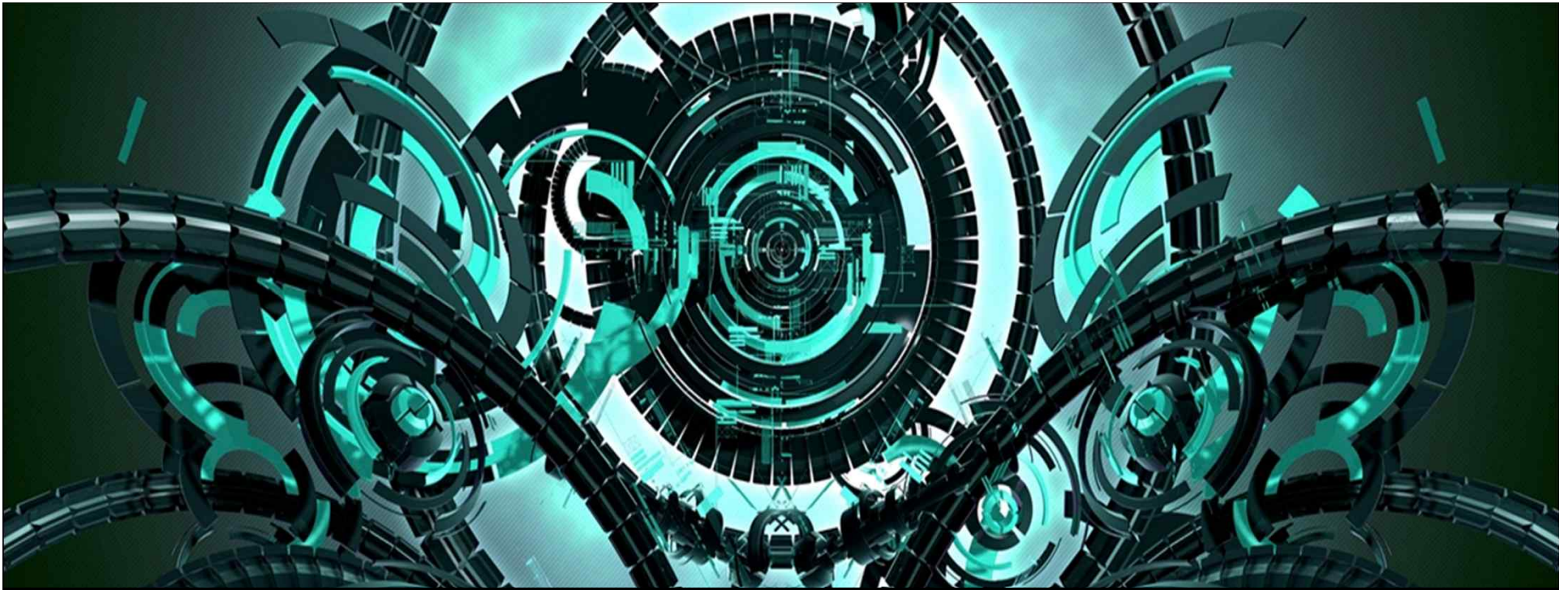




# V12 ENGINE

Hanyang Univ. Automobile Engineering

조명 : CDL  
김진형 박석민 정종현

# INDEX

00 Team Name

01 Cylinder and Carter

02 Crank and Piston

03 Cylinder Head

04 E.T.C

05 Assembly & Kinematics

00 Teamname

Team Name

Catia-based car  
Designing  
Lab

민승재 교수님의 연구실 CDL

기말 프로젝트 주제로 선택한 V12 Engine

차량 전반에 걸쳐 설계하고자 하는 포부

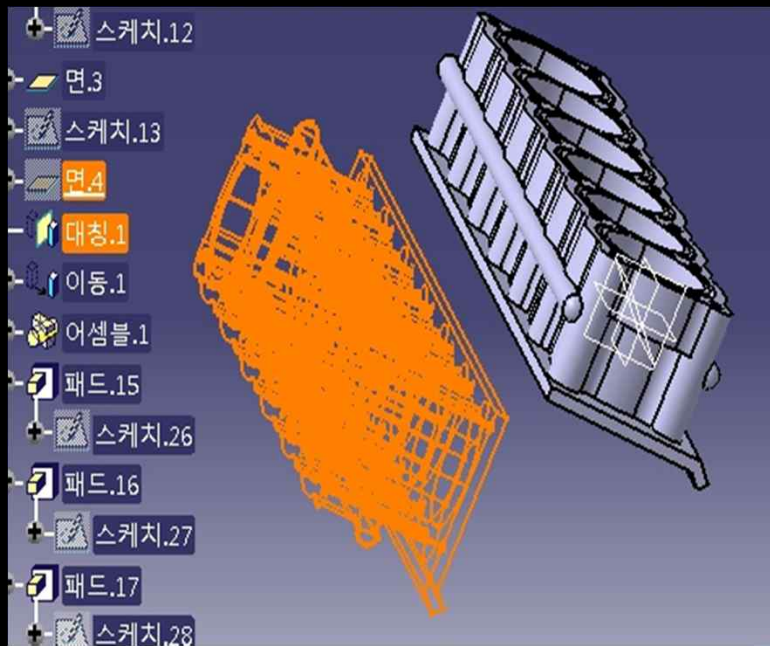
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# 01 **C**ylinder & **C**arter

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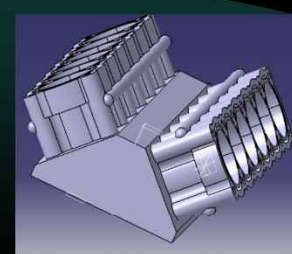
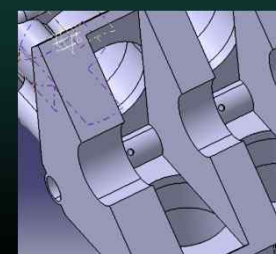
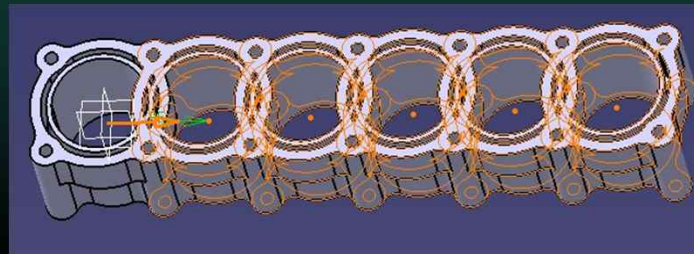
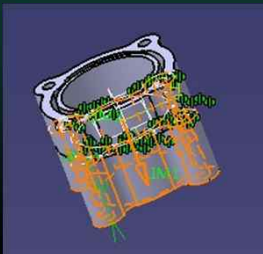


## Cylinder

실린더 원통 하나를 먼저 파트 디자인

RecPattern으로 실린더 한 줄 구성

Symmetry와 Translation 시킨 후 Assemble

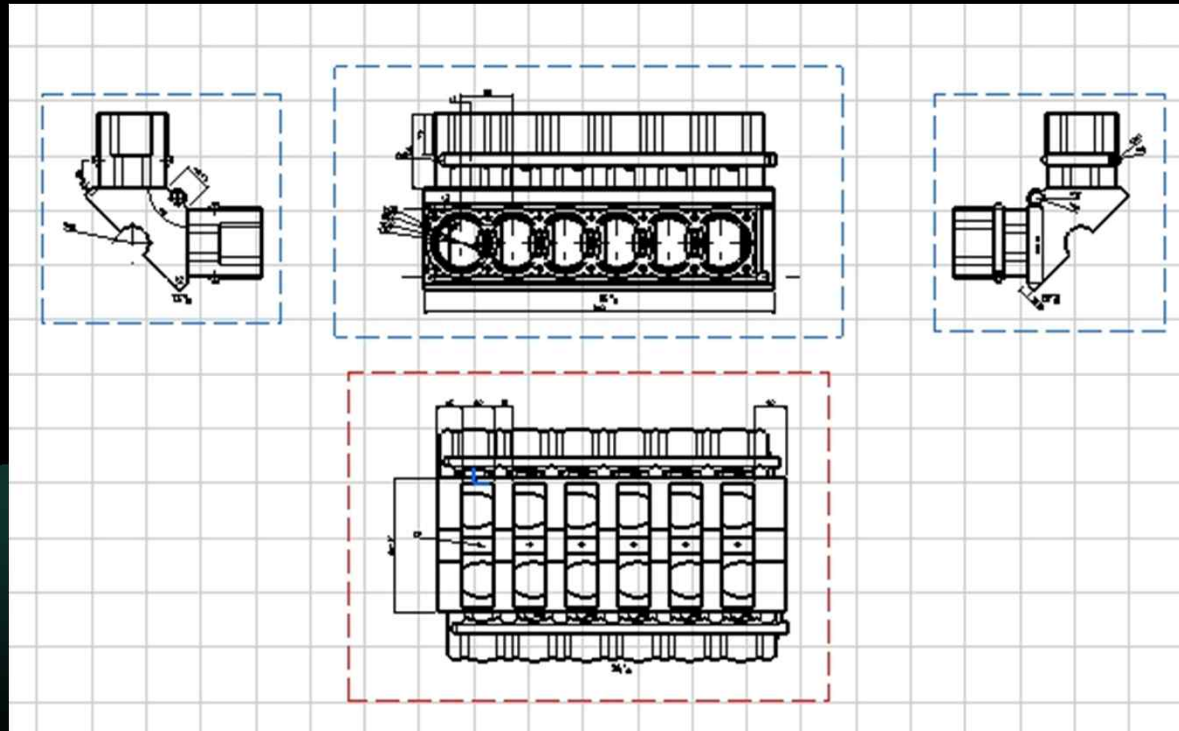


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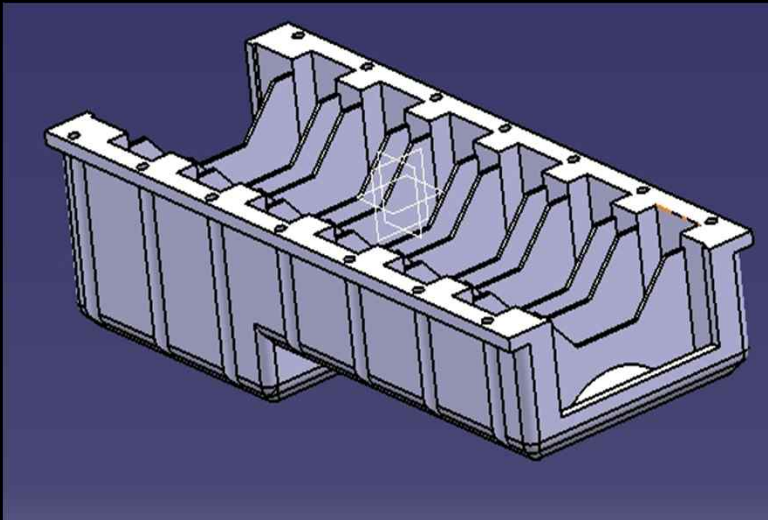
# Cylinder draft



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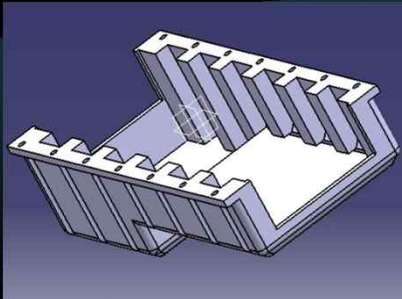


## Carter

큰 틀을 파트 디자인

칸막이를 파트 디자인 후 Translation

각각의 칸막이를 큰 틀과 Assemble

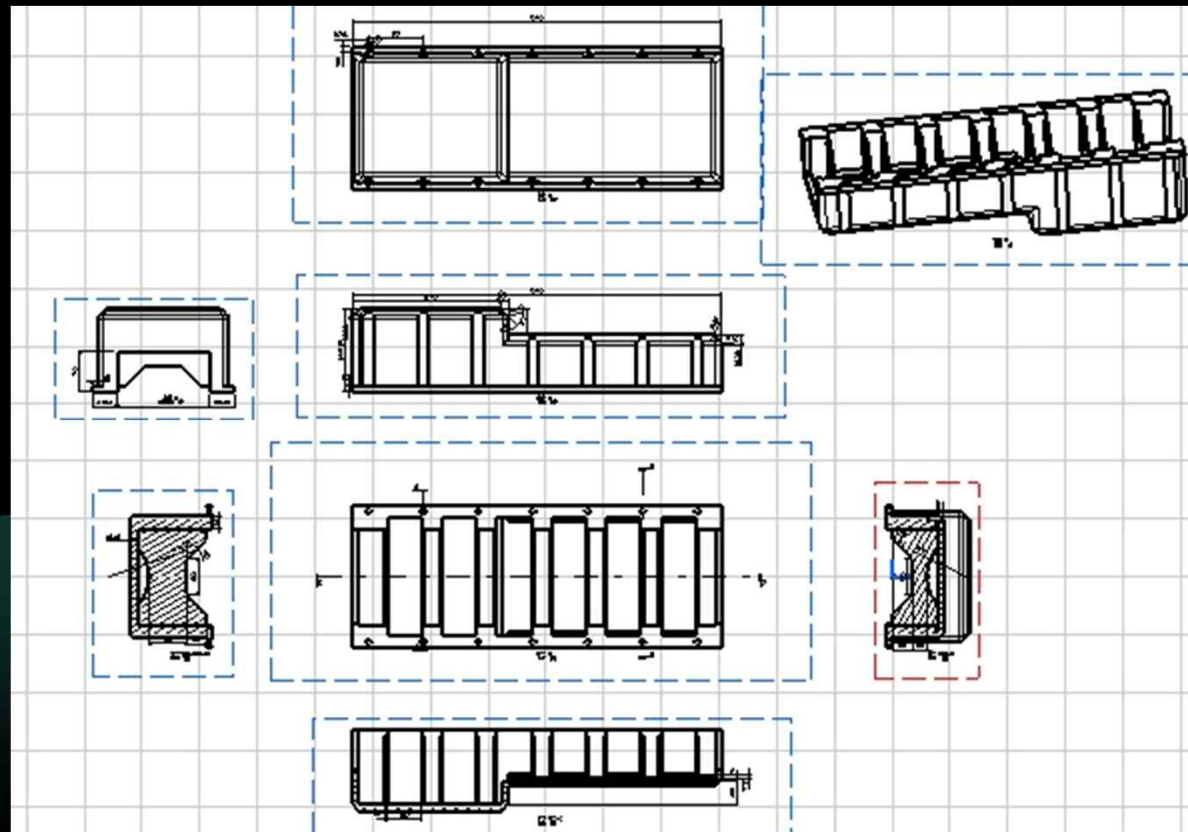


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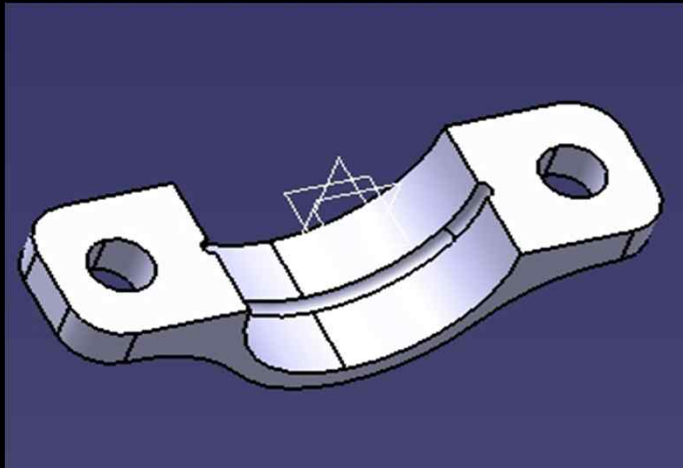
# Carter draft



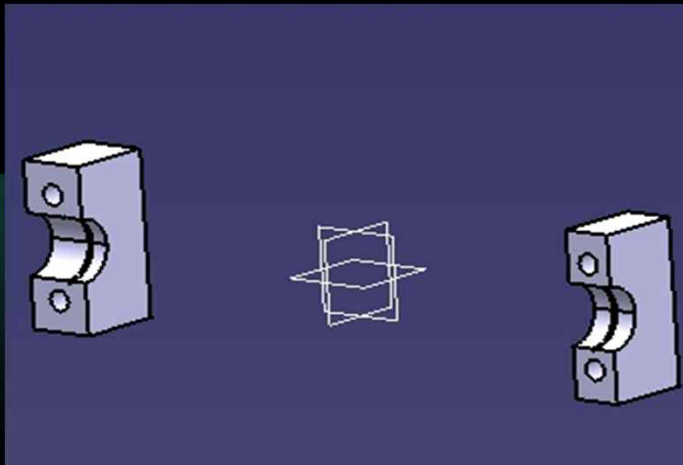
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## Crank Connection Part



## Crank Shaft End Point Connecting part

각각을 파트 디자인

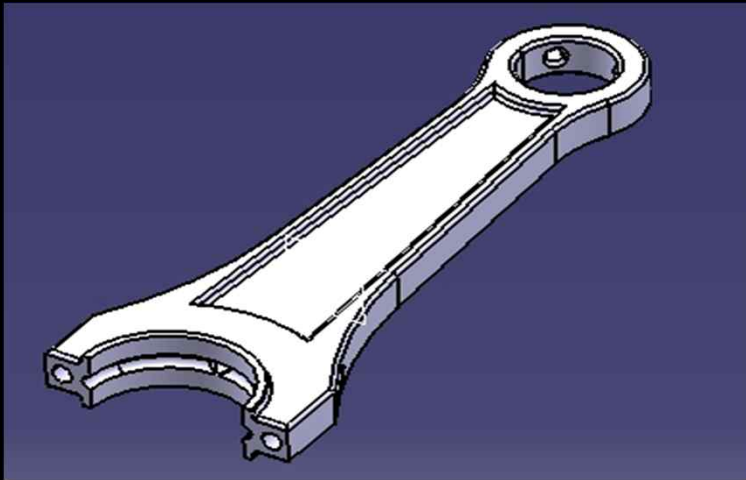
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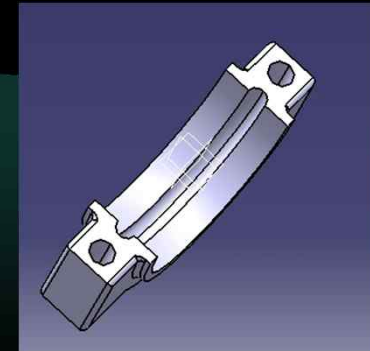
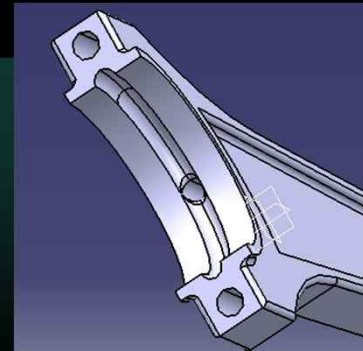
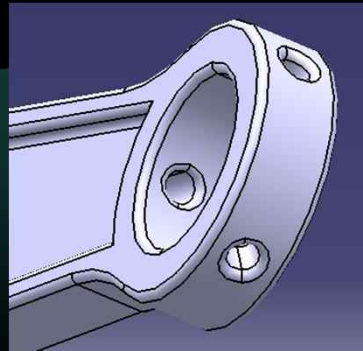
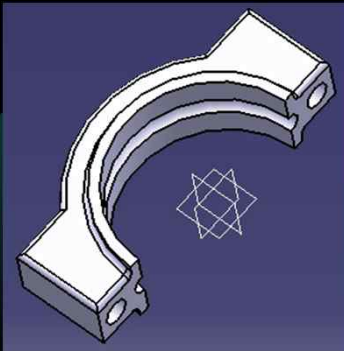
# 02 Crank & Piston

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## Connecting rod

파트를 2개로 나눠 각각 파트 디자인



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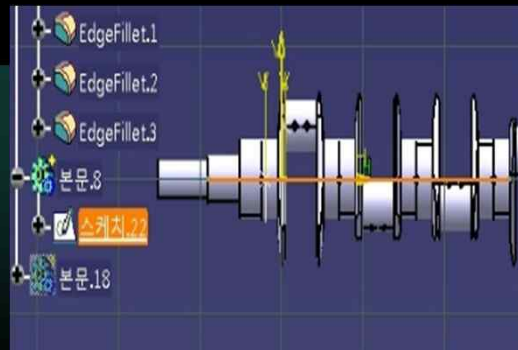
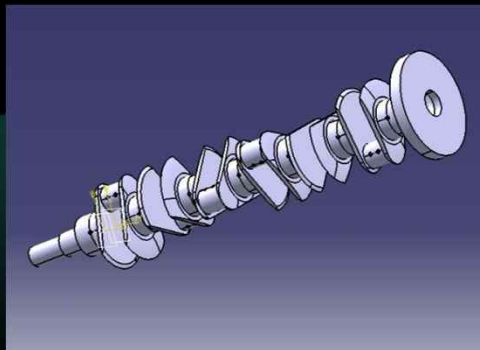


## Crank

크랭크 하나를 파트 디자인

Translation/Rotation 후 Assemble

크랭크 커넥팅 포인트를 파트 디자인 후 Add

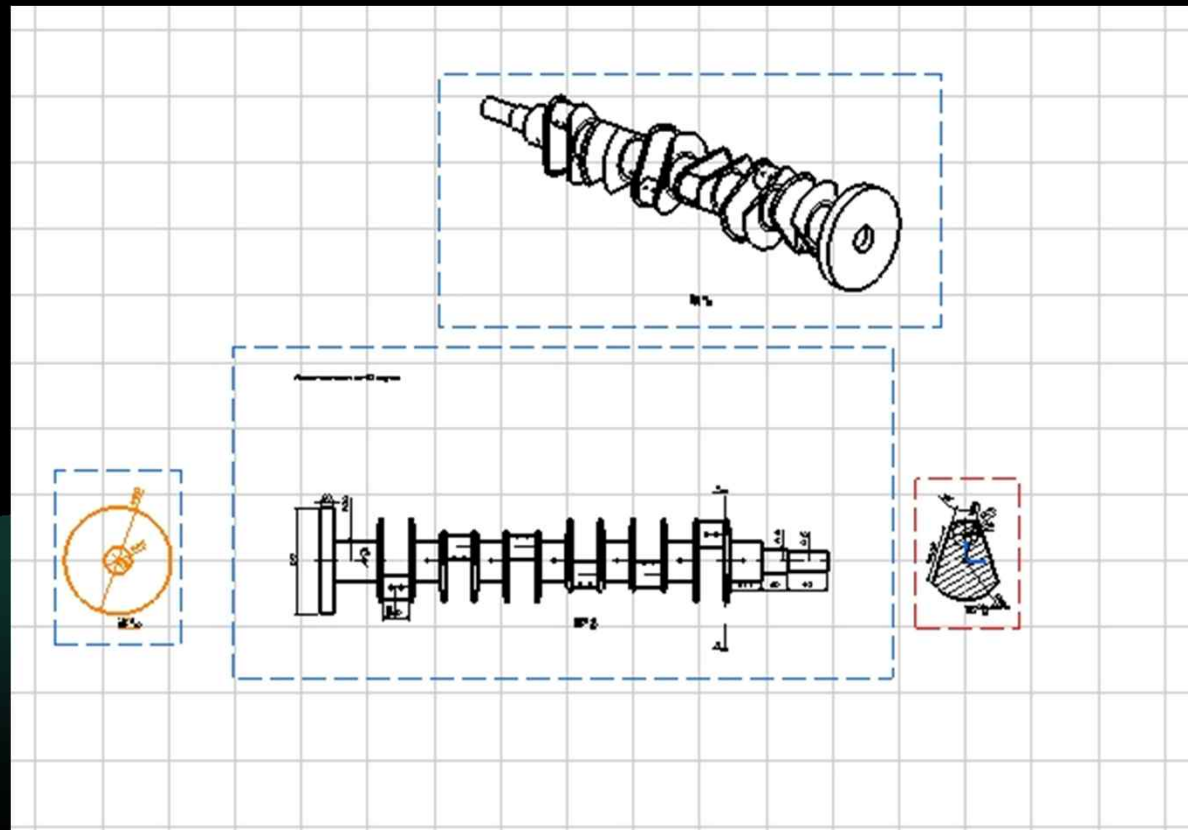


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# Crank draft



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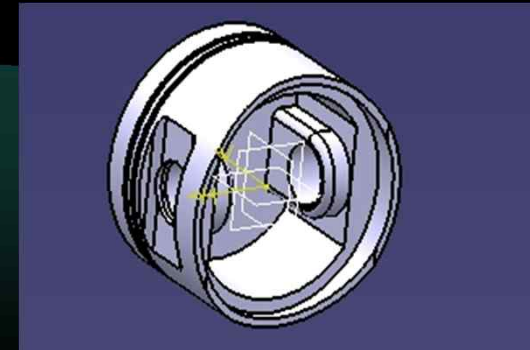
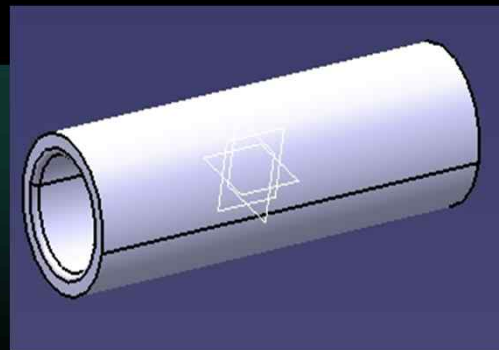
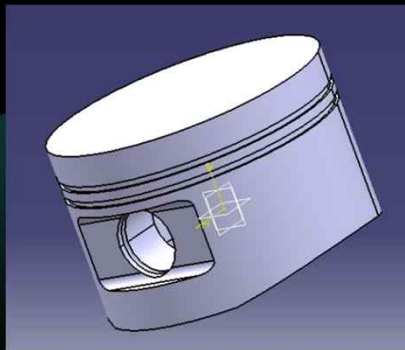
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## Piston Head

피스톤 헤드를 파트 디자인

Generative Shape Design으로 윗면 디자인



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# 03 **C**ylinder **H**ead

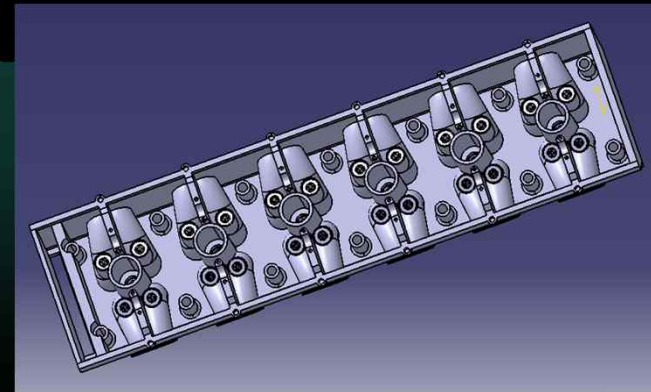
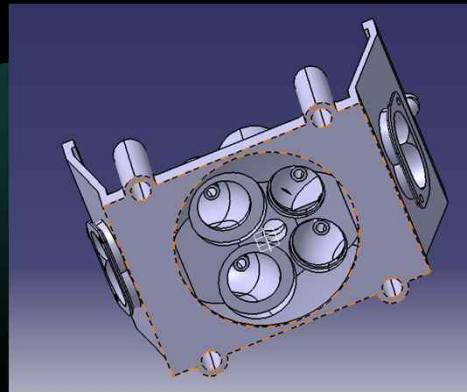
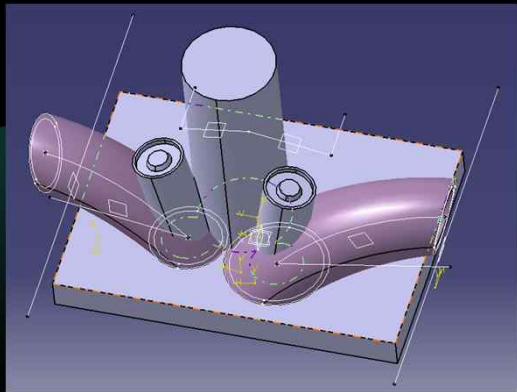
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## Cylinder Head

Part Design에서 Spline을 Rib와 Slot을 이용하여  
배기 매니폴드를 구현함

반쪽을 구현하여 대칭을 이용함

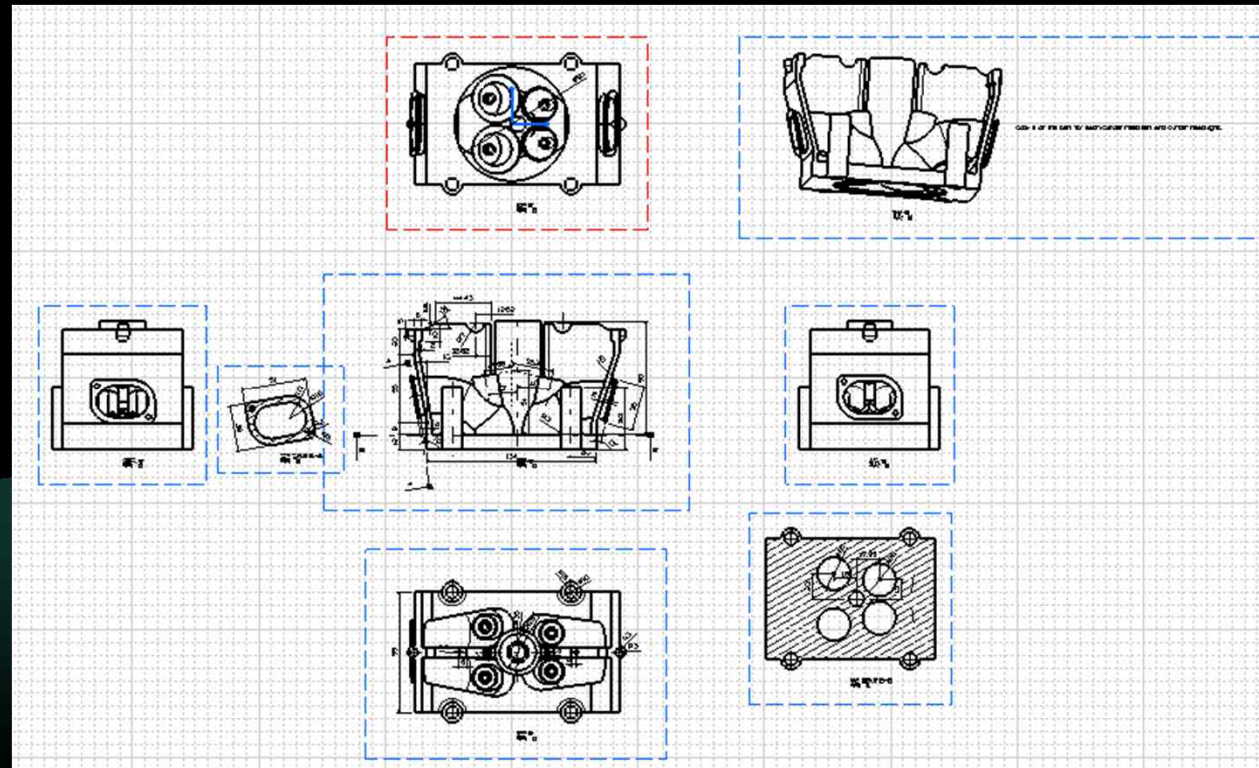


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## Cylinder Head draft



# V12

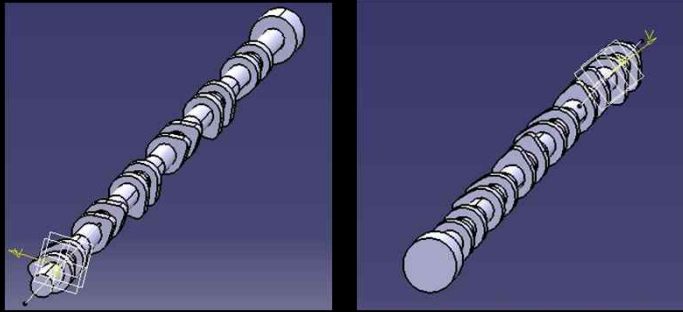
HY Automobile Engineering

# CDL

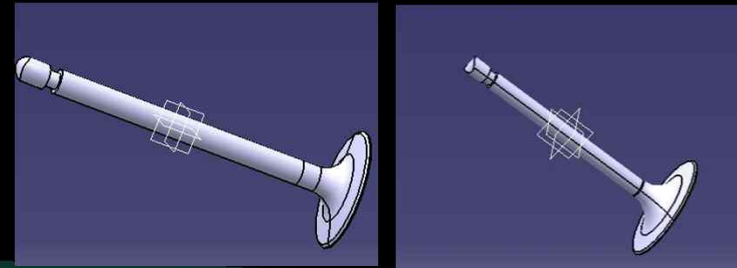
04 E.T.C

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## Exhaust/Intake Camshaft



## Exhaust Valve/Intake Valve



각각 파트 디자인

Exhaust/Intake Camshaft의 경우  
이전의 Crank와 동일한 방법으로 진행

V12

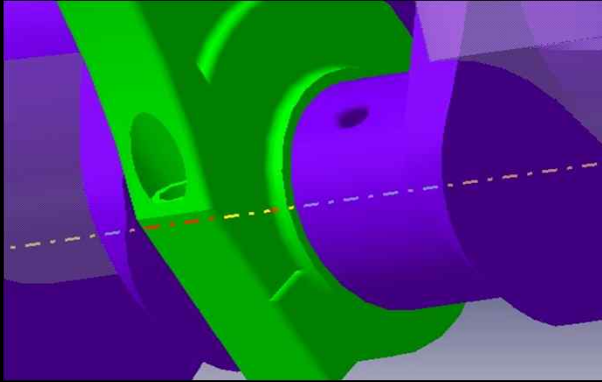
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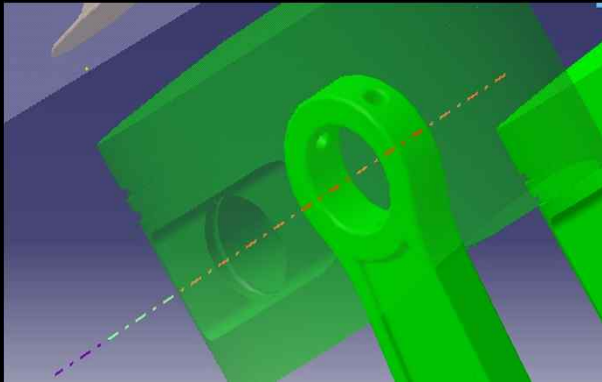
# 05 Assembly & Kinematics

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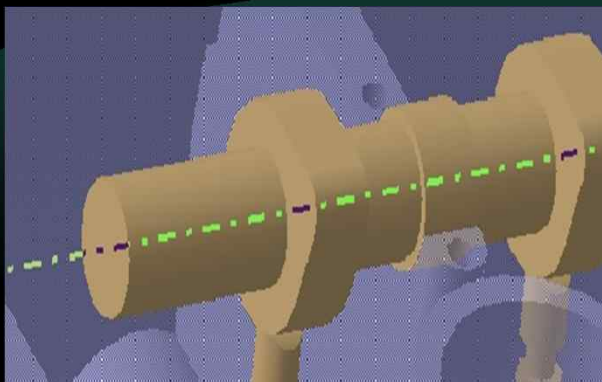
# Revolute



Connecting rod & Crank



Connecting rod & Piston



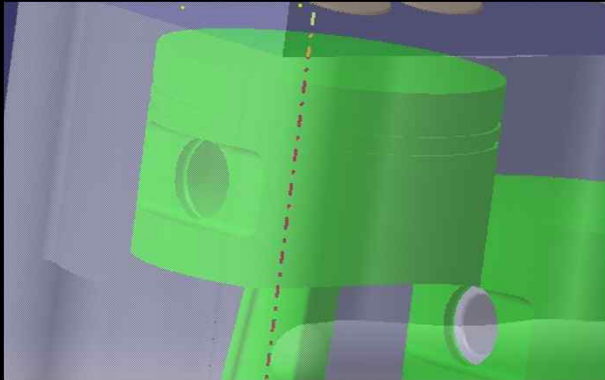
Cam shaft & Cylinder head

## V12

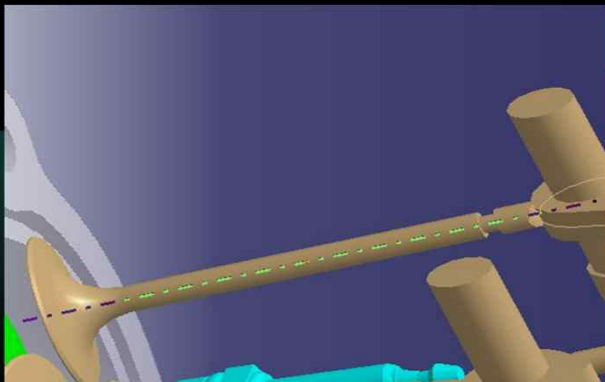
HY Automobile Engineering

# CDL

# Prismatic



## Piston & Cylinder



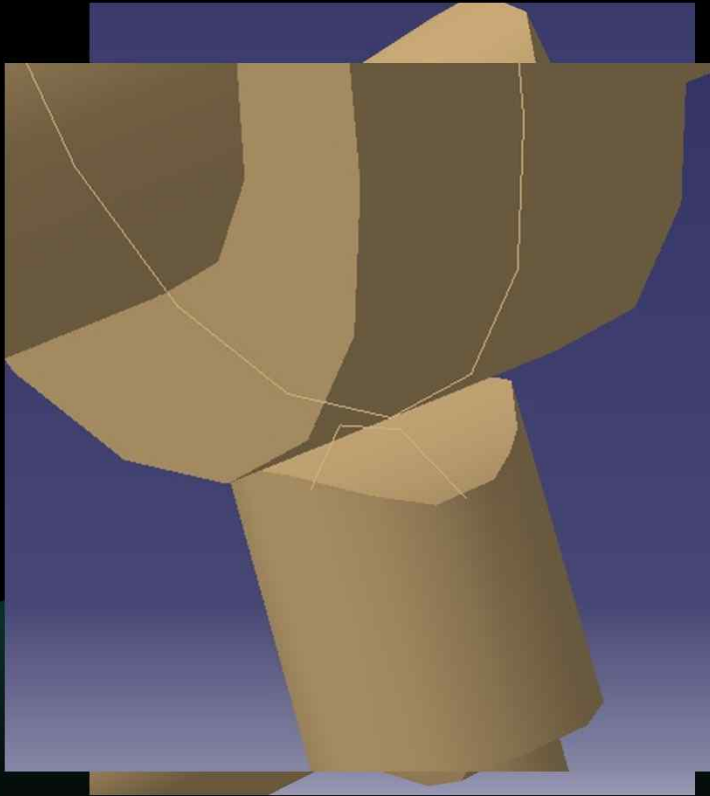
## Cam shaft & Cylinder head

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# CDL

# Slide curve



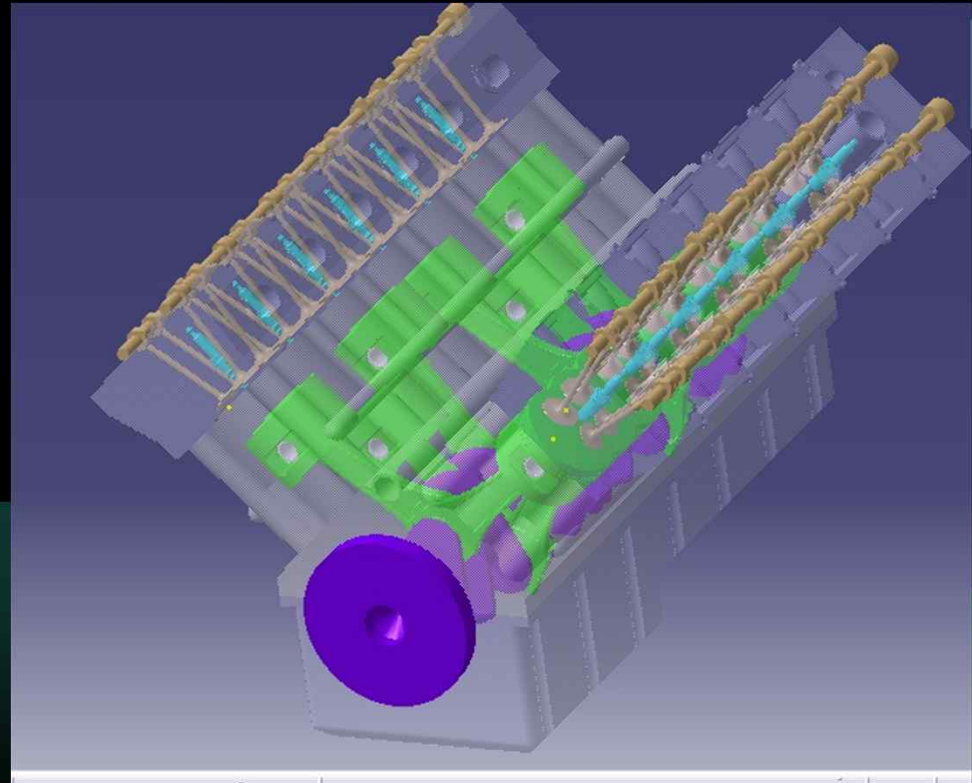
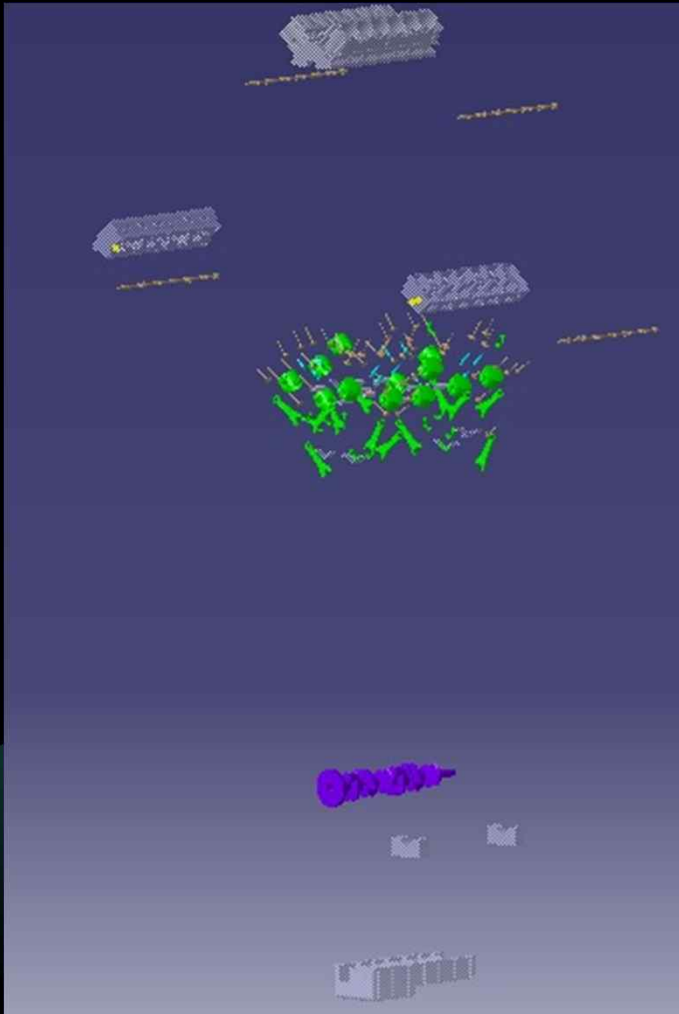
Cam shaft & intake/exhaust valve

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# Assembly

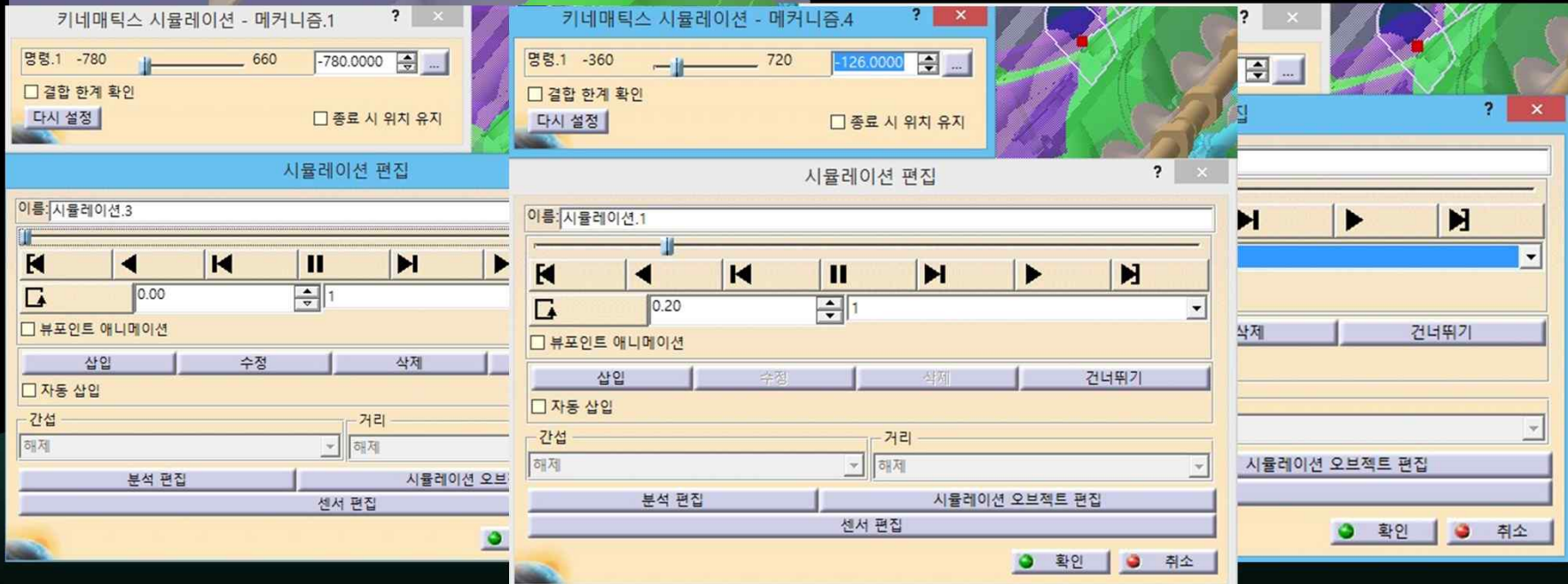
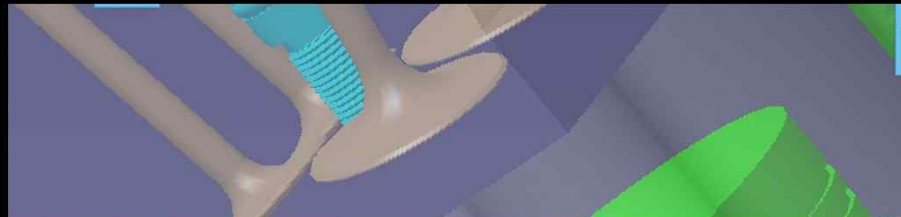


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# Trouble



조절

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# Video clip

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# Thank you

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