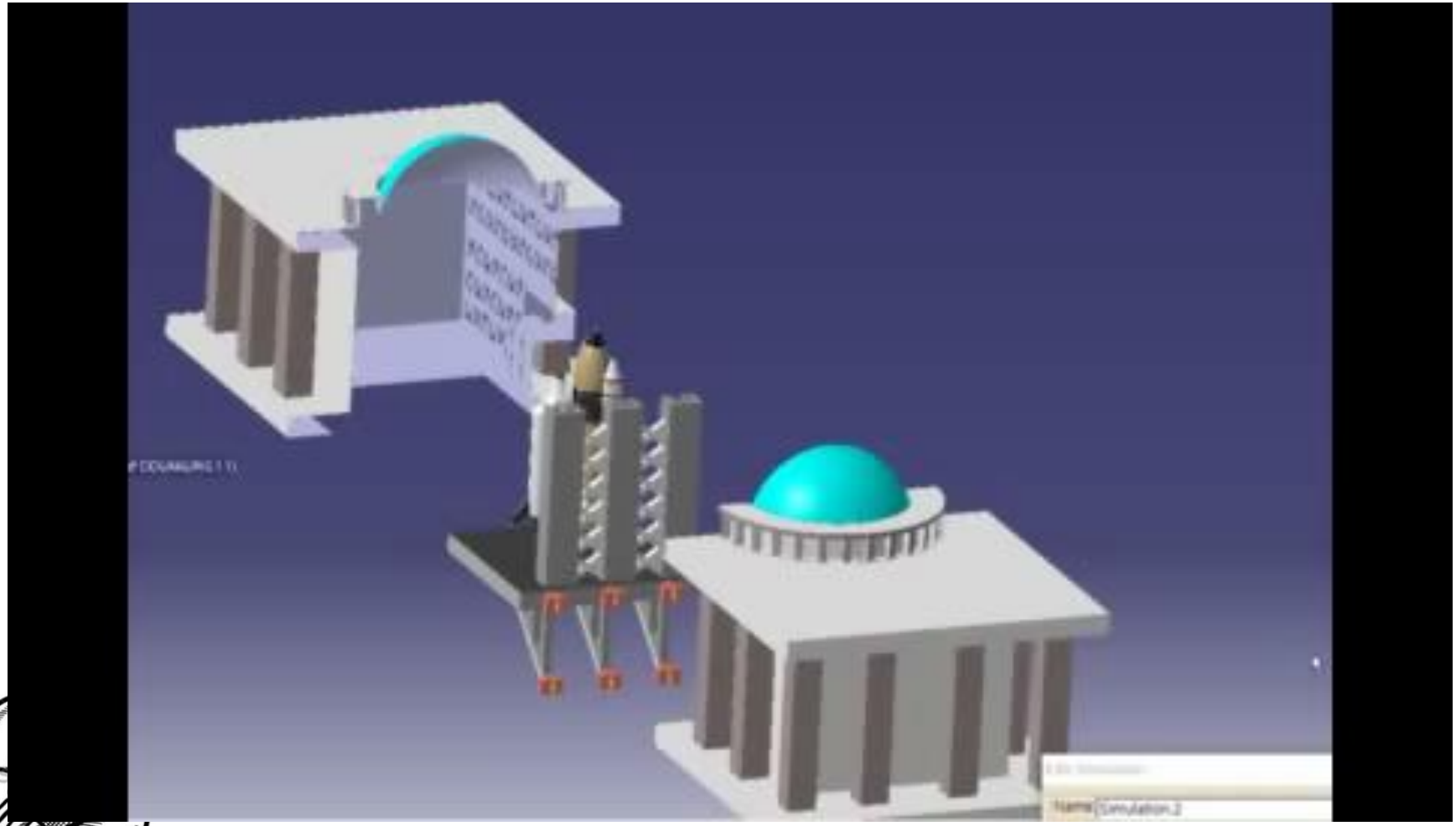
PART 설명(3) : 우주왕복선

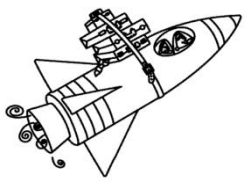




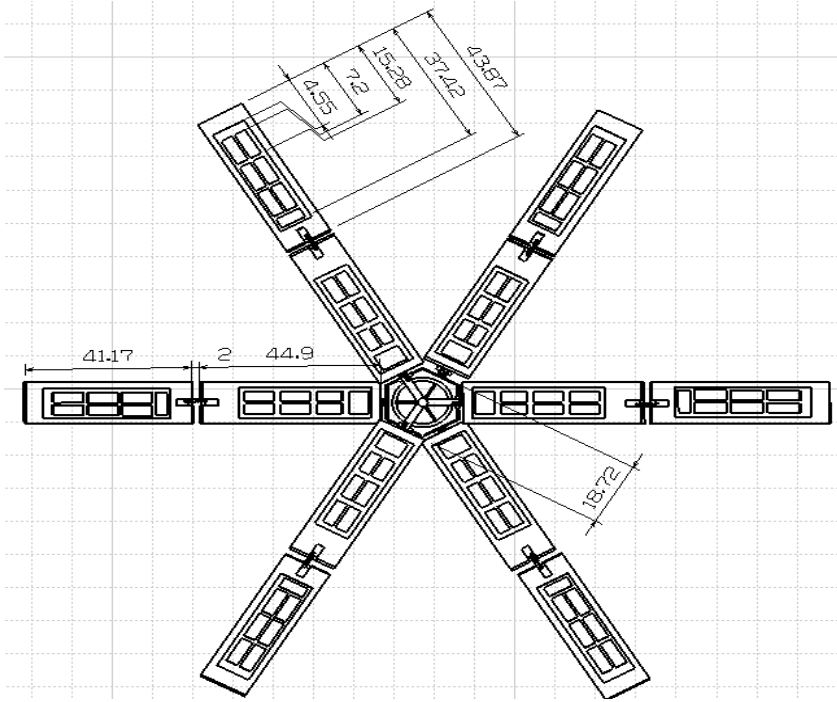
➢ 실제 발사되는 운동을 묘사하기 위한 평면 및 선

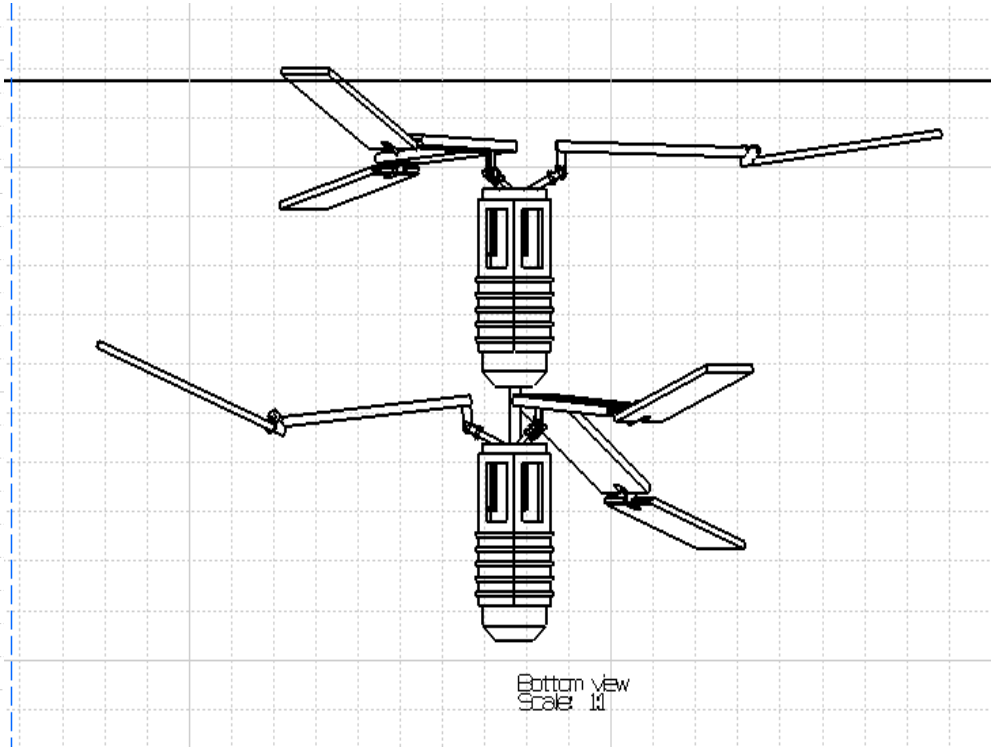
PART 설명(3) : 우주왕복선





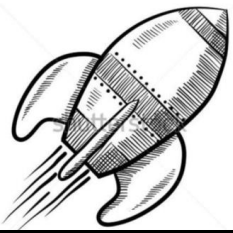
PART 설명(4) : 인공위성



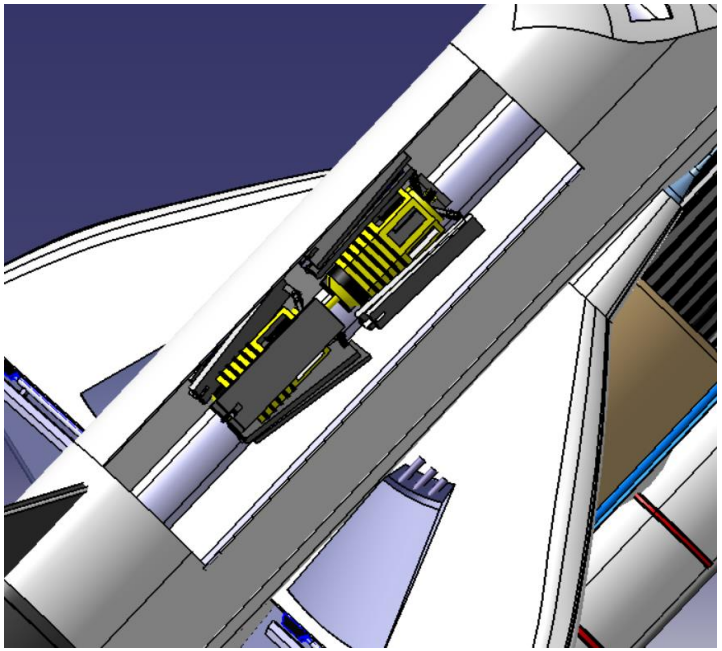


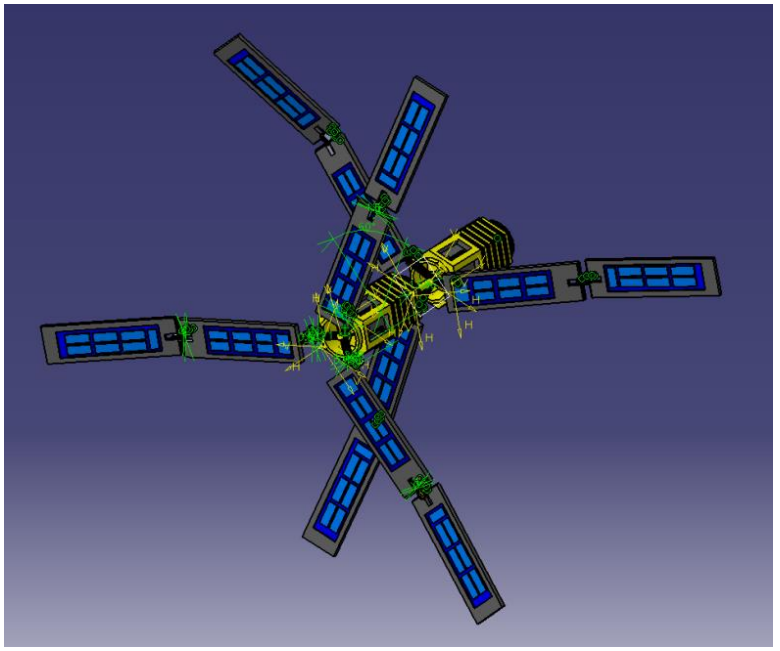
위에서 내려다 본 모습

옆면에서 본 모습

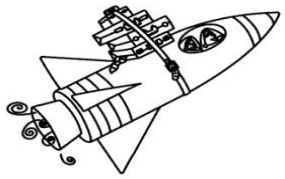


PART 설명(4) : 인공위성

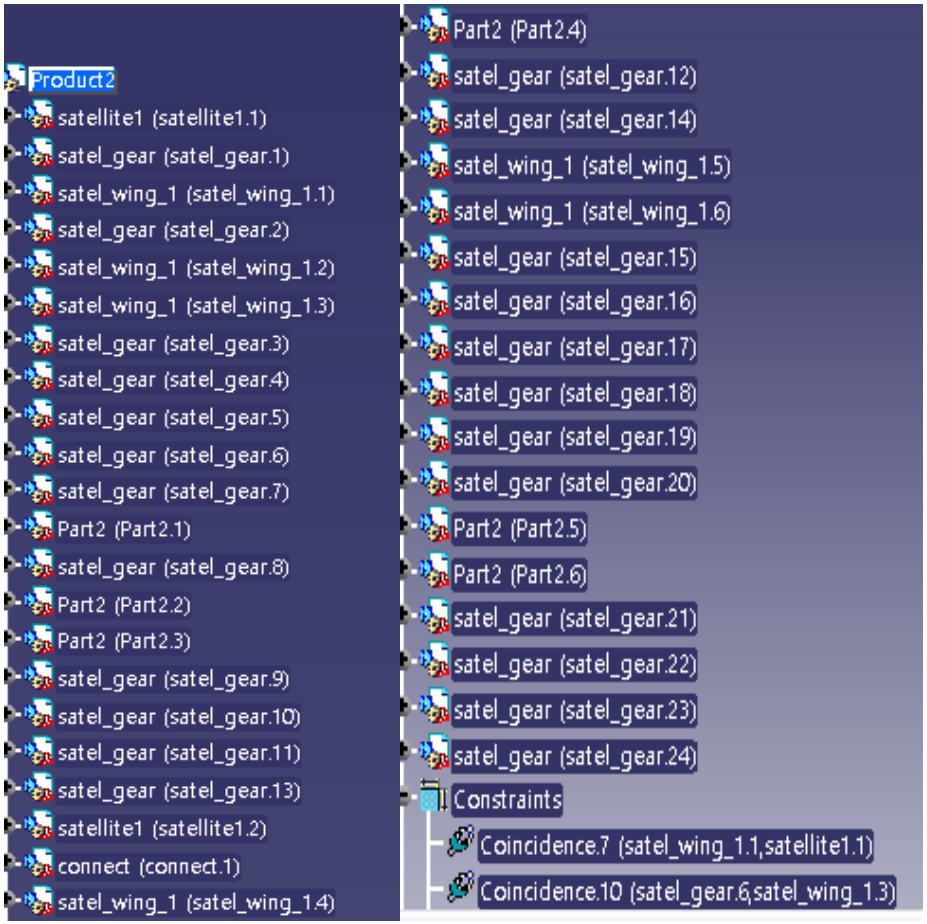




- 발사 시엔 셔틀 안에 위치
- 궤도 진입 후 .

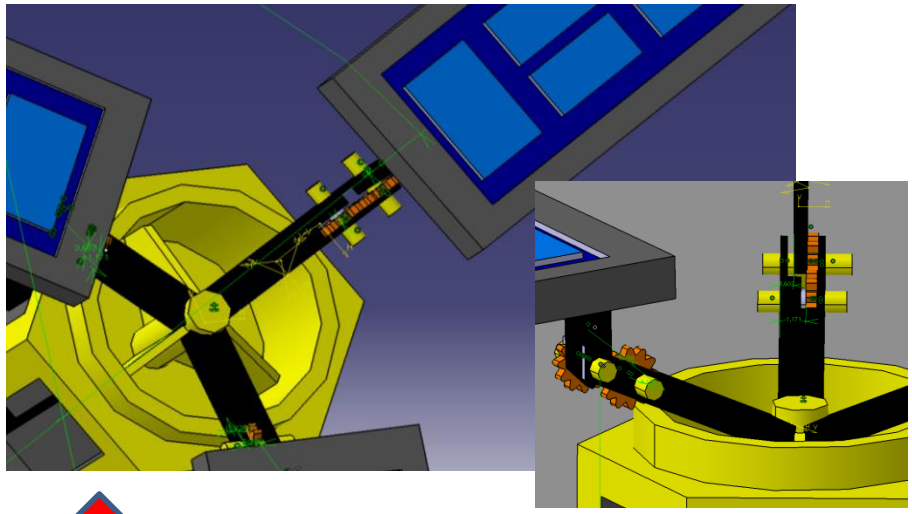


인공위성 제작 과정



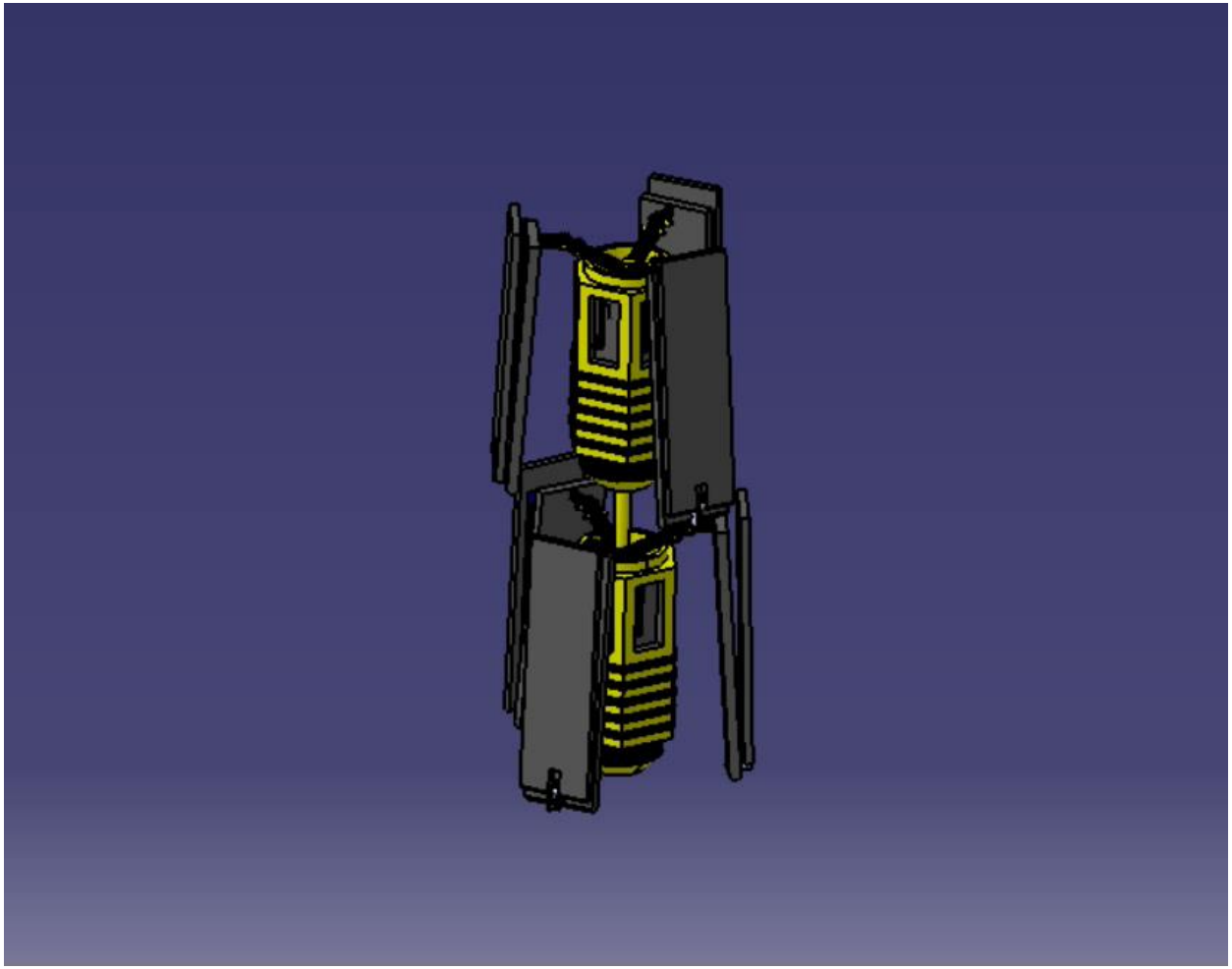
작업트리

동작을 위해 각각 파트로 분할, 조립 구성 파트는 태양 전지판, 위성 중앙부, 기어부분 등



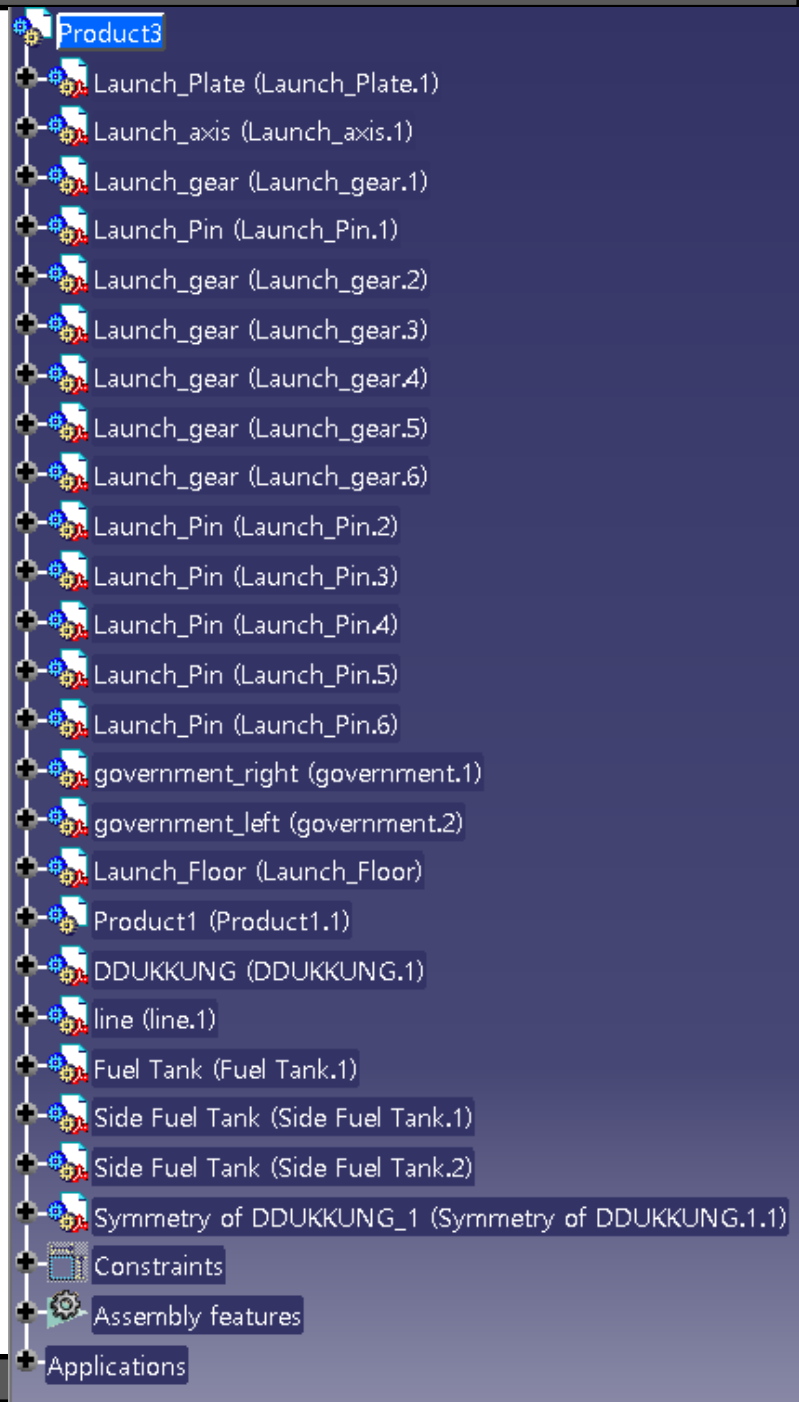
태양전지판이 펼쳐질 때 Gear Joint로 구현

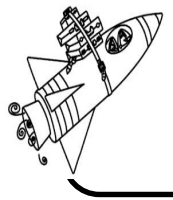
PART 설명(4) : 인공위성



작업 트리1

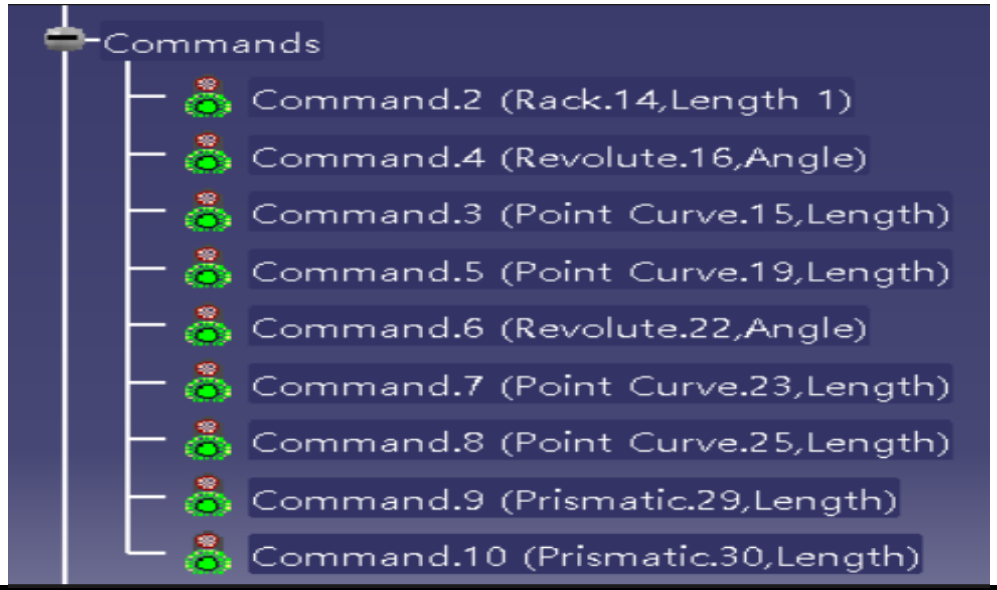
1. 발사대
2. 국회의사당
3. 우주 왕복 셔틀
4. 주 연료통, 추진체
5. 우주선의 뚜껑
6. 인공위성

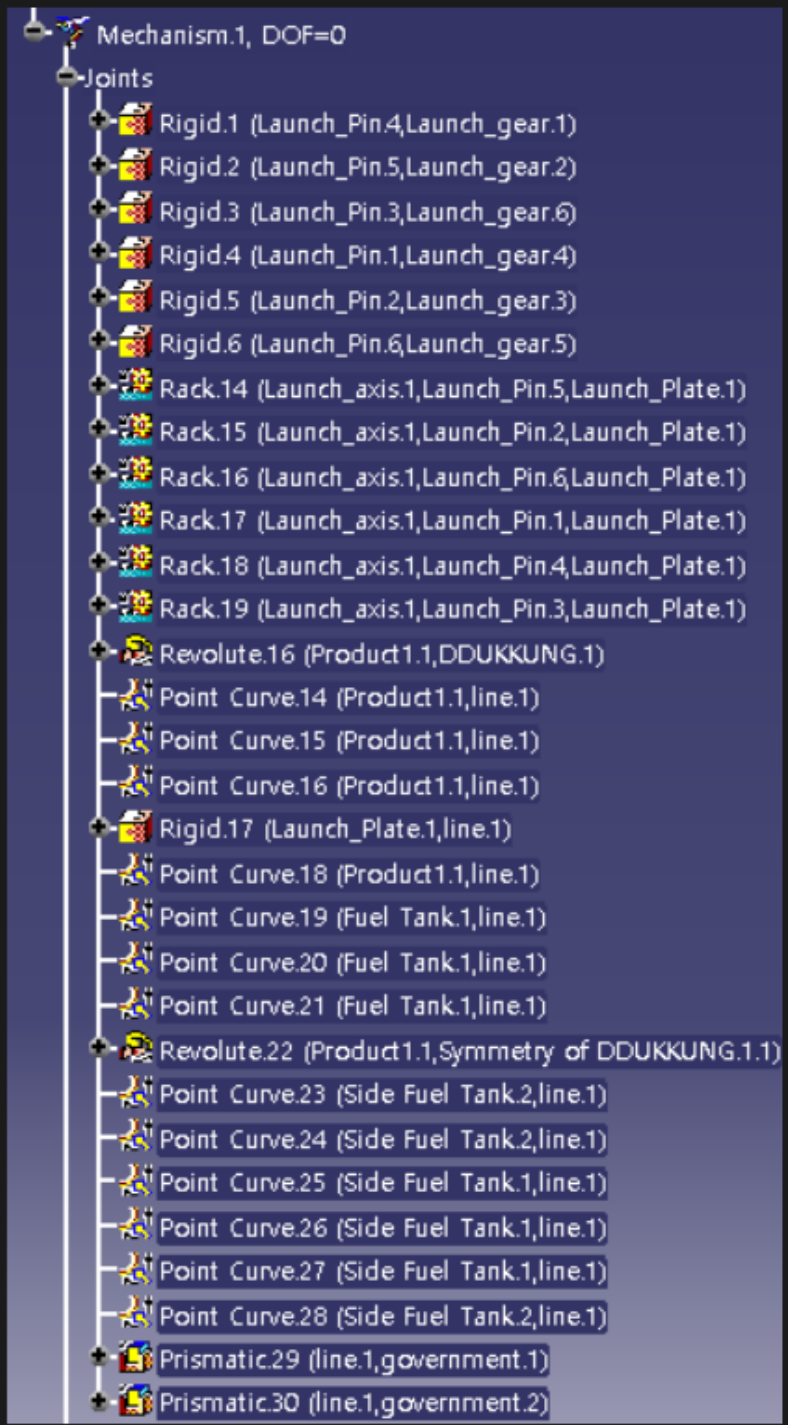


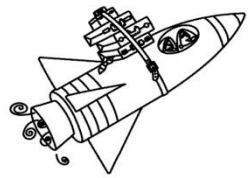


작업 트리2

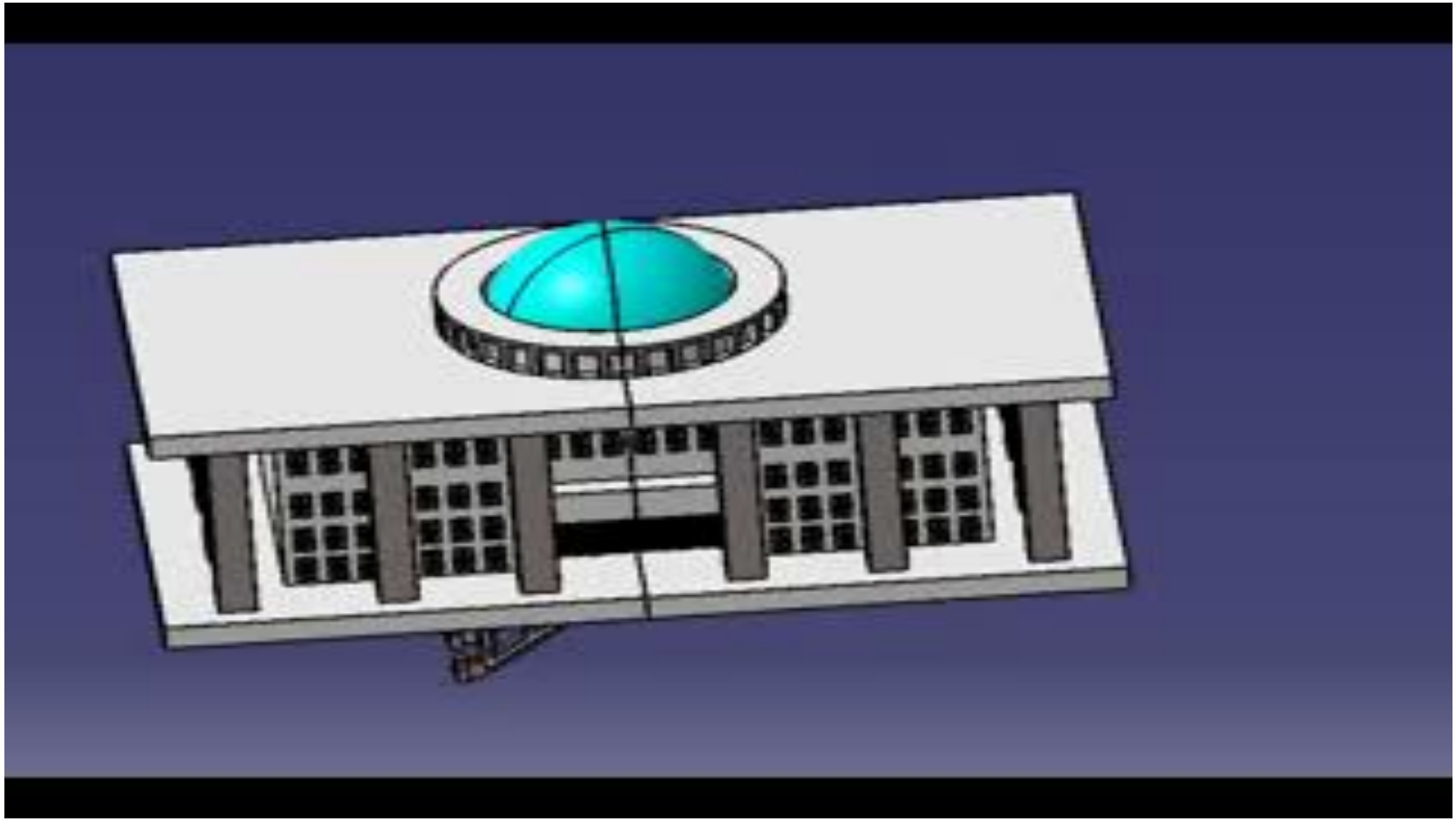
1. 우주왕복선 선 운동
2. 연료통의 무한 상승
3. 추진체의 하강
4. 발사대 상승,하강 운동
5. 국회의사당 좌우 선 운동







동영상




Thank
you!


Q
&
A