TNT

Technology & Team playing

2017037174 이성원
2017037238 장원석
2017037329 최수형

차례

팀 명 선정

Technology aNd Teamplay

why?

복잡한 완성체를 만들어내기위한

Team play

Sparkling idea

&

폭발적인 엔진 시스템

주제 선정

미래자동차 공학도들!!!

자동차의 다양한 움직임을 구현

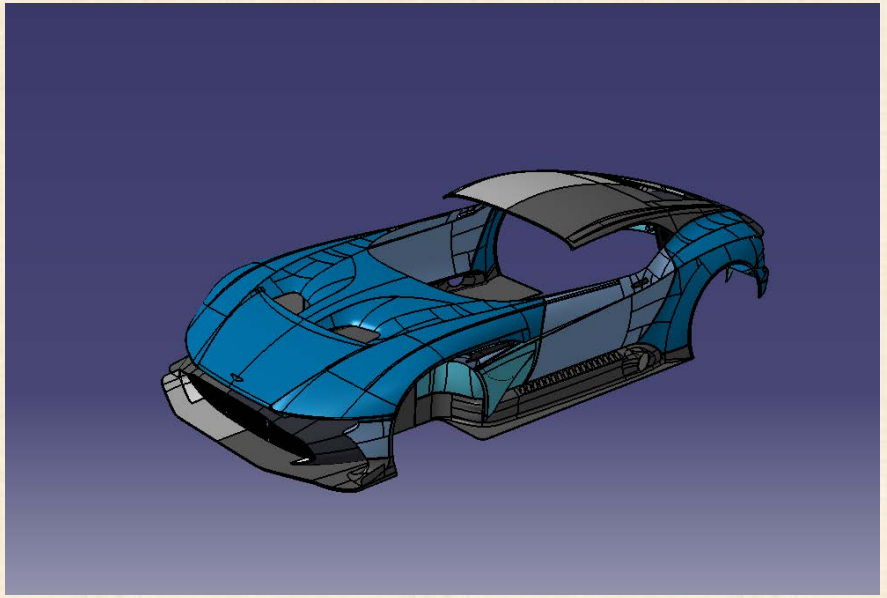
자동차에 대한 이해도 증대

Aston Martin Vulcan

모델을 파보자!!!

제작과정

자동차의 외면을 아웃소싱



내부 부품을 디자인 하자!

부품 디자인 목록

장원석

Open top
Brake movement
Suspension
Koenigsegg door
Bonnet movement

+

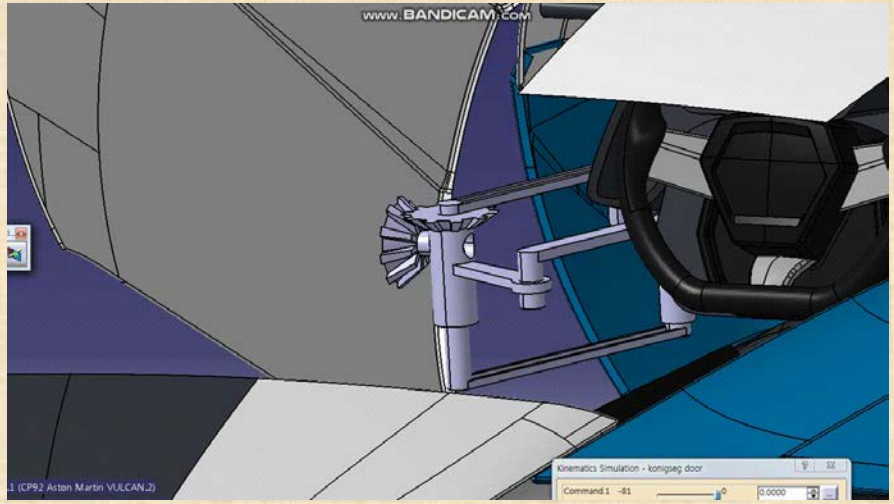
이성원

Engine

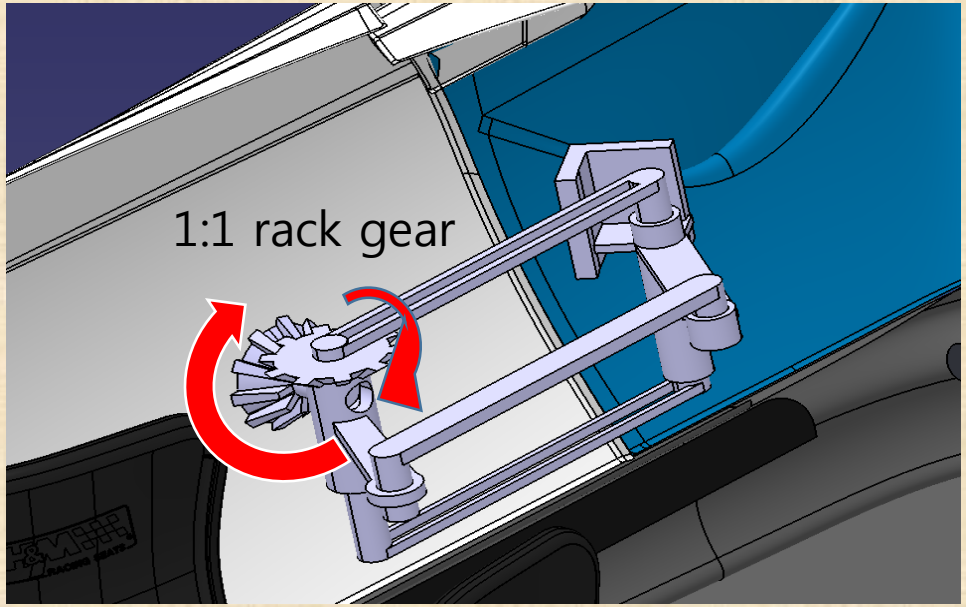
최수형

Steering system

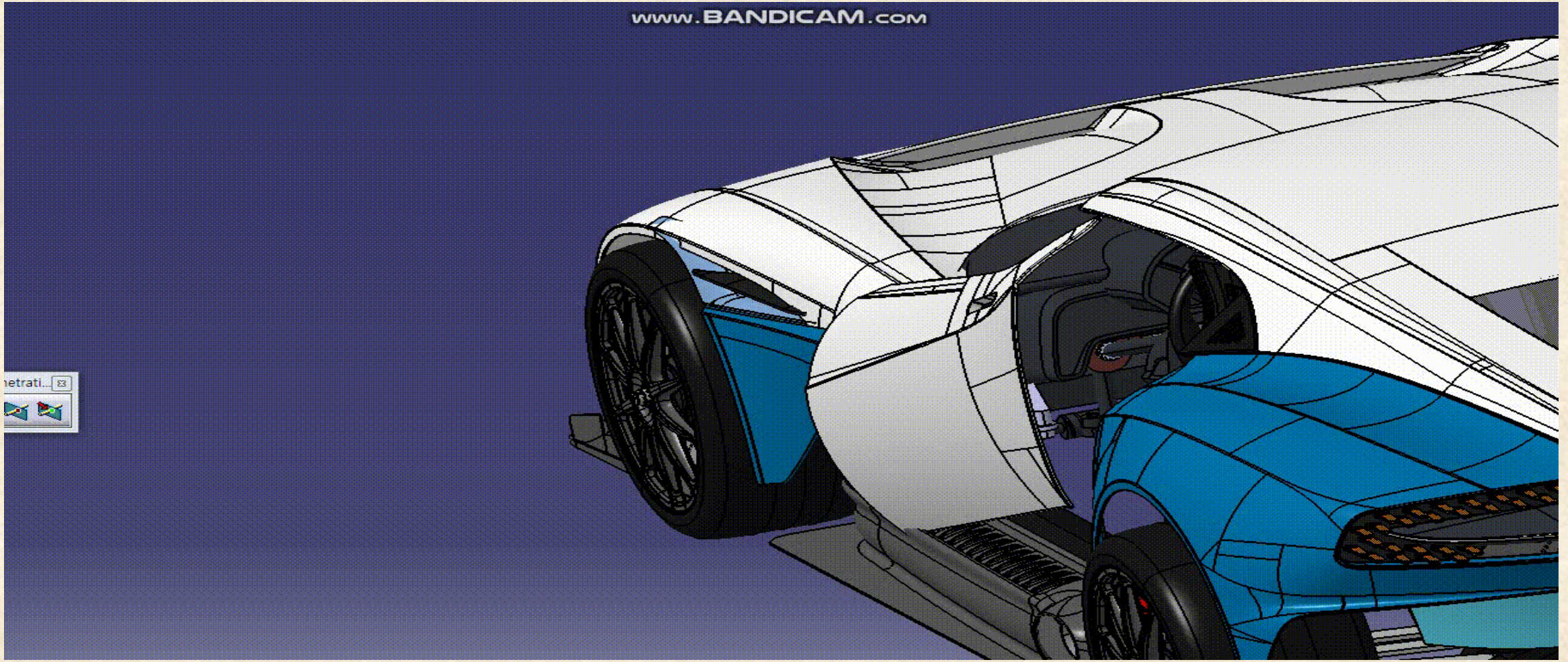
Koenigsegg door



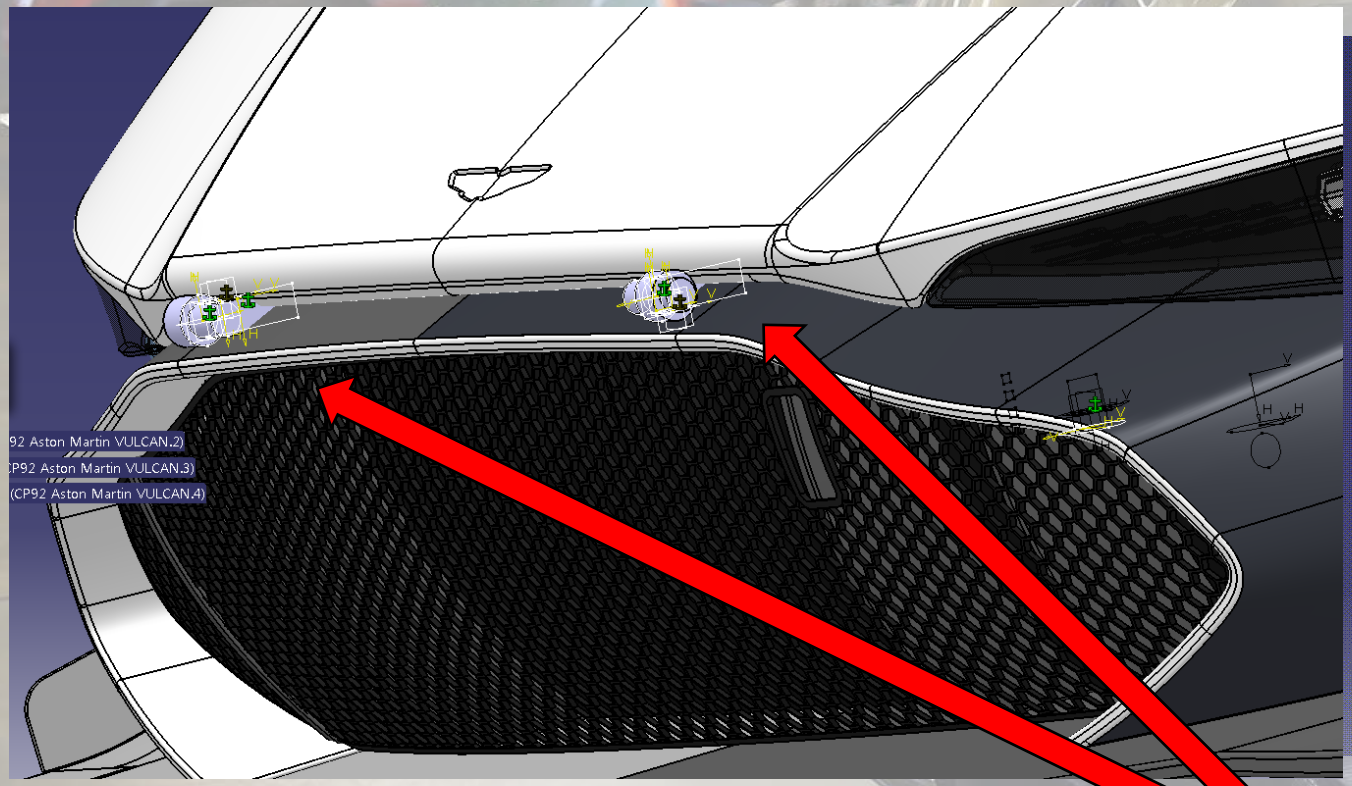
자유도 1
Gear mechanism

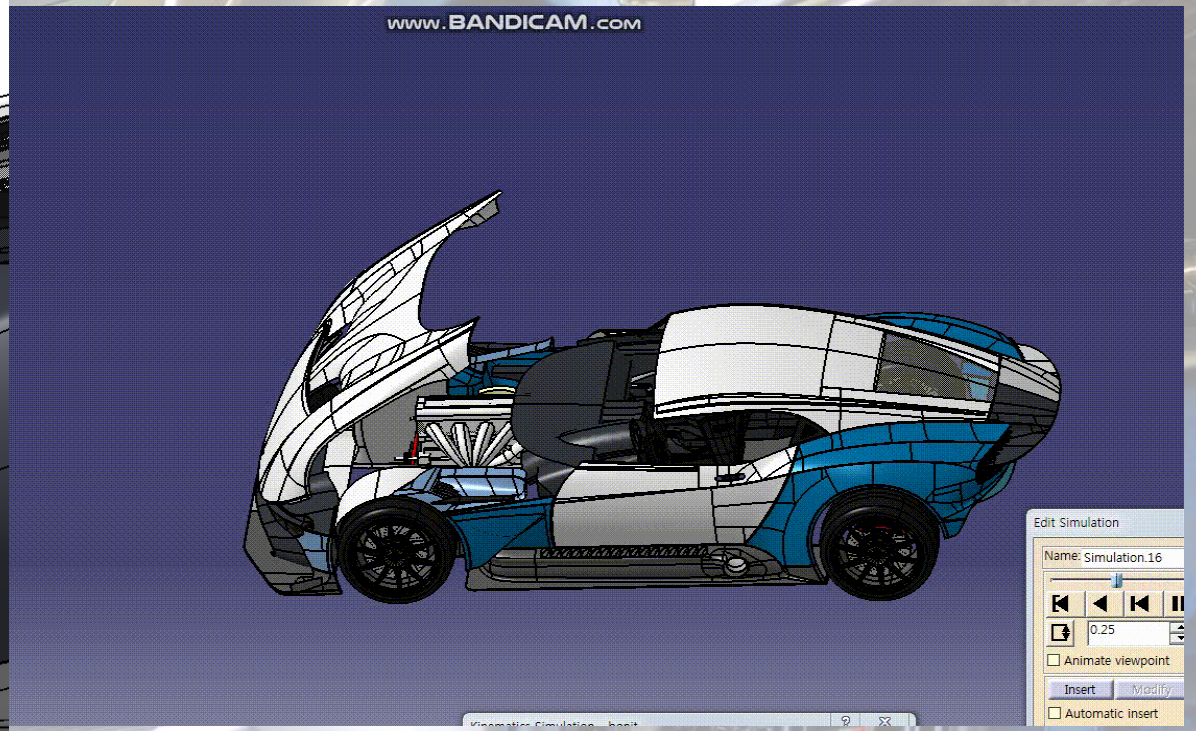


Koenigsegg door



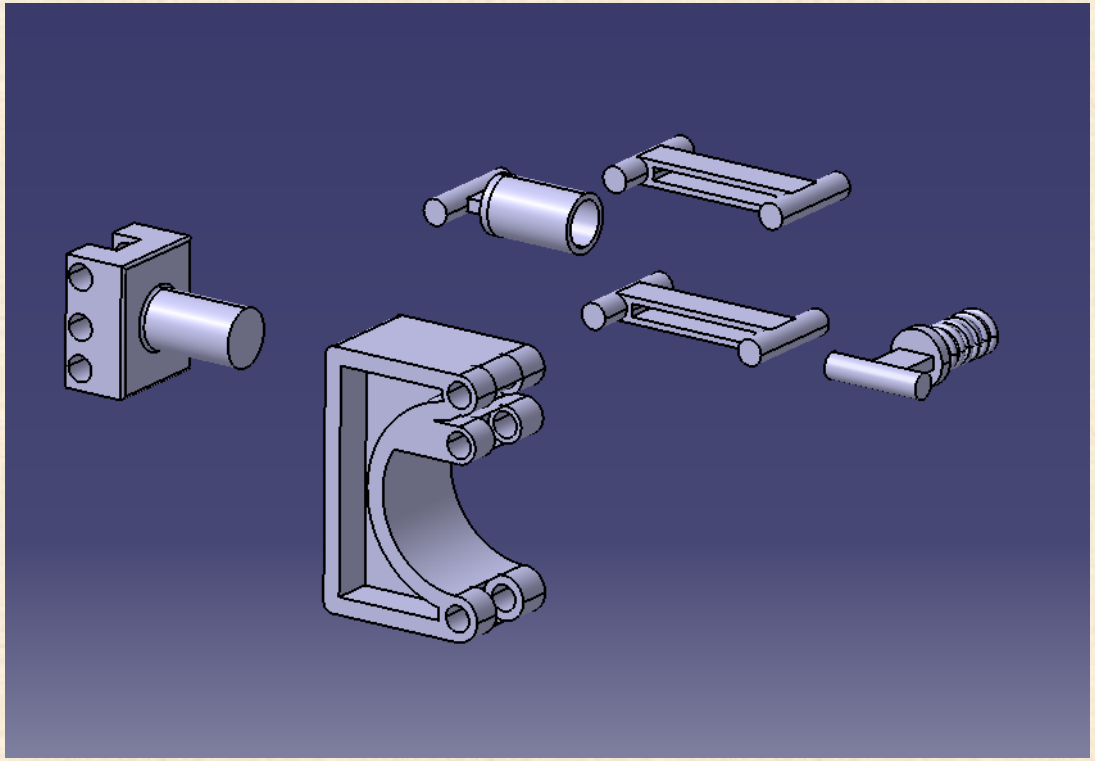
bonnet

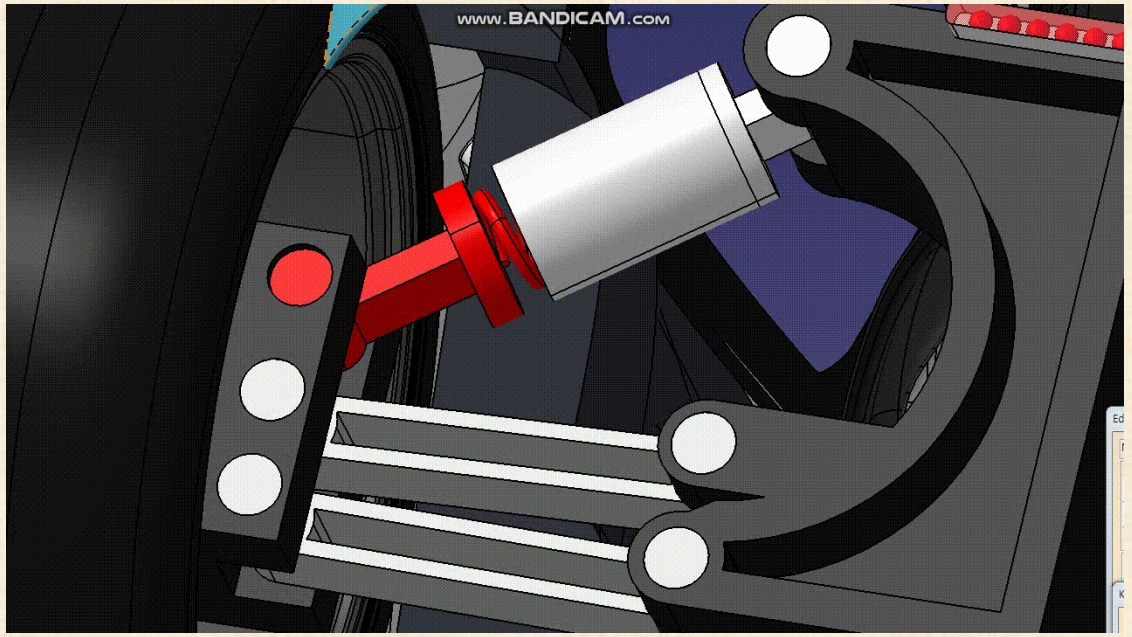




Revolute joint

suspension

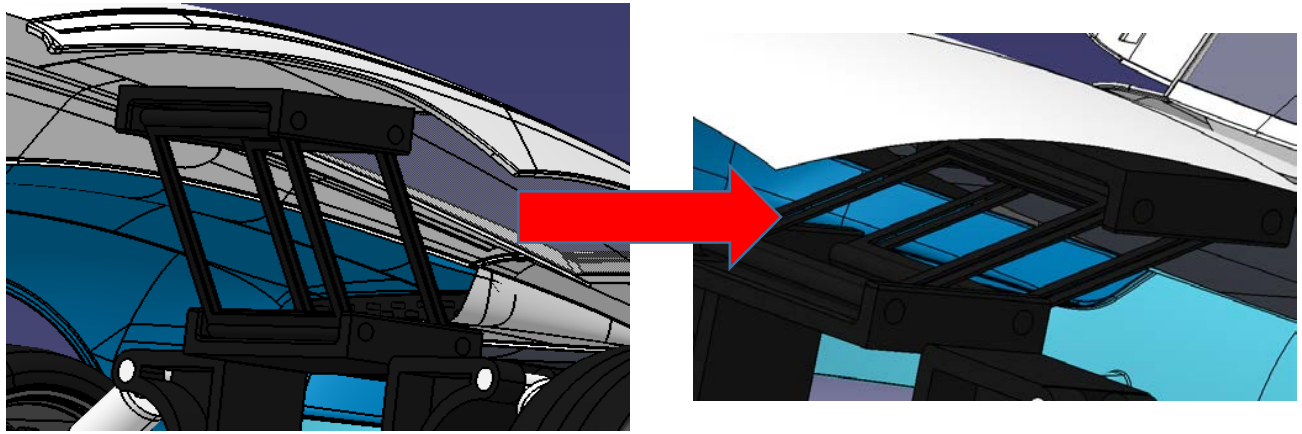


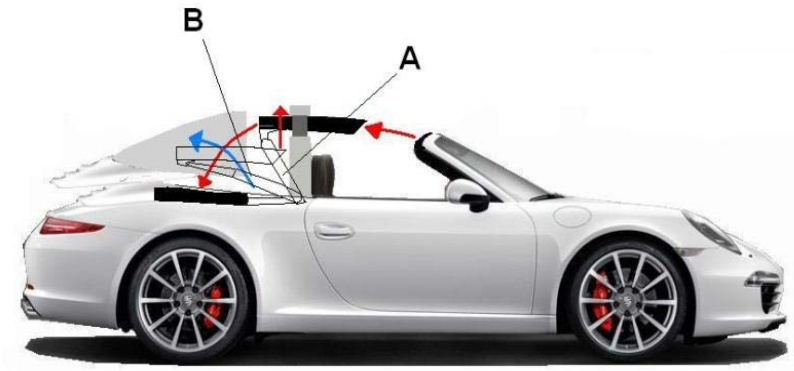


자유도 1

grabcad

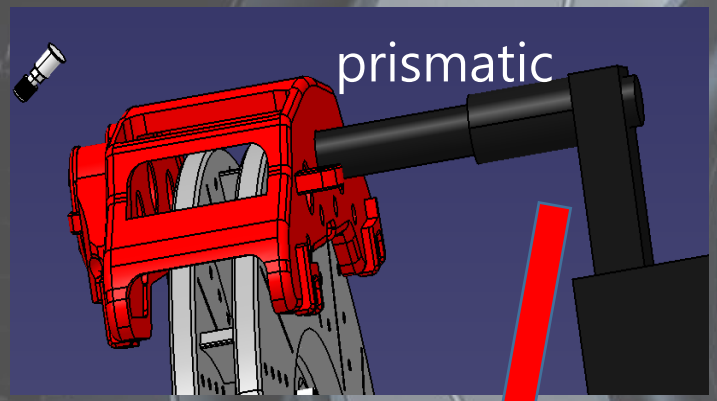
Open top

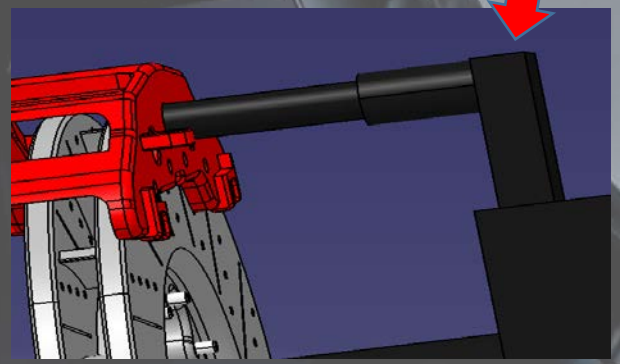


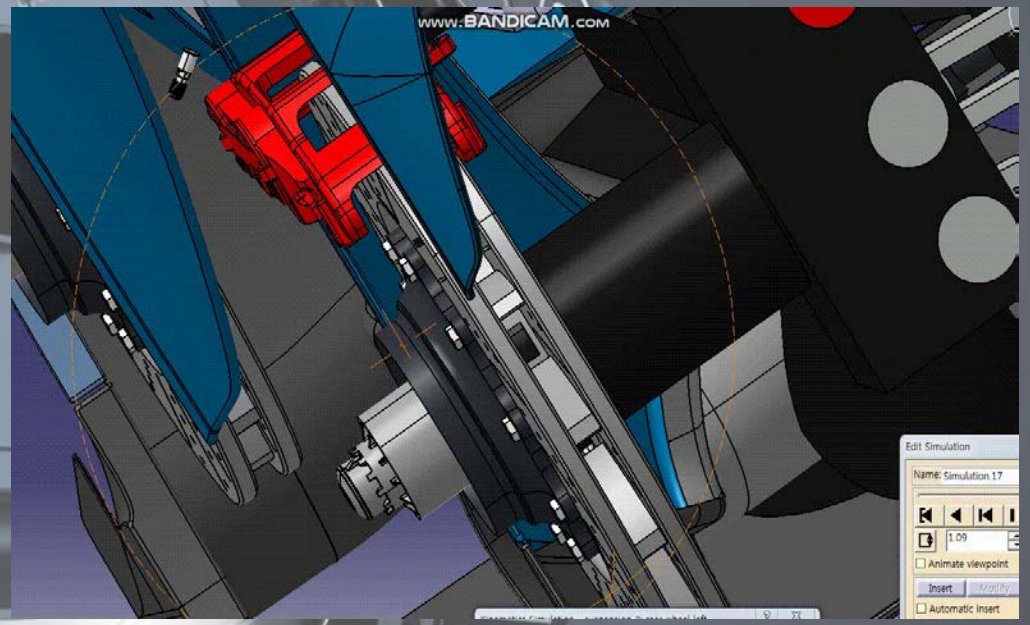


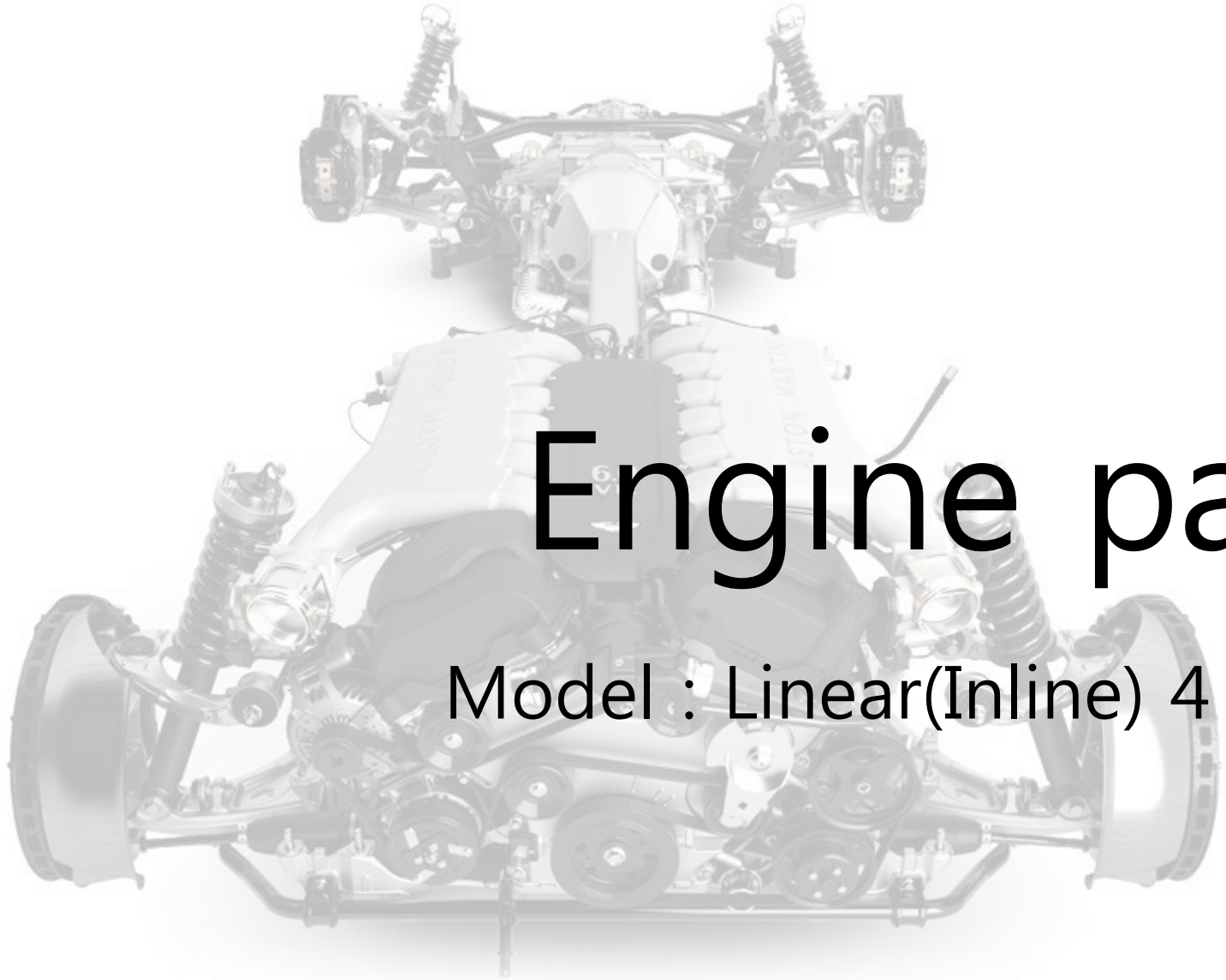
자유도 1

Brake


prismatic



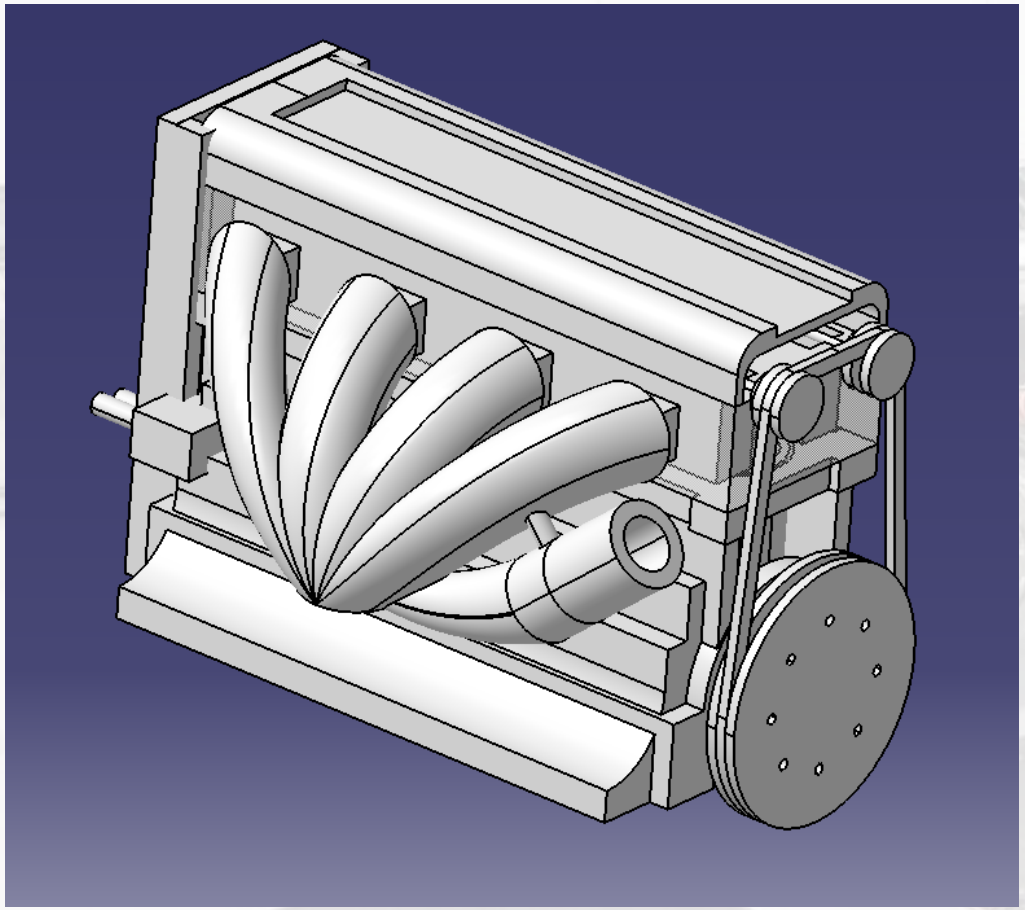

www.BANDICAM.com
Edit Simulation
Name: Simulation.17
Animate viewpoint
Insert
Automatic insert

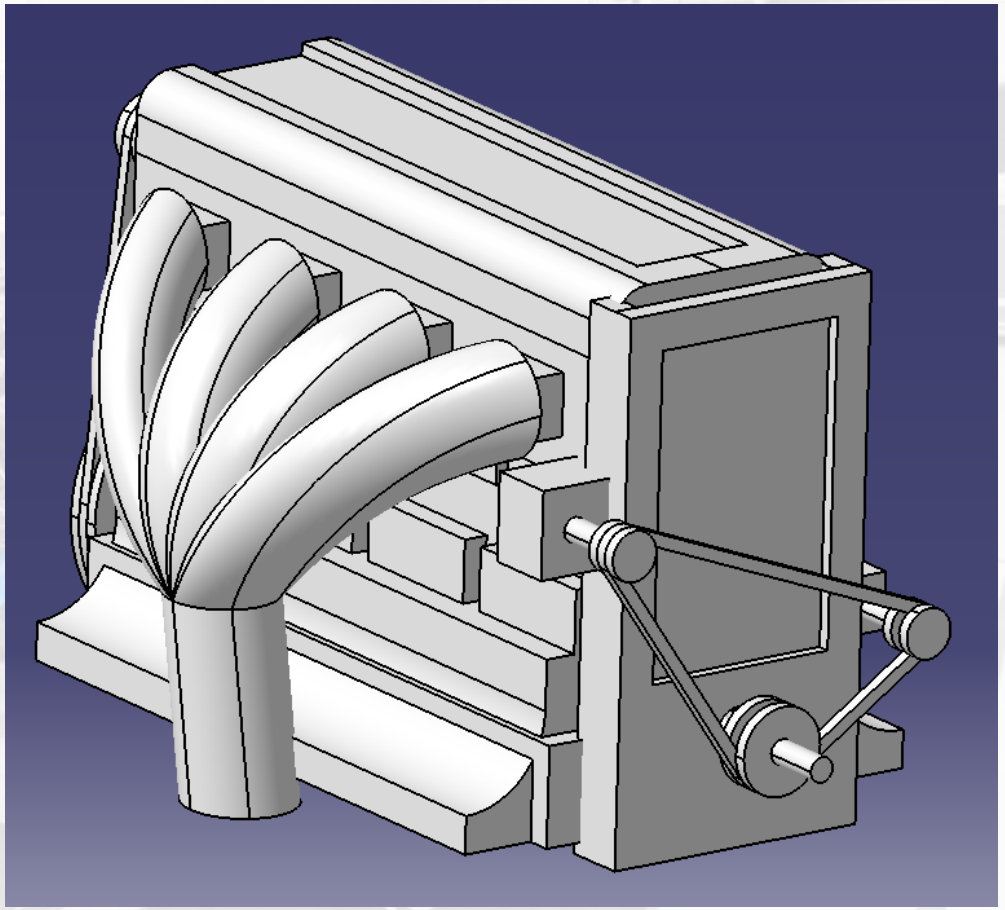


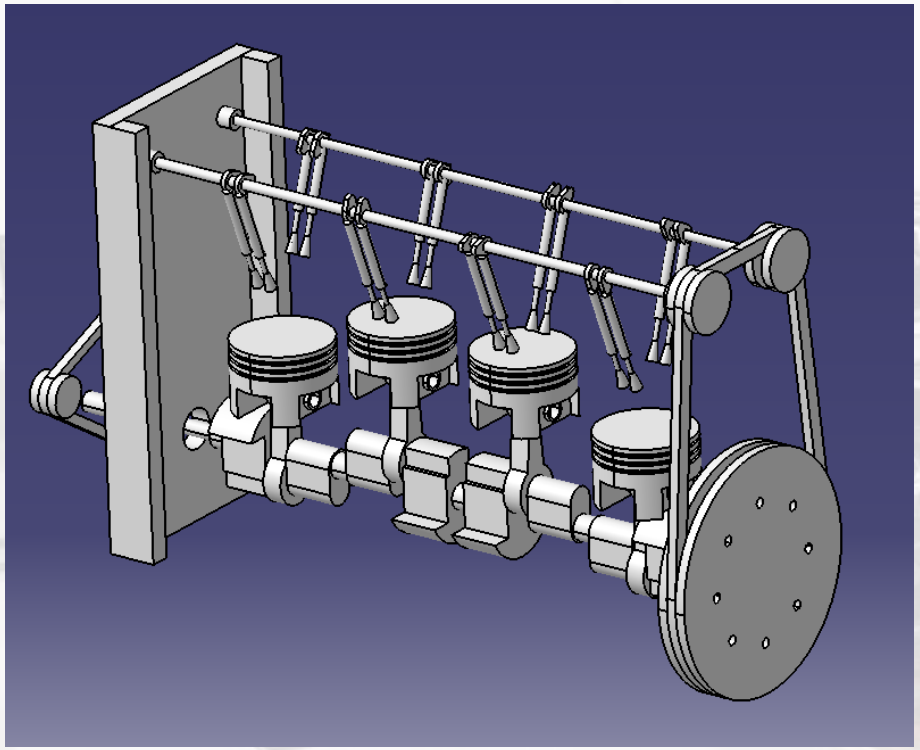
Engine part

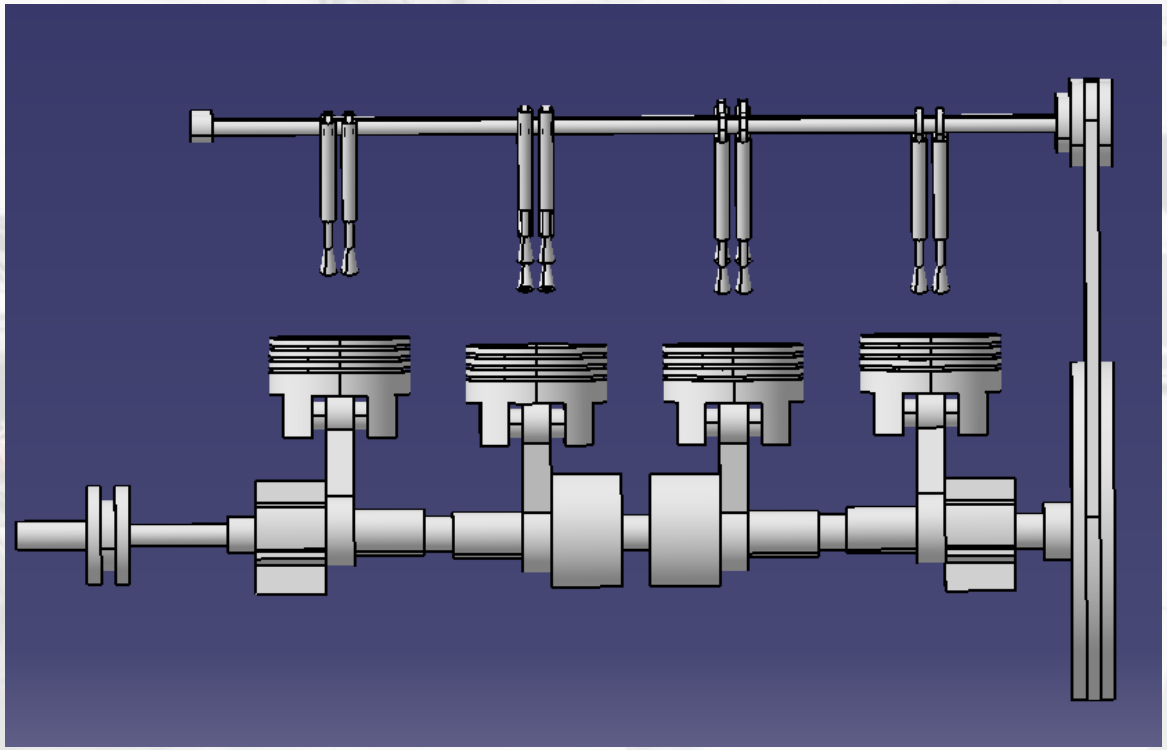
Model : Linear(Inline) 4 Engine

Part Design



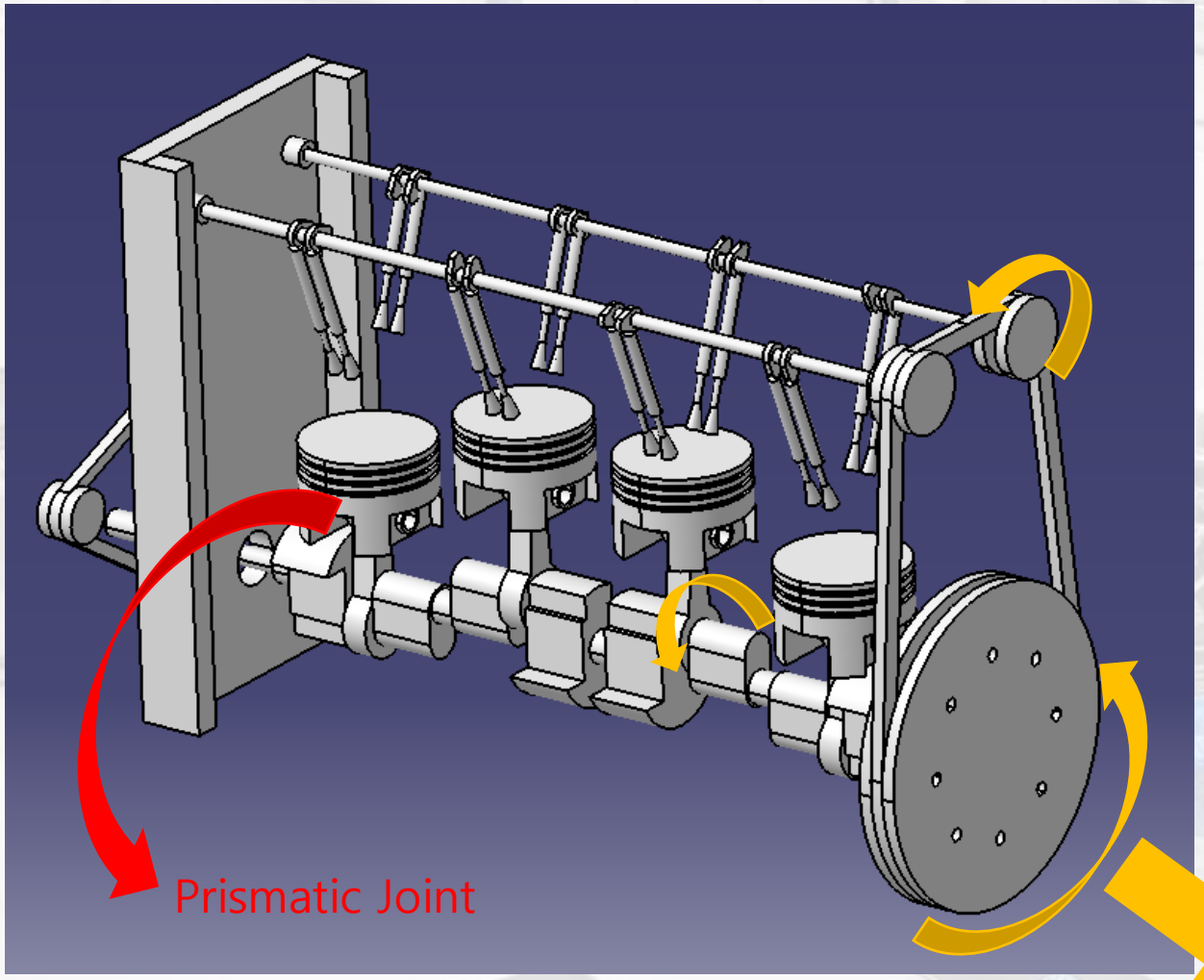


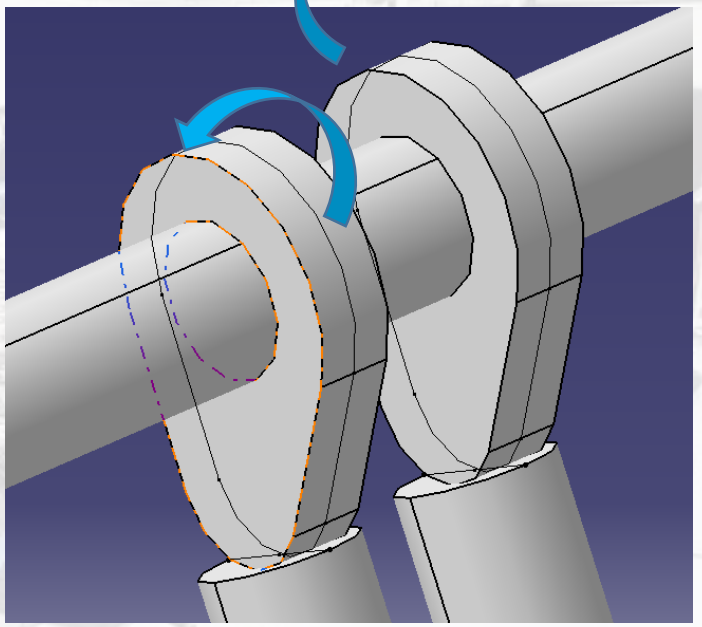


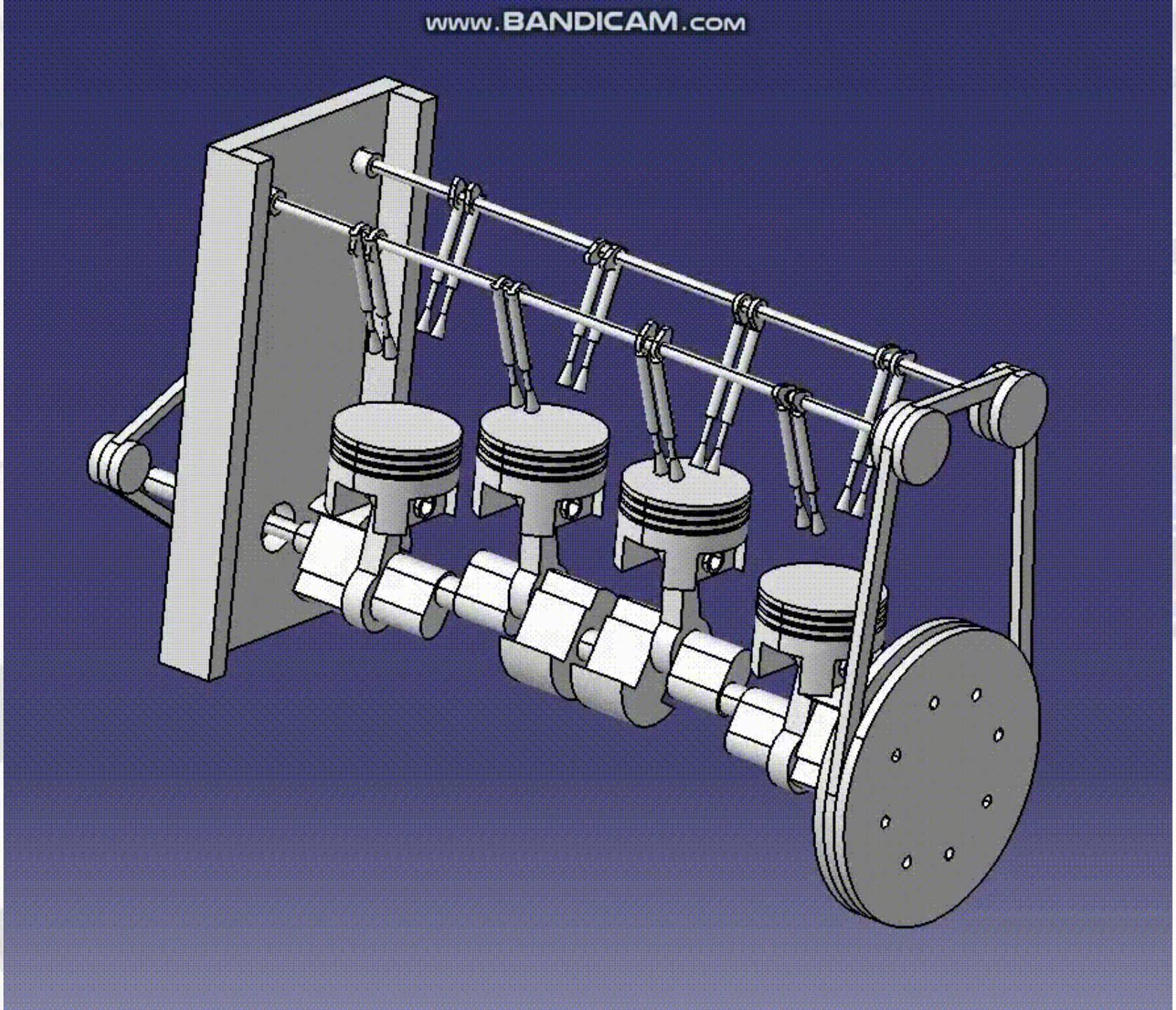


DMU Kinematics

- Piston : Prismatic Joint
- Crank Shaft / Cam Shaft : Revolute Joint
- Cam : Point – Curve Joint


Prismatic Joint
Revolute Joint


Point Curve Joint



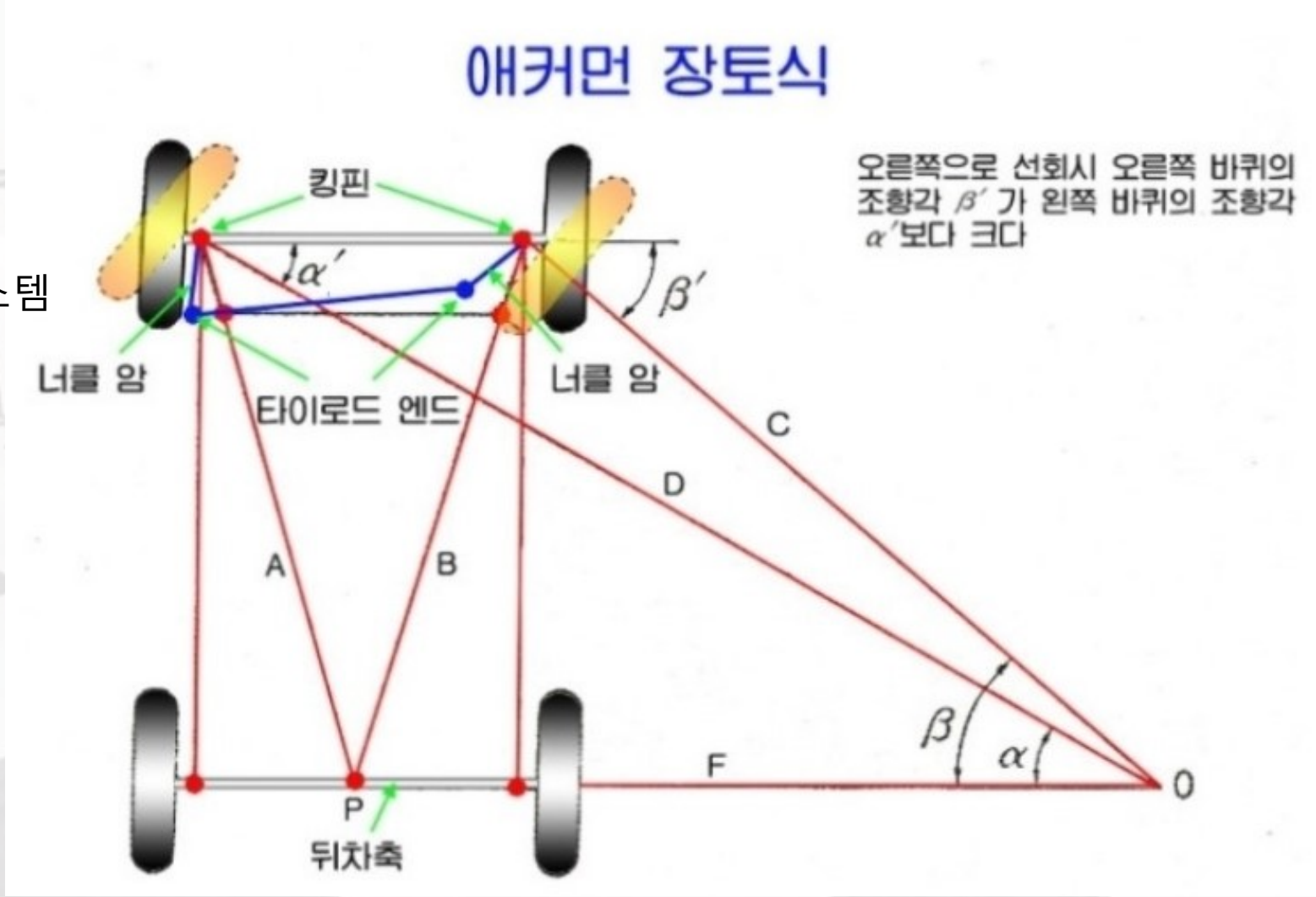
조향 장치(Steering System)

조향 장치(Steering System)

- 조향 이론

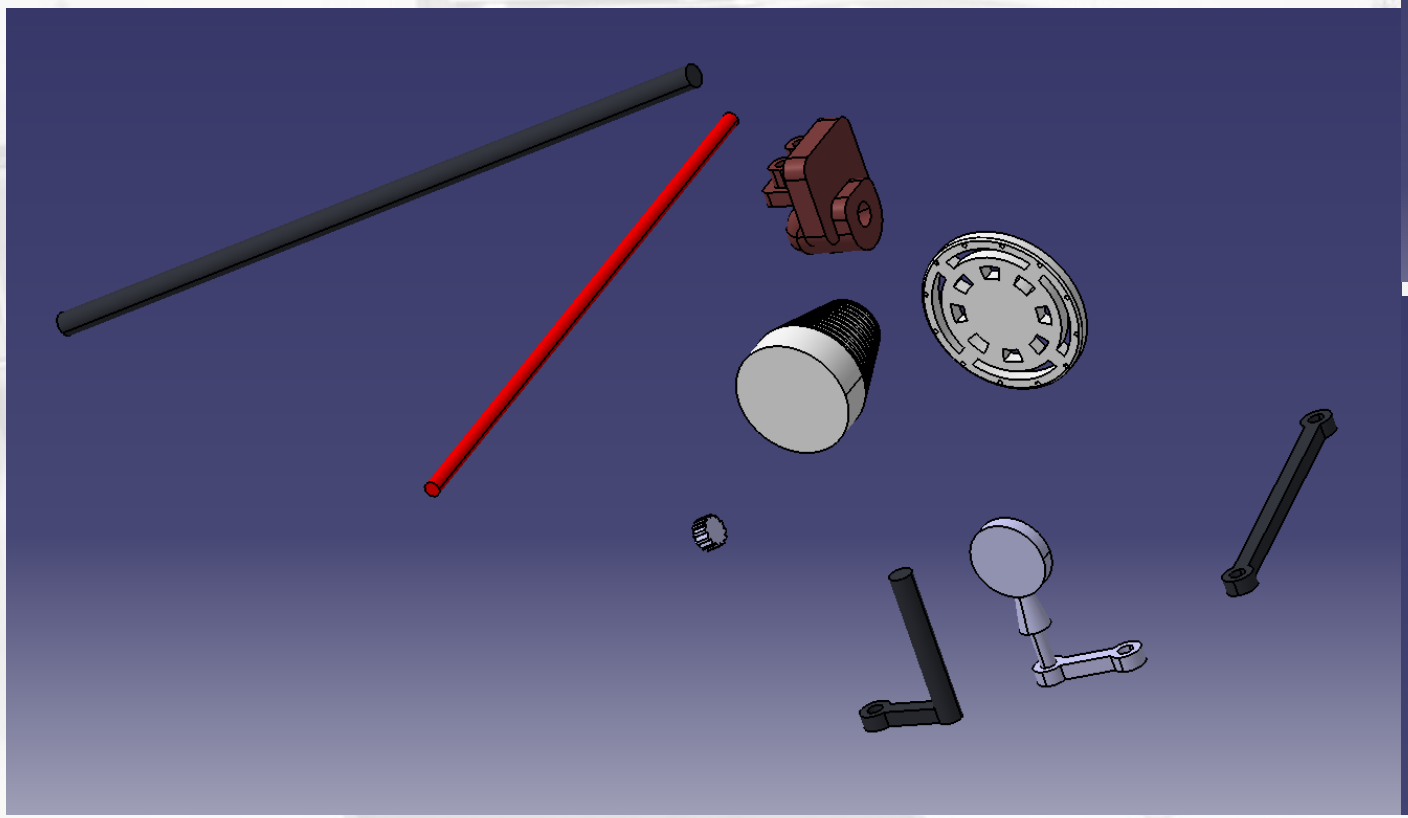
서로 완전히 맞는 조향 시스템

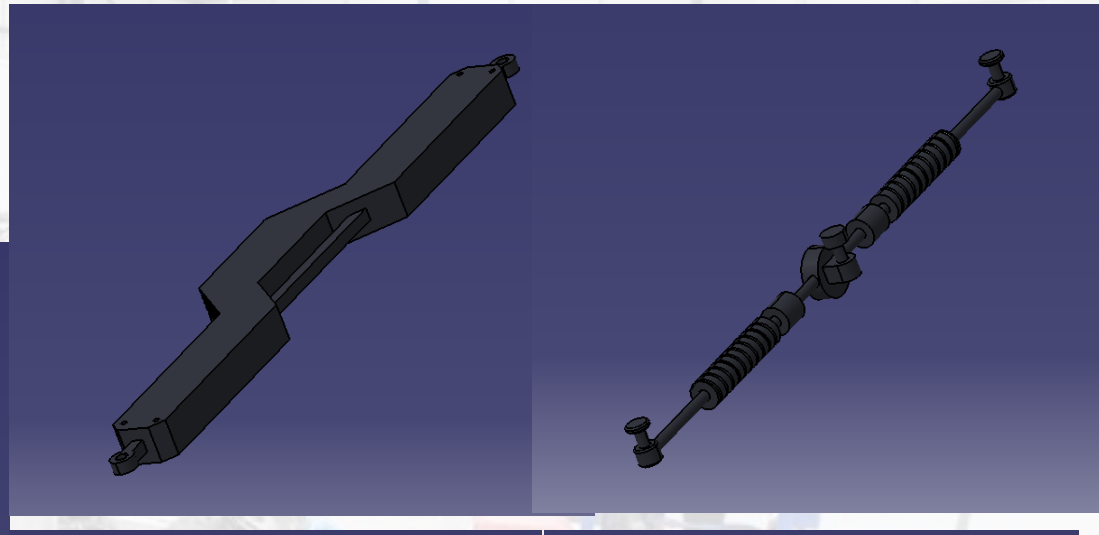
시스템 설계



조향 장치(Steering System)

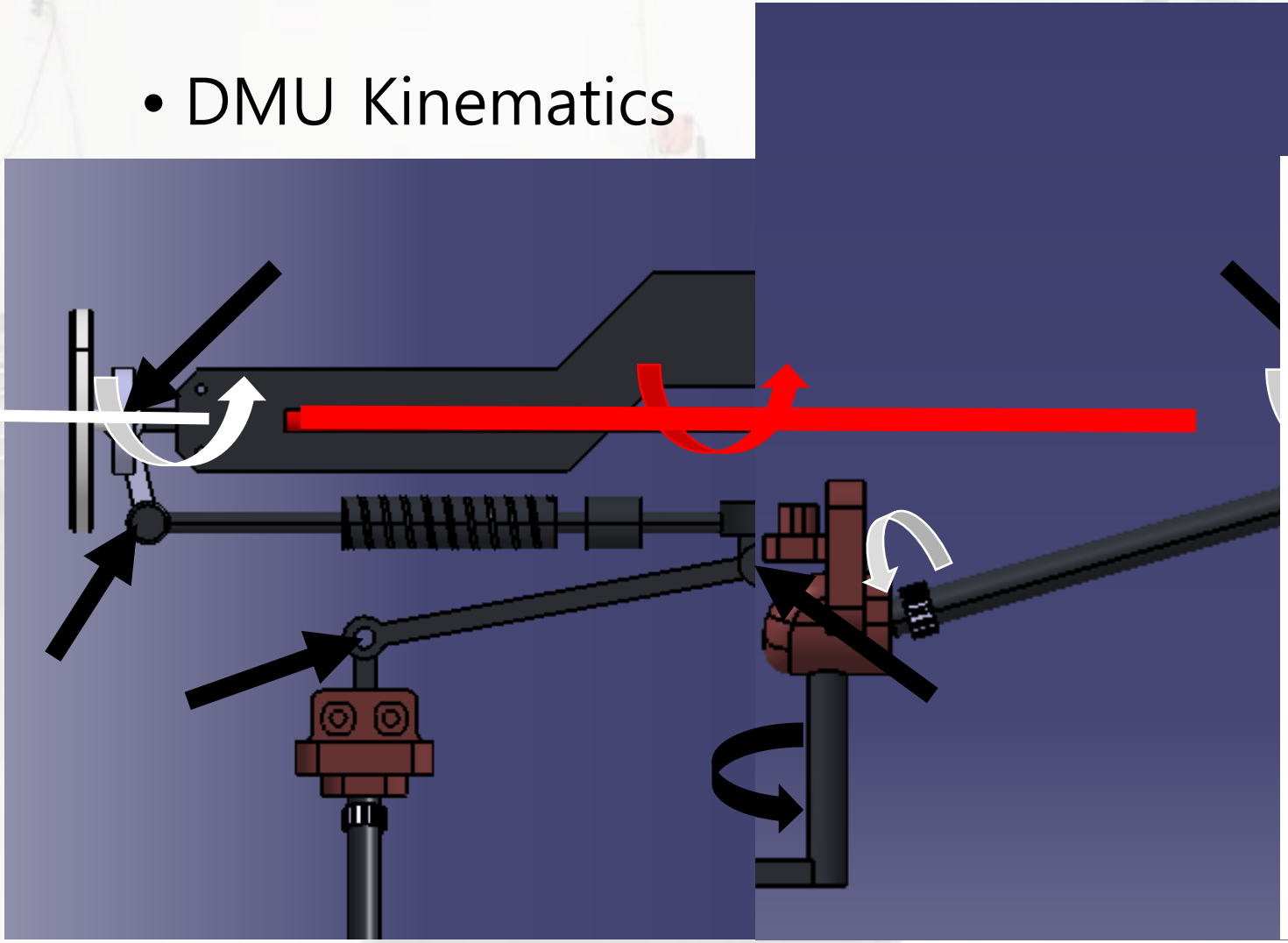
- Part Design

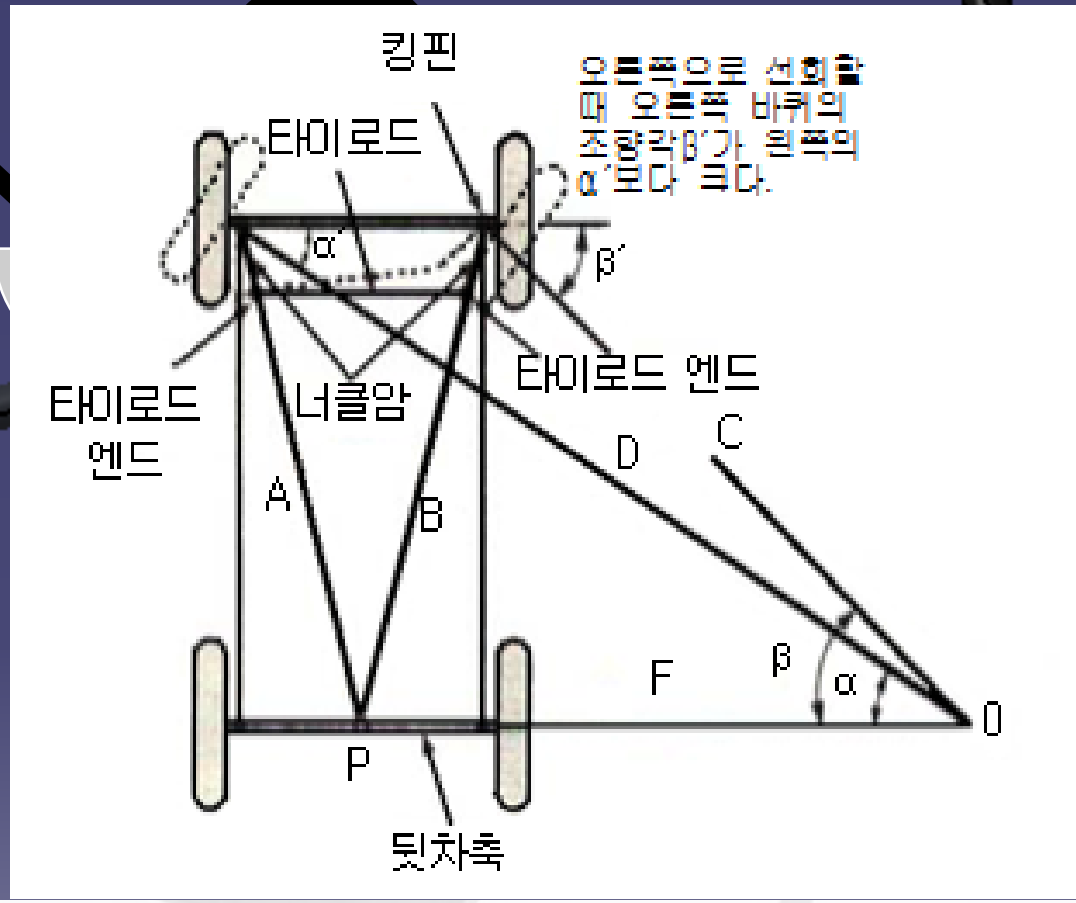


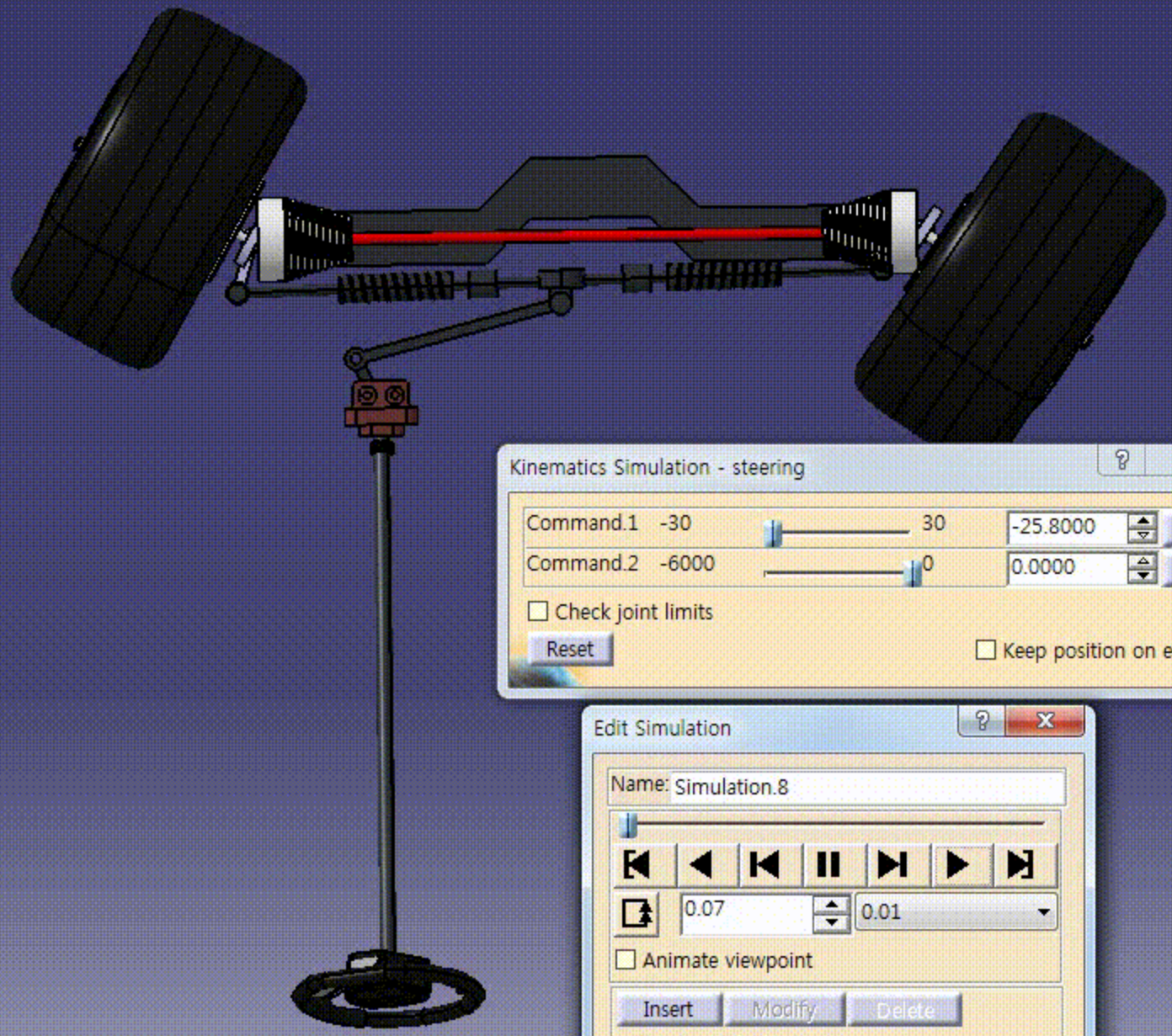


조향 장치(Steering System)

- DMU Kinematics







Kinematics Simulation - steering

Command.1	-30	30	-25.8000	...
Command.2	-6000	0	0.0000	...

Check joint limits

Reset

Keep position on exit

Edit Simulation

Name: Simulation.8

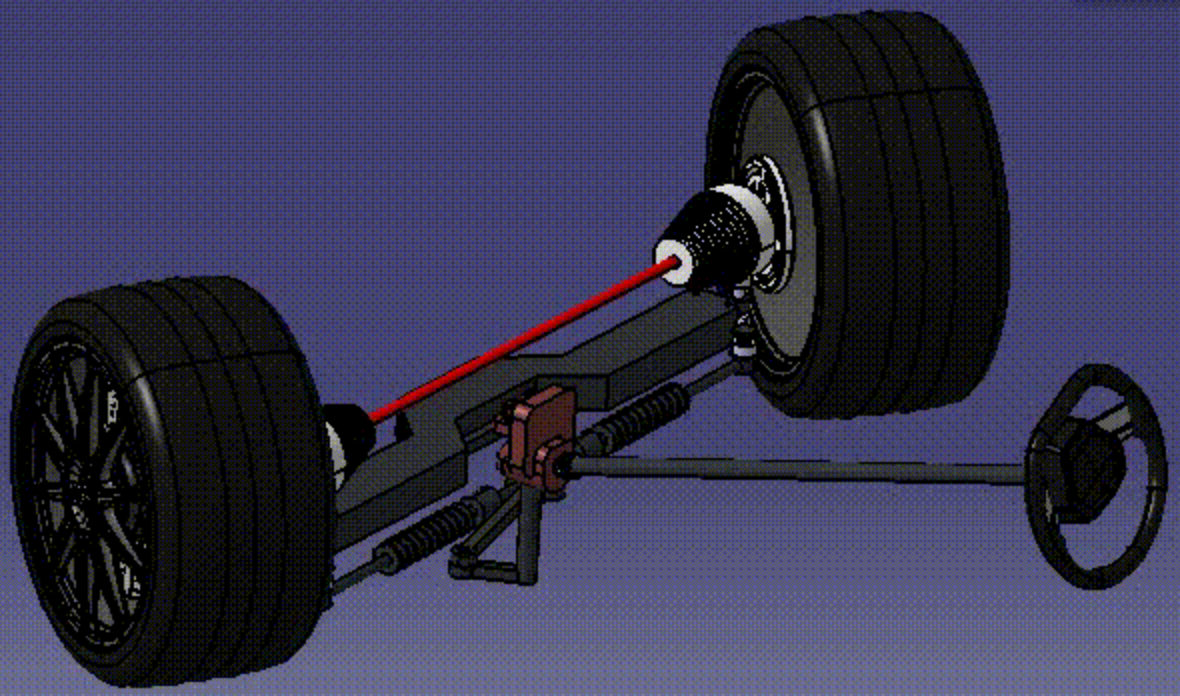
0.07

0.01

Animate viewpoint

Insert | Modify | Delete

Automatic insert



Kinematics Simulation - steering

Command.1	-30	30	-26.4000	...
Command.2	-6000	0	0.0000	...

Check joint limits

Reset

Keep position on exit

Edit Simulation

Name: Simulation.8

0.07 | 0.01

Animate viewpoint

Insert | Modify | Delete | Skip

Automatic insert

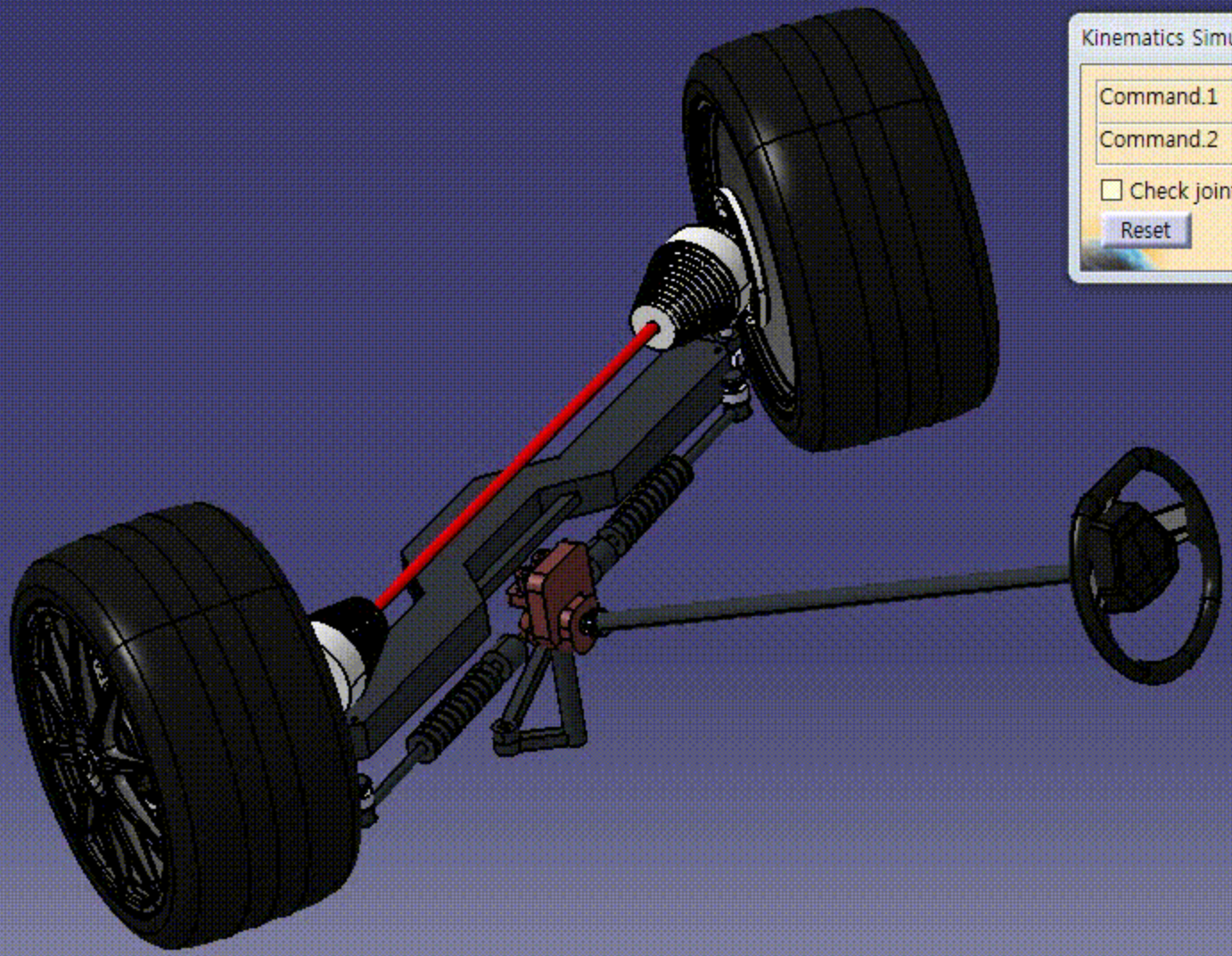
Interference: Off

Distance: Off

Edit analysis | Edit simulation objects

Edit sensors

OK | Cancel



Kinematics Simulation - steering

Command.1	-30	30	-29.4000	...
Command.2	-6000	0	-4.5000	...

Check joint limits

Reset

Keep position on exit

Edit Simulation

Name: Simulation.2

0.01 | 0.01

Animate viewpoint

Insert | Modify | Delete

Automatic insert

Interference: Off

Distance: Off

Edit analysis | Edit simulation objects

Edit sensors

OK | Cancel

동영상

https://www.youtube.com/watch?v=TZIr6wKuOq0

한계점 / 힘들었던 점

- 차의 외관을 디자인 하지 못했다.
- 차 부품 전체를 구현하지 못했다.
- Assembly와 Kinematics가 의도했던대로 매끄럽게 연결되지 않았다.

출처

https://www.youtube.com/watch?v=c4LUy1rijdA

http://www.catoo.com/QnA/QnAServiceView.aspx?PageNo=2&Idx=179&Category=car&SearchForm=&SearchTitle=

http://jwkang7.wo.to/pds03/317.htm

https://www.youtube.com/watch?v=BXQ27pU3_7E

https://www.youtube.com/watch?v=vxt2qqHVfVE

Thank you