


VISION 2023

# Digital Lab Analog User Manual

 Digital Implant PM Team

 35 Pages



 29<sup>th</sup> May 2020

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- 2-3. How to Design Model Build
- 2-4. 3D Printing
- 2-5. Workflow of Digital Lab Analog
- 2-6. Checking the Fit of Final Prosthesis

## **03 Precautions for Digital Lab Analog**

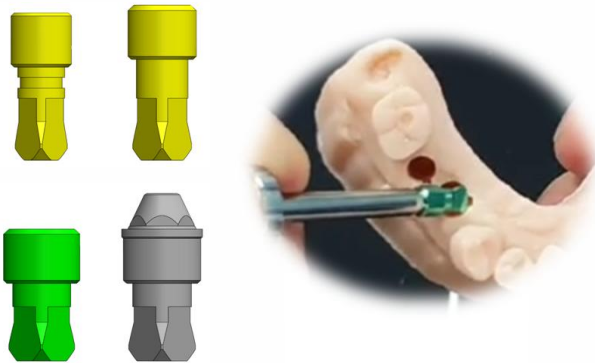
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# Introduction to Digital Lab Analog

01

# 1. Introduction to Digital Lab Analog

## 1-1. Purposes of Digital Lab Analog



### Digital Lab Analog

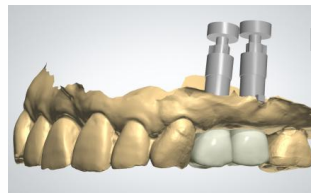
< Purpose & Function >

- Digital Lab Analog is used in 3D printed Working Models for implant digital prosthesis process.

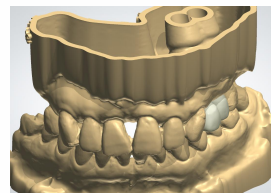
### Check Scan Body Specification



### Design Prosthesis



### Design Digital Working Model



### 3D Printing



### Connect Lab Analog



### Check Final Prosthesis Fit

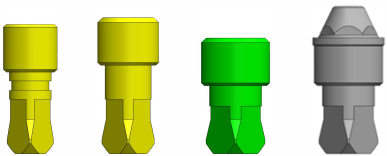

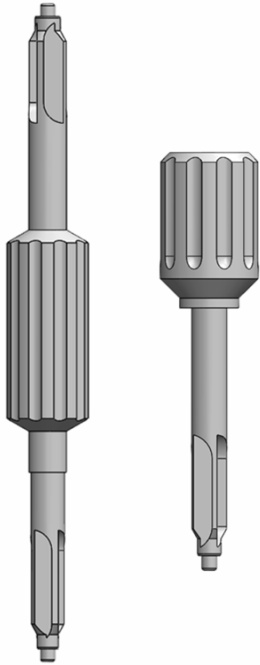
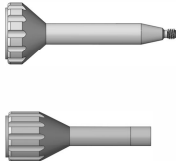
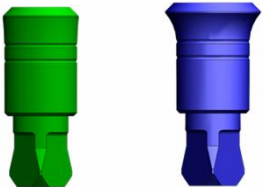

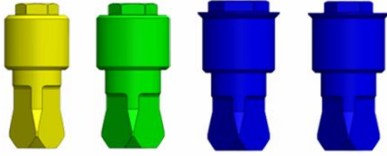
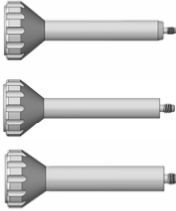


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# 1. Introduction to Digital Lab Analog

## 1-2. Digital Lab Analog Product Line-up

	Digital Lab Analog	Tools ( TS / SS / US )		Positioning Jig
		Screw	Reamer	
TS				
SS				
US				

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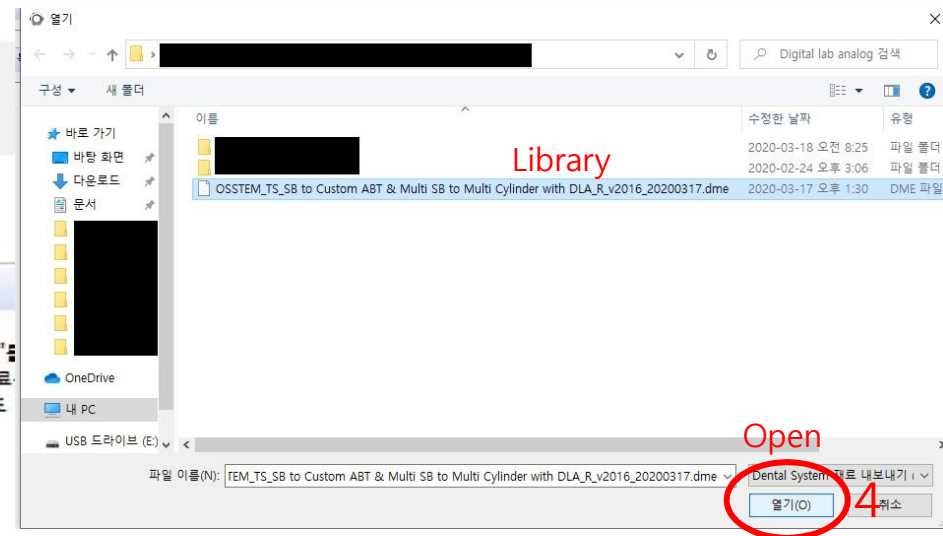
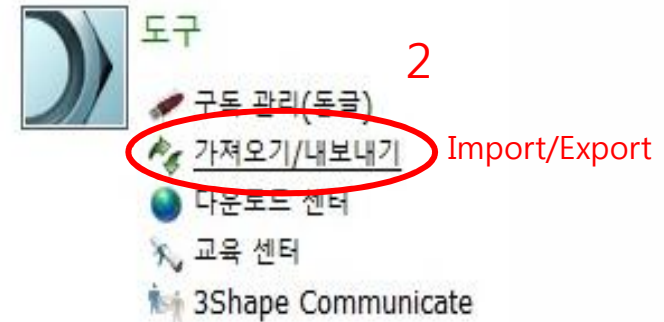
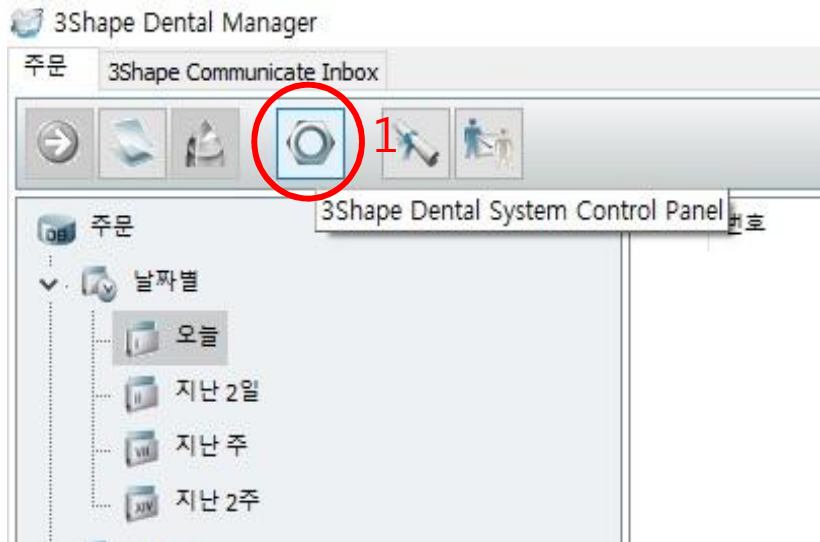
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# User Guide of Digital Lab Analog

02

# 2. User Guide of Digital Lab Analog

## 2-1. How to Register Library\_3Shape



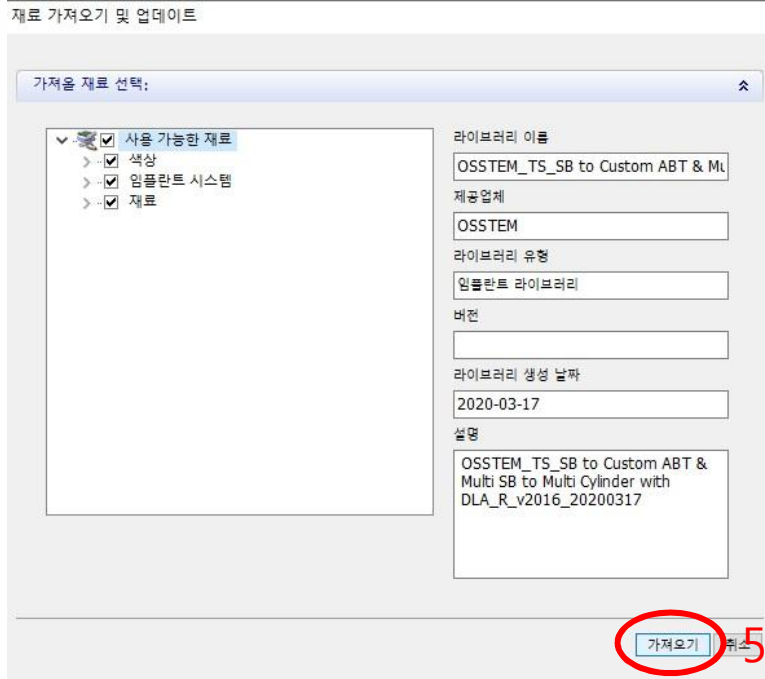
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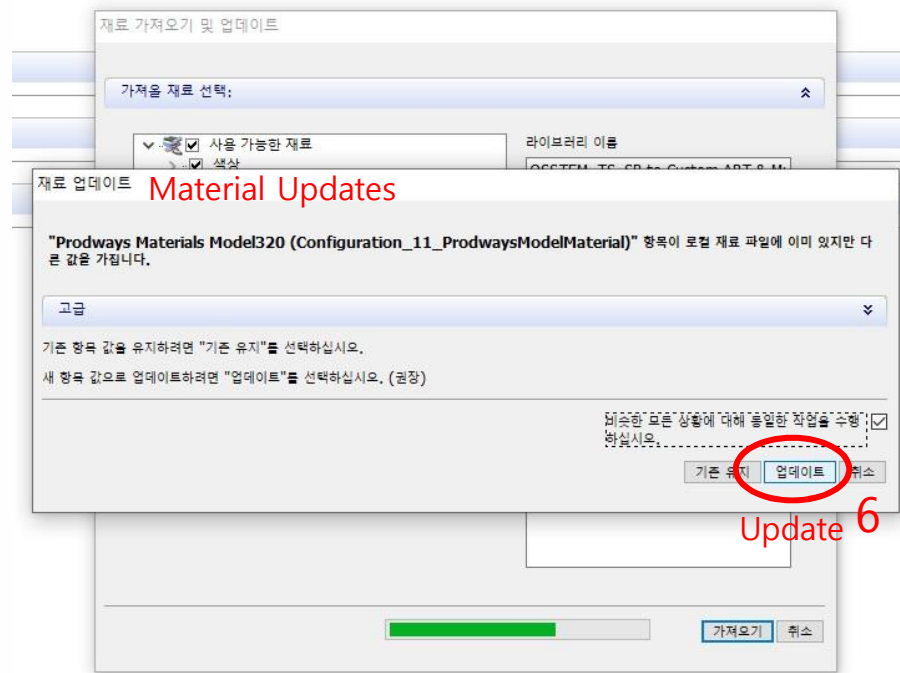
# 2. User Guide of Digital Lab Analog

## 2-1. How to Register Library\_3Shape

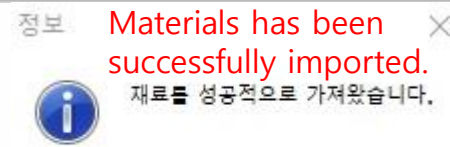
### Import Materials and Updates



Import 5



Update 6



확인 7  
OK

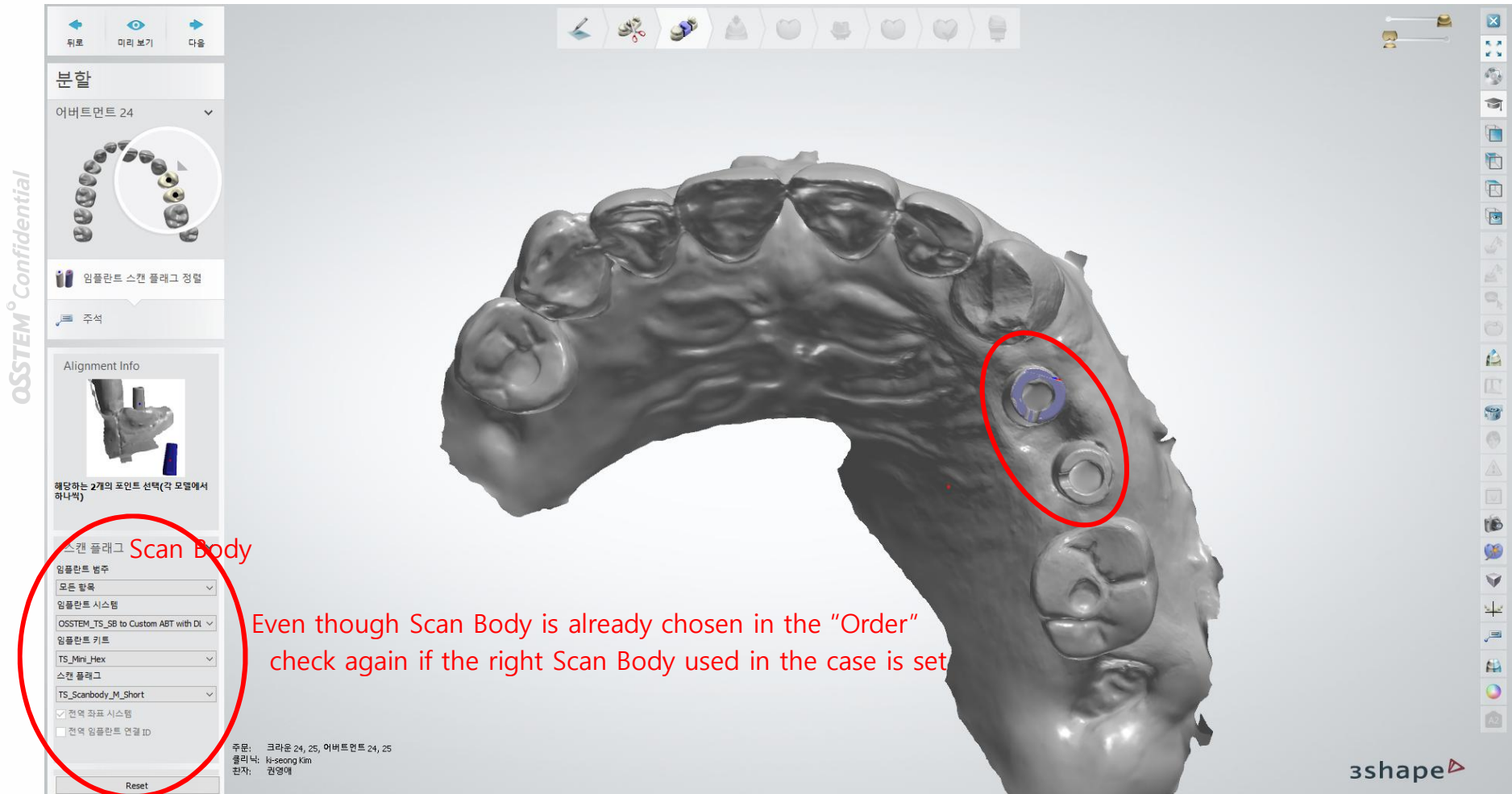
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## 2-2. How to Design Prosthesis

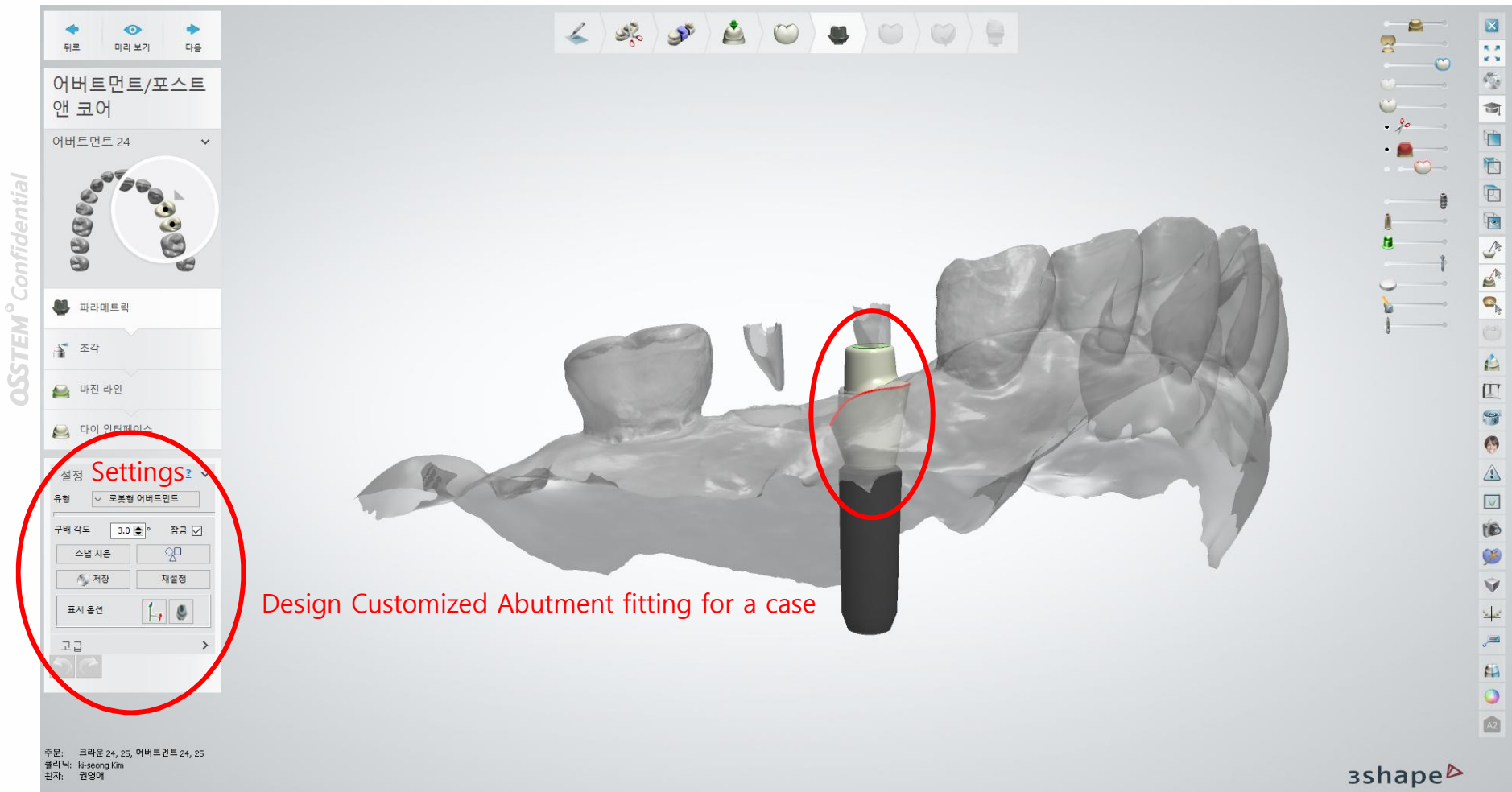
### 1) Selecting Scan Body



## 2. User Guide of Digital Lab Analog

### 2-2. How to Design Prosthesis

#### 2) Designing Customized Abutment

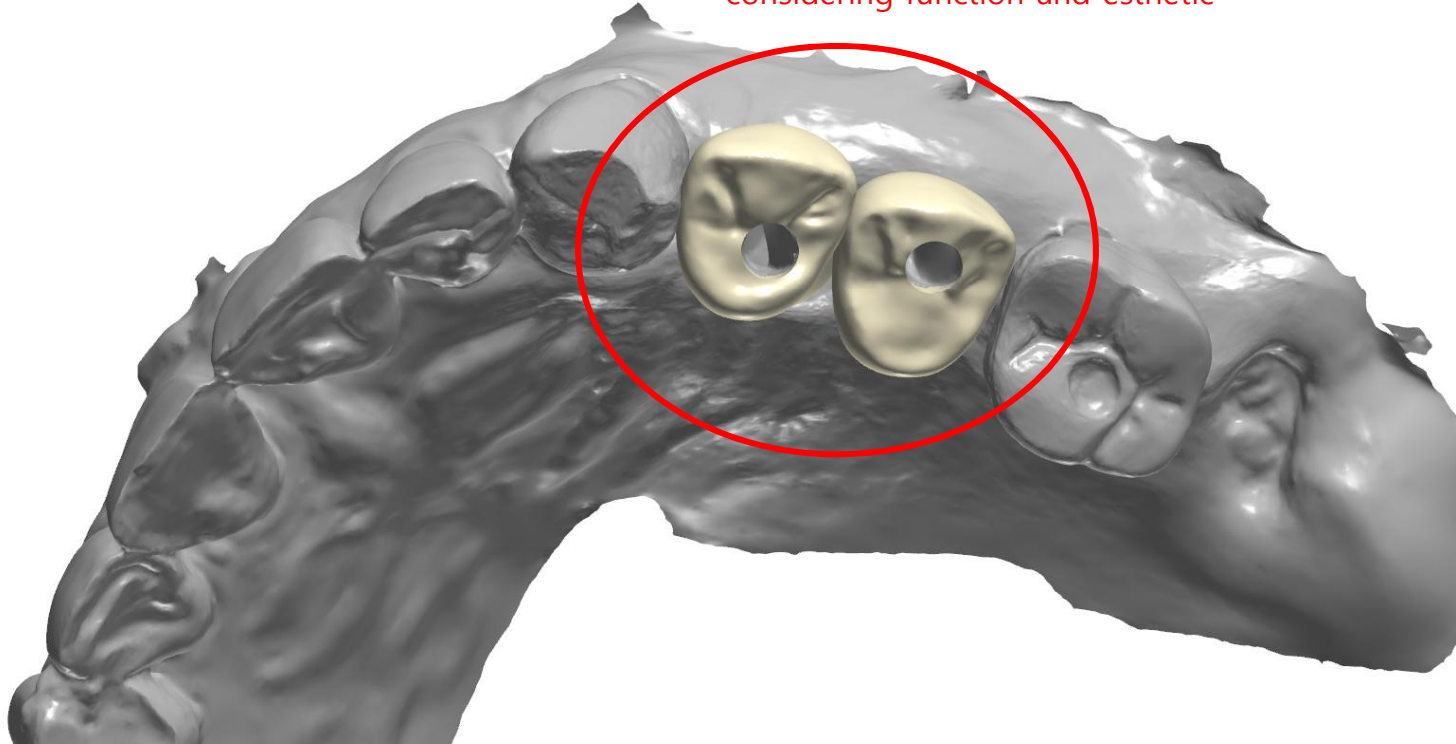


## 2. User Guide of Digital Lab Analog

### 2-2. How to Design Prosthesis

#### 3) Designing Crown Prosthesis

Design Crown Prosthesis  
considering function and esthetic

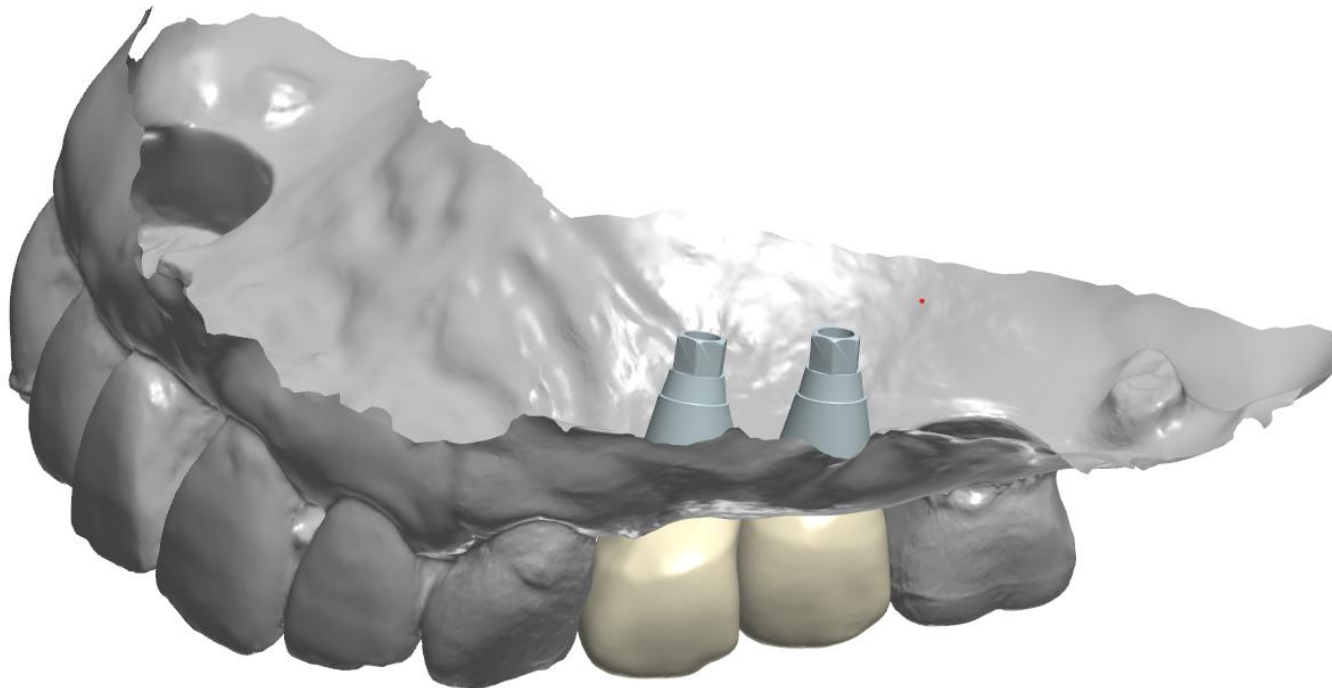


## 2. User Guide of Digital Lab Analog

### 2-2. How to Design Prosthesis

#### 4) Finishing the Design

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## 2. User Guide of Digital Lab Analog

### 2-3. How to Design Model Build

#### 1) Setting up Model Builder

1. Click "File"

2. Click "Virtual Trim Settings"

가상 다듬기 기본 설정 Virtual Trimming Preferences

모델 유형 Model Types

핀 유형 PinCylindrical

핀 갠기

핀 없는 구멍 유형 CADCylindricalBottomHole

측면 방출 구멍 유형 CADCylindricalSideEjection3x3mm

밀기 새김는 유형

핀 모양 밀기 새김는

다이 Dies Interface

인터페이스 Interface

Die interface	Value	Unit
모델 간격에 다이	0.000	mm
포스트와 모델 간격	0.100	mm
마찰 바 오버랩	0.010	mm
마찰 바 너비	0.700	mm
다이 각도 조정	0.000	
다이 크기 조정	0.000	
마찰 바 수	8	

Analog interface

Value	Unit
레벨 조정	0.000 mm
유사물과 모델 간격	0.00
마찰 바 오버랩	0.02
마찰 바 너비	0.80
마찰 바 수	8

모델 제조

Osstem Digital Model

확인(O)

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1. Click "Interface"

2. Adjust scale of "Analog to Model Spacing"

Set up the adequate space between Model and Analog depends on 3D Printer/Materials  
Example] OSSTEM's O2-Printer & Nextdent's Model Material's Recommendation Scale is 0.08mm)

# 2. User Guide of Digital Lab Analog

## 2-3. How to Design Model Build

### 1) Setting up Model Builder

ModelBuilder - [c:\3shape\38911\_20191206\_1623\_권영애\38911\_20191206\_1623\_권영애.xml]

스캔 준비 Prepare Scans

가상 다듬기 기본 설정 Virtual Trimming Preferences

Model Types

Model Manufacture

Dies

Interface

Surface Thickness

Use Variable Thickness

Bottom Drain Hole Size

Hollow Dies

1. Click "Model Manufacture"
2. Recommended Surface Thickness: 1.5mm
3. Click "Hollow Dies"  
(To Reduce Material Consumption)
4. OK

확인(O)

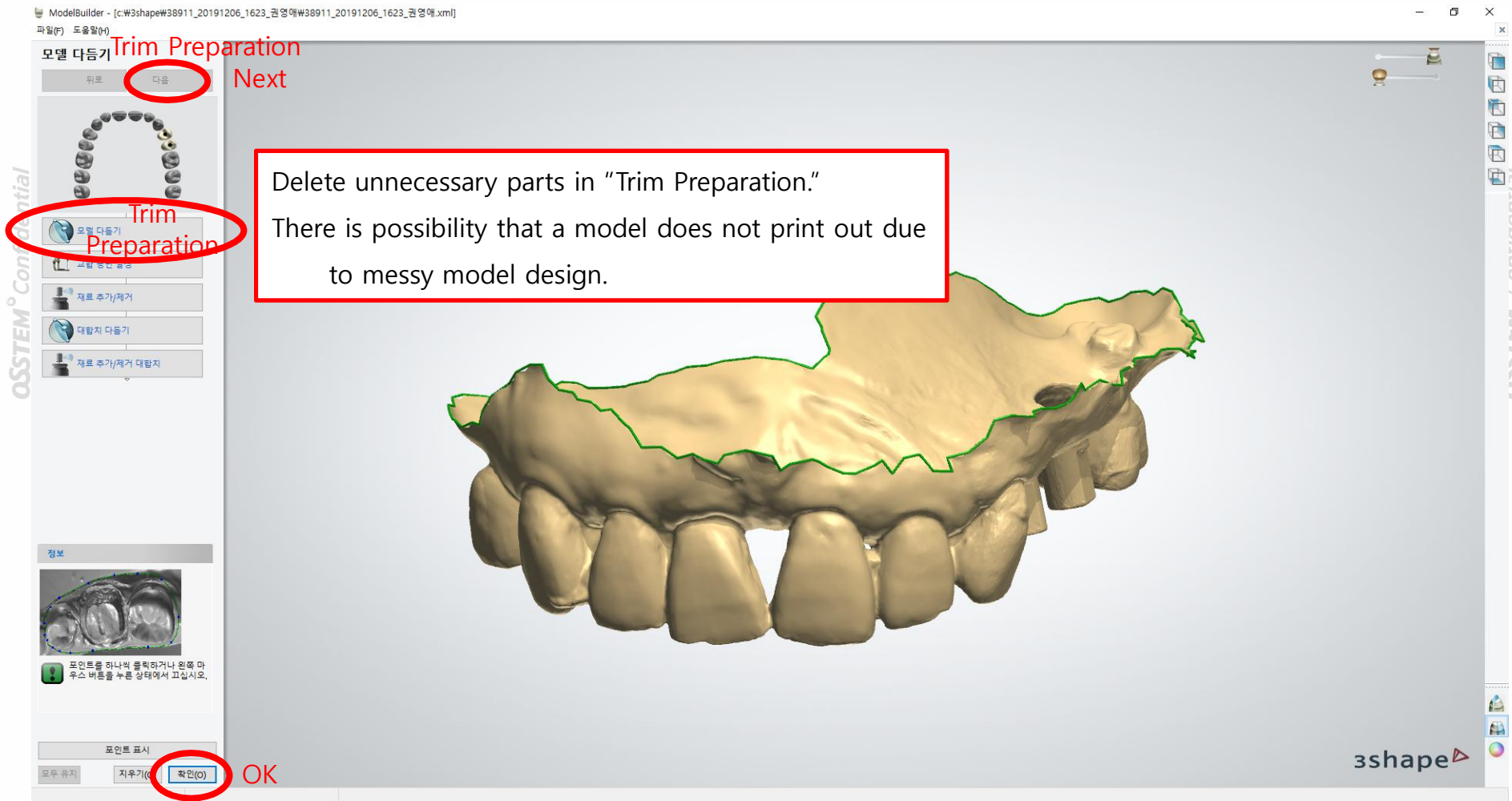
OK

3shape

# 2. User Guide of Digital Lab Analog

## 2-3. How to Design Model Build

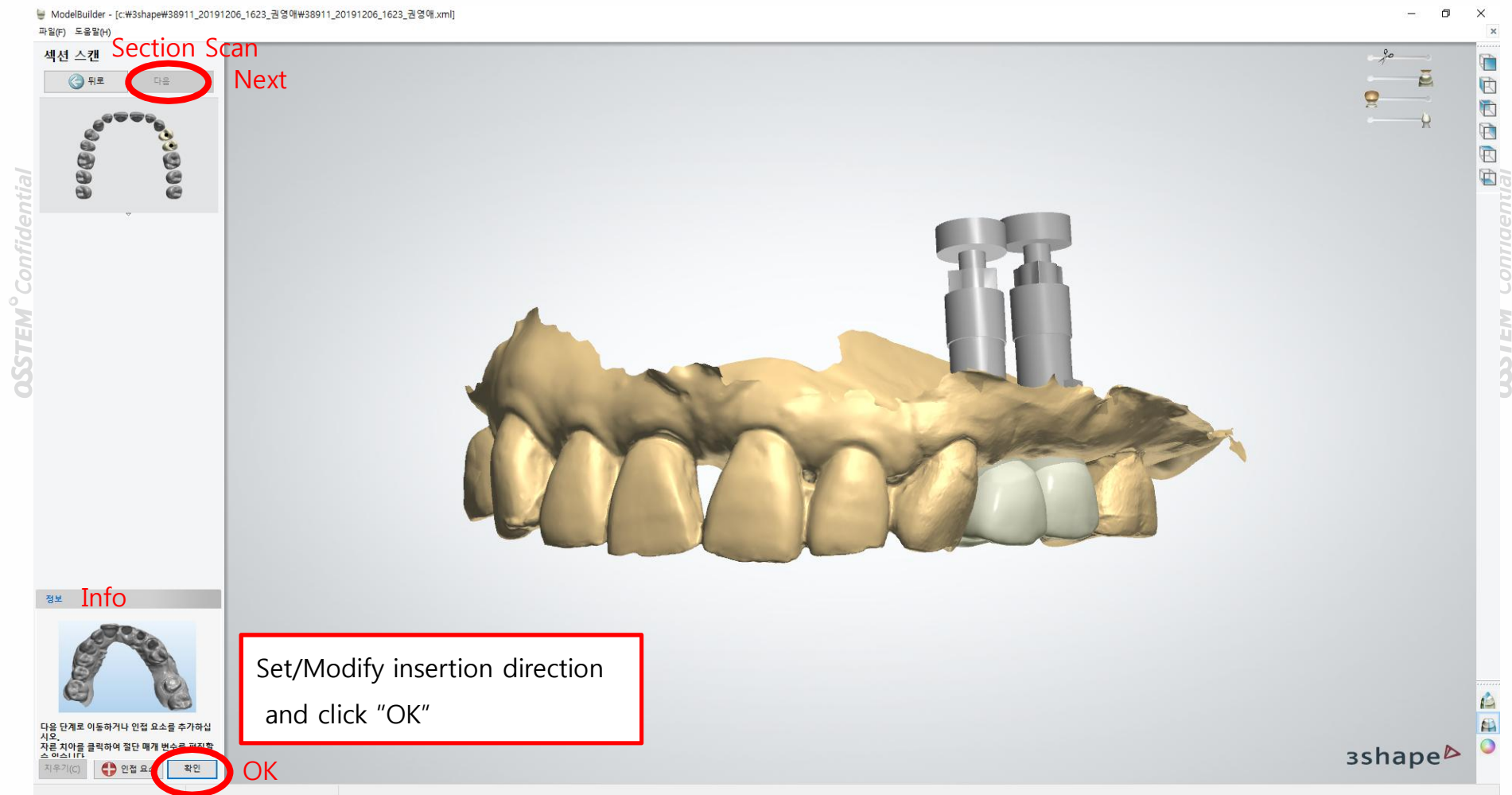
### 2) Trim Preparation



## 2. User Guide of Digital Lab Analog

### 2-3. How to Design Model Build

#### 3) Creating Die

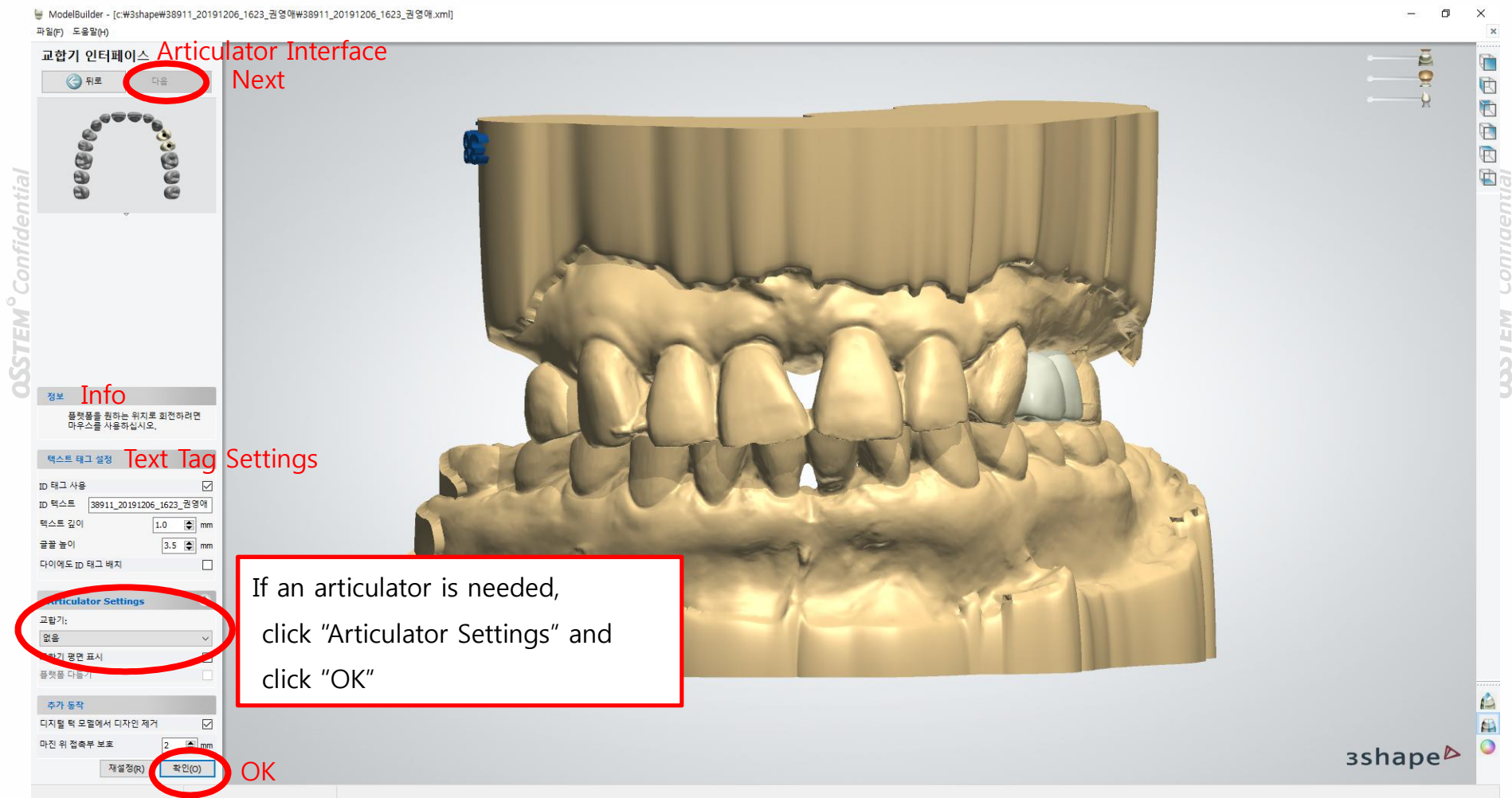




## 2. User Guide of Digital Lab Analog

### 2-3. How to Design Model Build

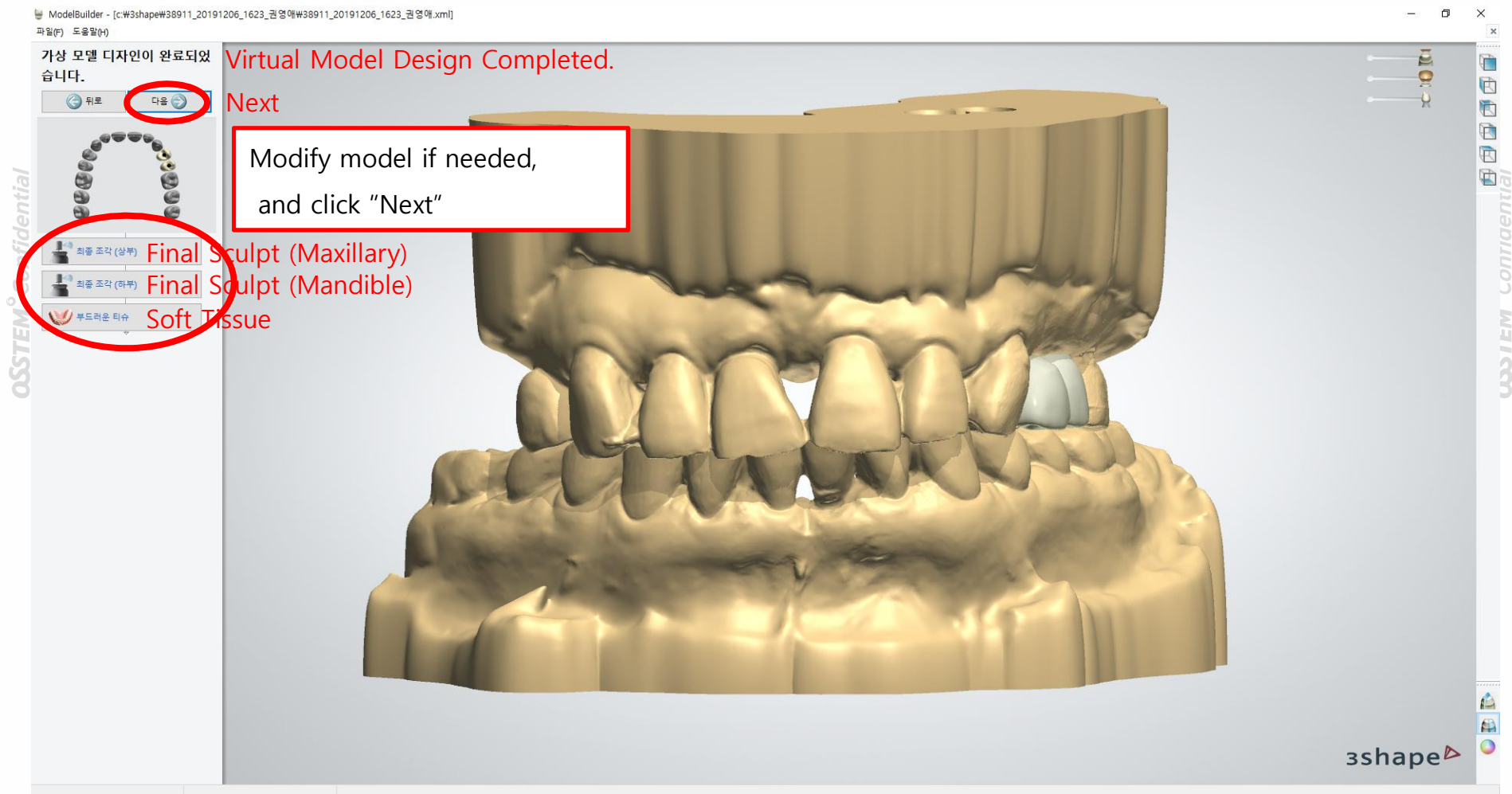
#### 4) Articulator Interface



## 2. User Guide of Digital Lab Analog

### 2-3. How to Design Model Build

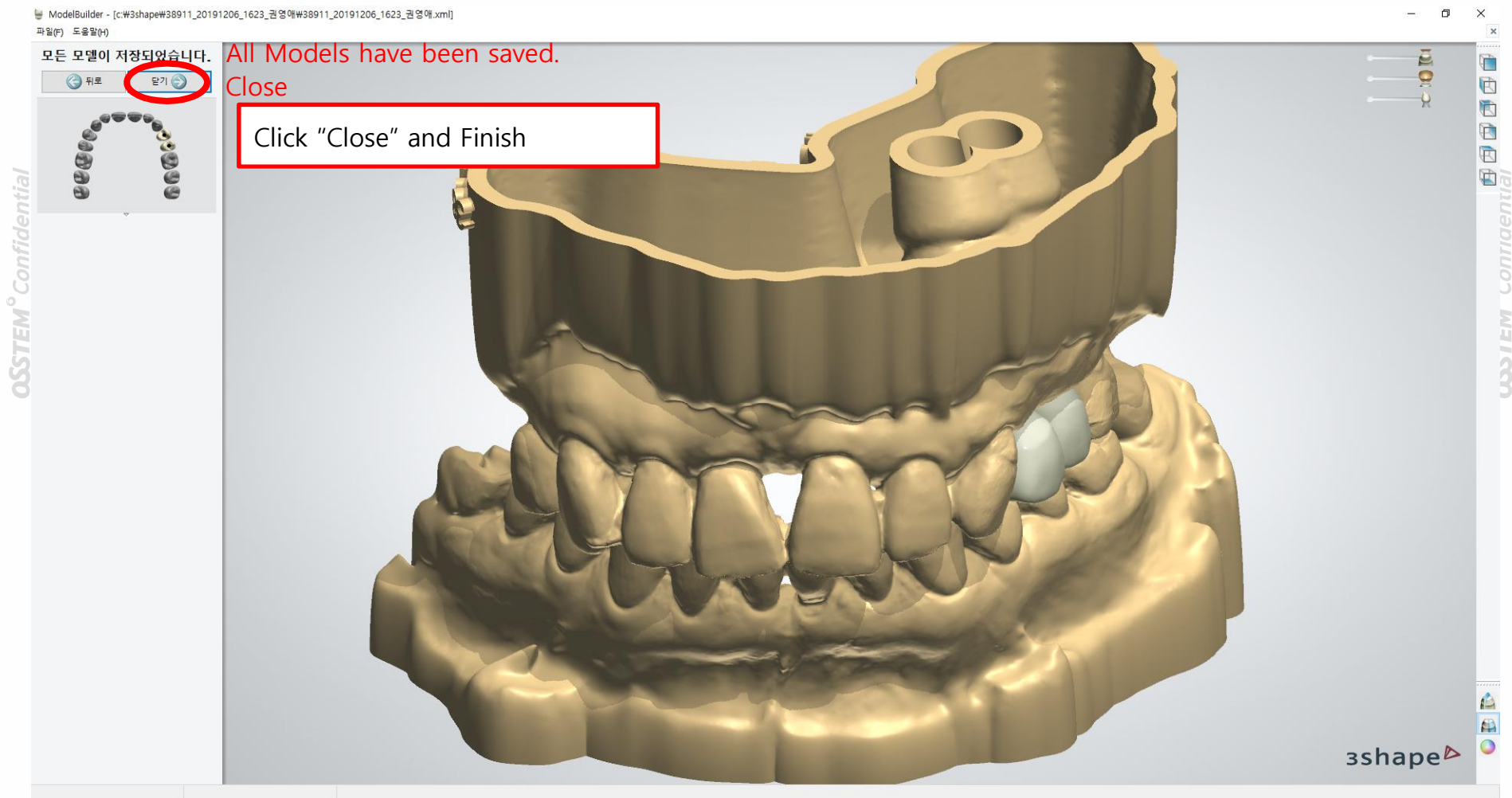
#### 5) Completing Virtual Model Design



## 2. User Guide of Digital Lab Analog

### 2-3. How to Design Model Build

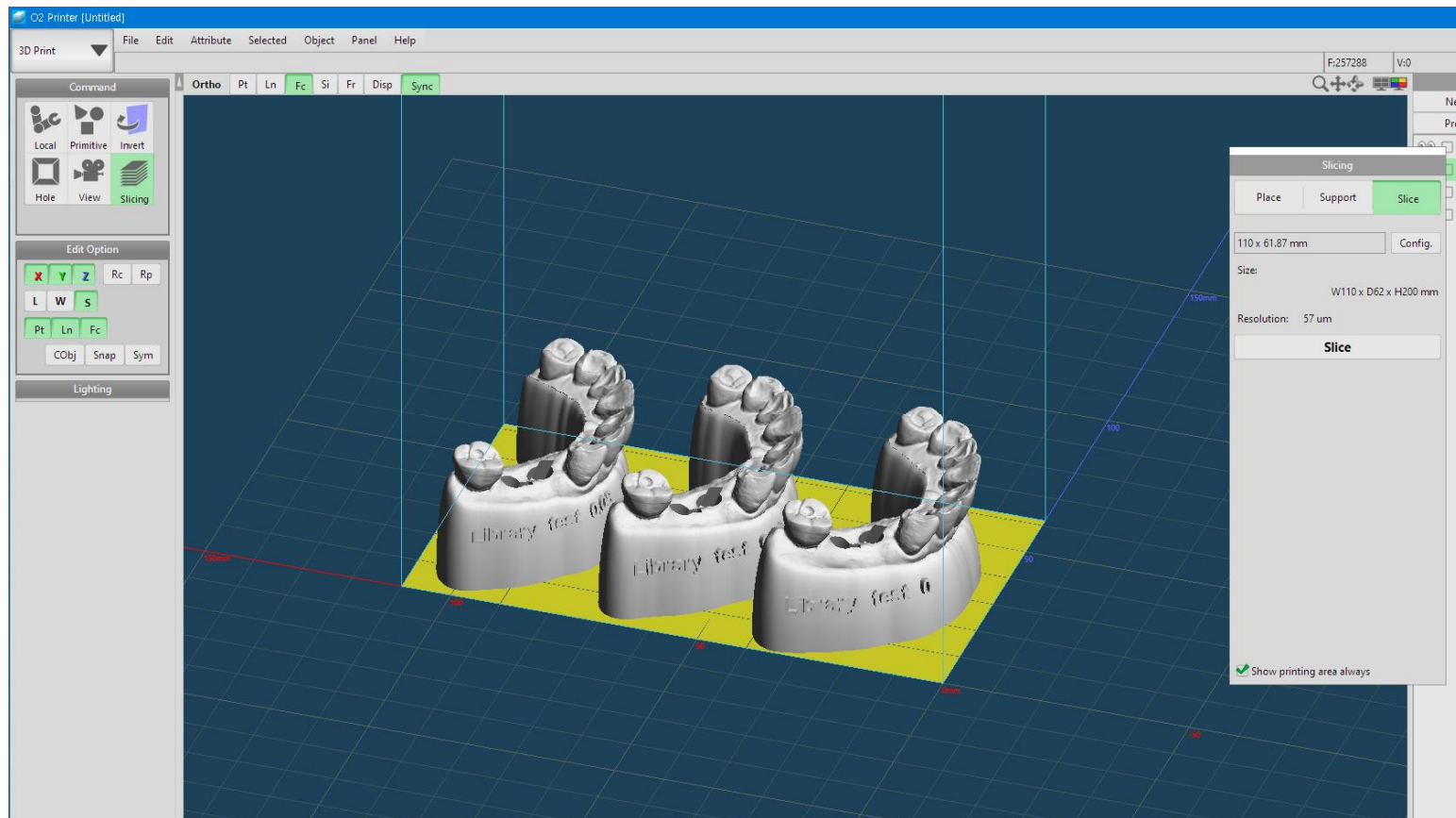
#### 5) Completing Virtual Model Design



## 2. User Guide of Digital Lab Analog

### 2-4. 3D Printing

1) Place STL files -> Create Support -> Create Slicing File (Based on O2-Printer)



✓ Please refer to the “O2-Printer User Manual” for more details.

## 2-4. 3D Printing

### 2) Post Treatment (Based on O2-Printer)

#### (1) Eliminate Build Plate

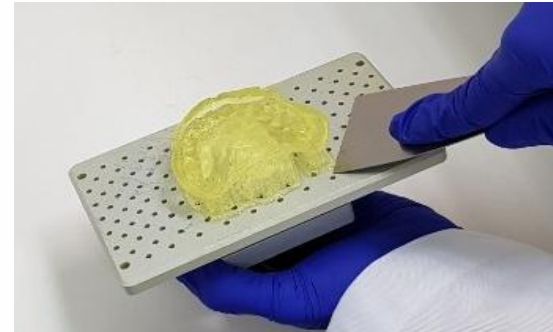
- Turn Fixing Handel to clockwise and pull the plate forward for the detachment



※ Caution : Without any bowls, liquid from printing bed could drop inside 3D Printer.

#### (2) Separate Printouts

- Use Steel Scraper to separate printed model from the Build Plate



※ Caution : Build Plate should be kept clean, otherwise it will affect outcomes of next printing.

#### (3) Cleanse Printouts



#### (4) Curing Printouts

- Use Curing Machine to cure printouts (10 mins)



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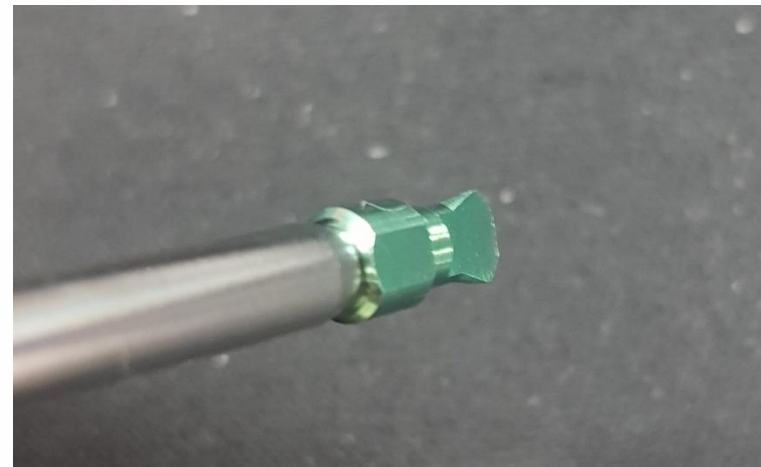
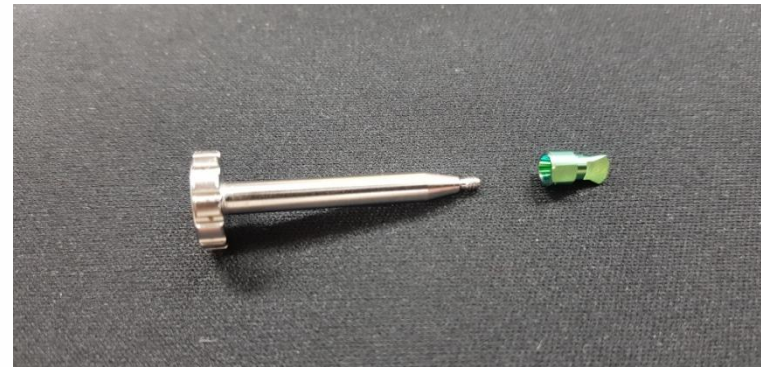
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## 2. User Guide of Digital Lab Analog

### 2-5. Workflow of Digital Lab Analog

#### 2) Connect Positioning JIG – Analog



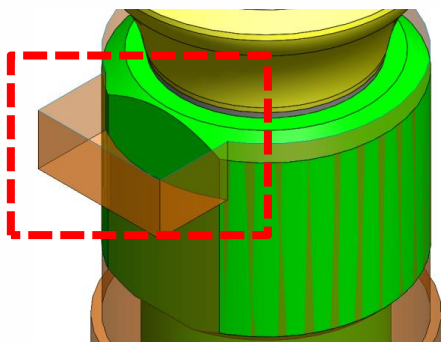
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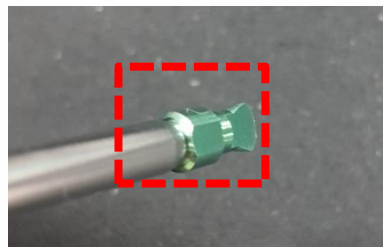
## 2. User Guide of Digital Lab Analog

### 2-5. Workflow of Digital Lab Analog

#### 3) Insert Analog to 3D Printed Models



Check Hex Direction  
Marking Groove



Use Positioning Jig and Press in Digital  
Lab Analog Considering Hex Direction



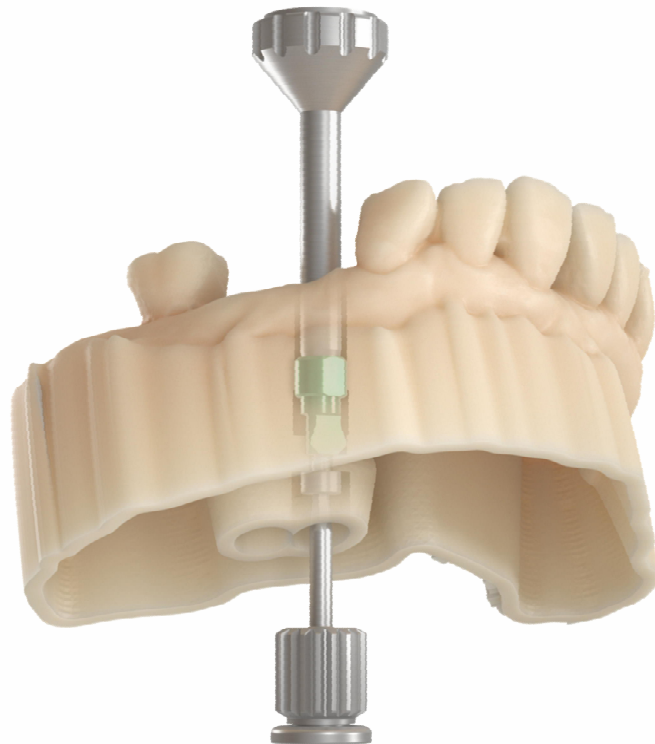
After Pressing Digital Lab Analog in,  
Check the Fit and Gap



## 2. User Guide of Digital Lab Analog

### 2-5. Workflow of Digital Lab Analog

4) Connect **Screw** (with 1.2 Hex Driver) + Separate Positioning Jig



Connect the Screw when Positioning Jig is still fixed on the 3D Printed Model

## 2. User Guide of Digital Lab Analog

### 2-5. Workflow of Digital Lab Analog

#### 4) Connect **Screw** (with 1.2 Hex Driver) + Separate Positioning Jig



When Positioning Jig is pressed in the model,  
it is not perfectly fixed.

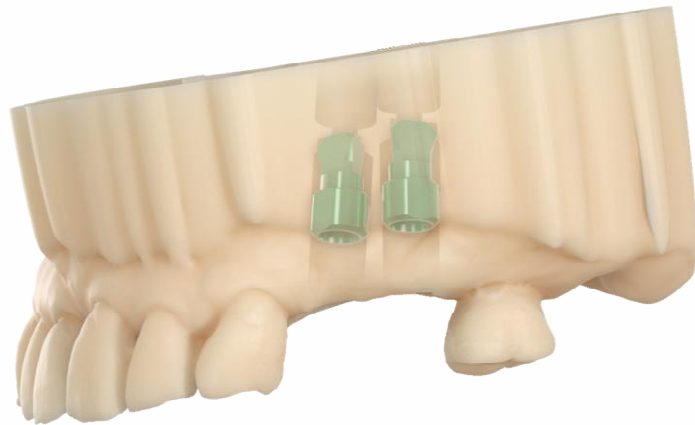
Use 1.2 Hex Driver to tighten Screw firmly  
to eliminate gap between 3D Printed Model  
and Digital Lab Analog

## 2. User Guide of Digital Lab Analog

### 2-5. Workflow of Digital Lab Analog

4) Connect **Screw** (with 1.2 Hex Driver) + Separate Positioning Jig

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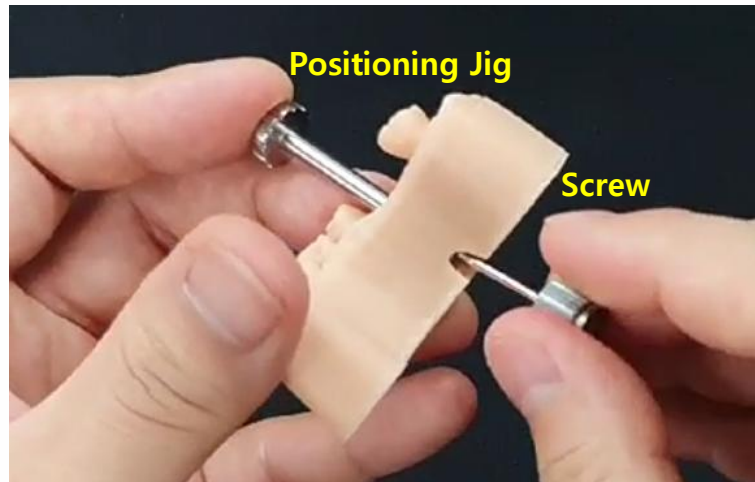
## 2. User Guide of Digital Lab Analog

### 2-5. Workflow of Digital Lab Analog

5) Separating Digital Lab Analog  
after work on the 3D Printed Model is done



▲ 3D Printed Model with Digital Lab Analog



▲ Fix Positioning Jig to Digital Lab Analog  
and Use 1.2 Hex Driver to remove Screw

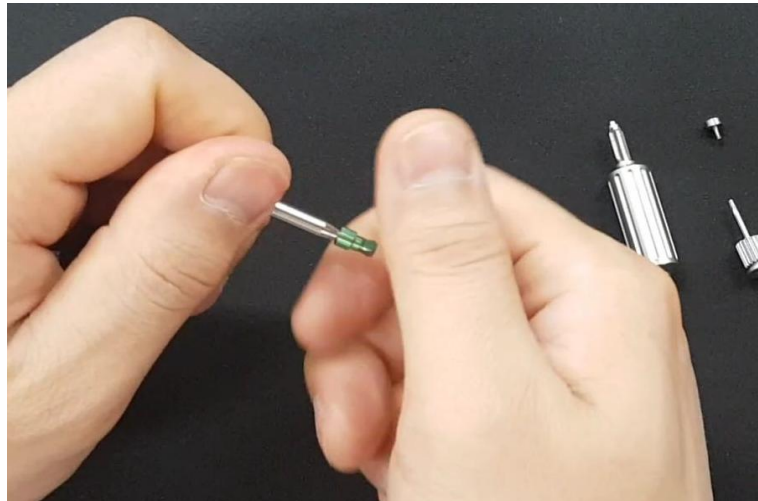


▲ Use Positioning Jig to remove Digital Lab Analog

## 2. User Guide of Digital Lab Analog

### 2-5. Workflow of Digital Lab Analog

- 5) Separating Digital Lab Analog  
after work on the 3D Printed Model is done



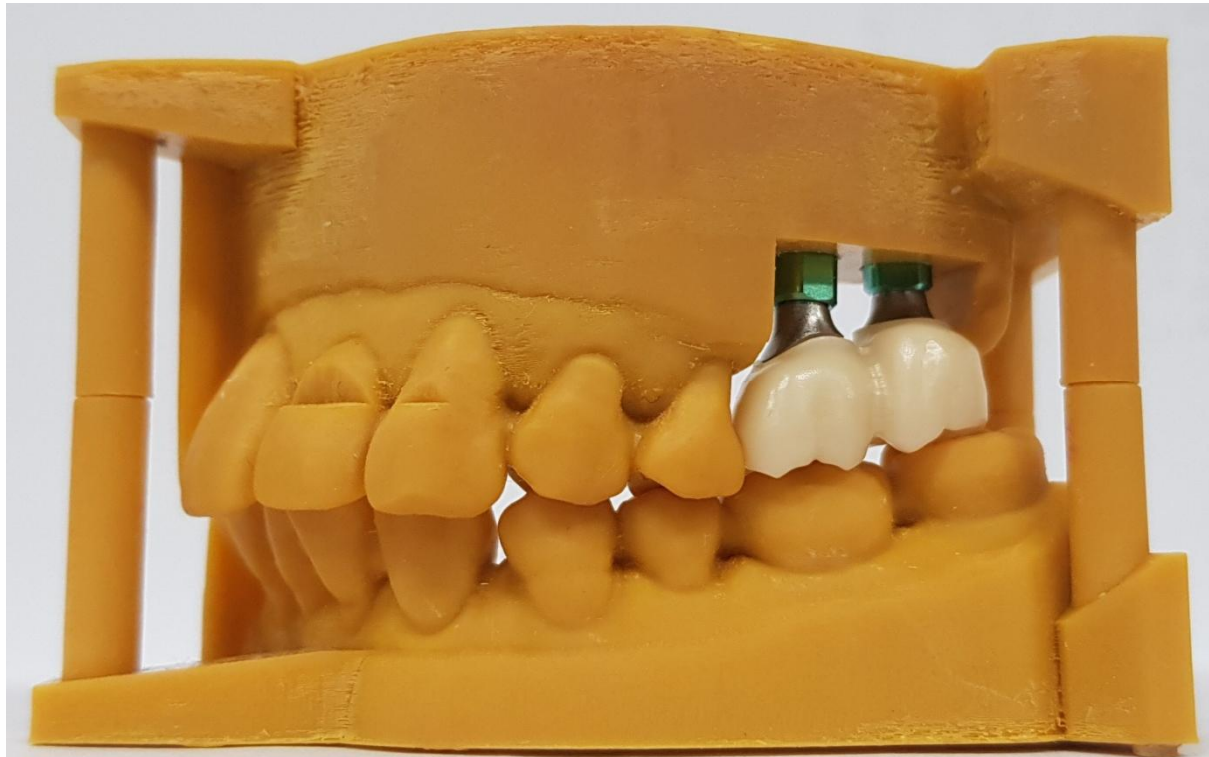
▲ Separate Positioning Jig  
and Digital Lab Analog



▲ Positioning Jig and Digital Lab Analog,  
which are separated from 3D Printed Model

## 2. User Guide of Digital Lab Analog

### 2-6. Checking the Fit of Final Prosthesis



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# Precautions for Digital Lab Analog

03

### 3. Precautions for Digital Lab Analog

#### 3-1. Precautions for Reamer



- ✓ Use Reamer to correct/modify Digital Lab Analog holes
- ✓ Blow Air in the corrected/modified holes so that there is no remaining
- ✓ If there is remaining inside holes, it is hard to connect Digital Lab Analog

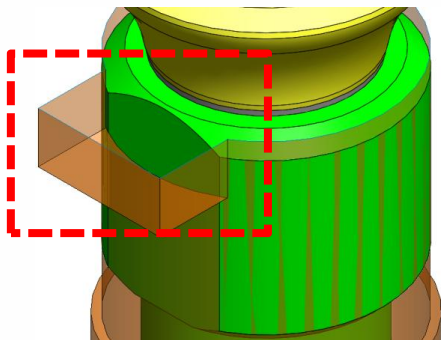


### 3. Precautions for Digital Lab Analog

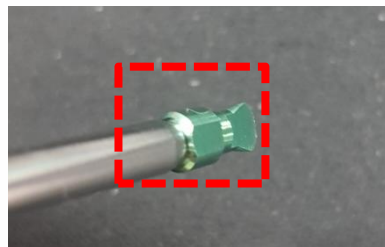
#### 3-2. Understanding Hex(Direction) (The contents are the same as the page 24)



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Check Hex Direction  
Marking Groove



Use Positioning Jig and Press-in Digital Lab Analog Considering Hex Direction

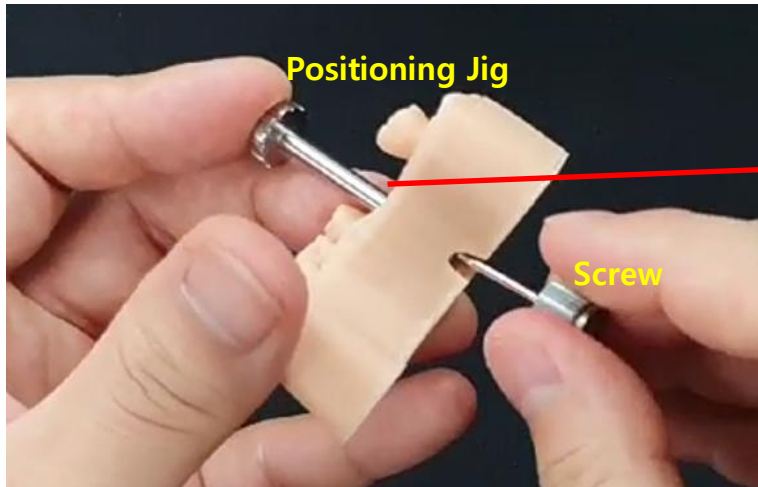
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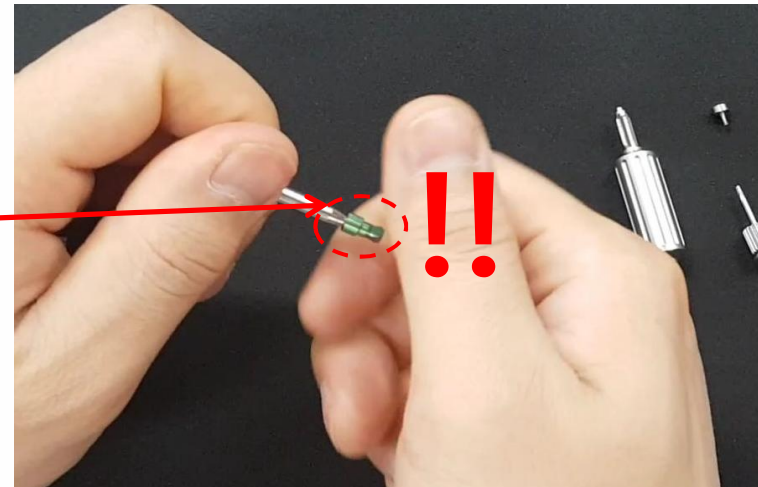
After Pressing Digital Lab Analog in,  
Check the Fit and Gap

### 3. Precautions for Digital Lab Analog

#### 3-3. Precautions for Separating Digital Lab Analog



Fix Positioning Jig to Digital Lab Analog  
and Use 1.2 Hex Driver to remove Screw



If Positioning Jig and Digital Lab Analog are  
connected too firmly, fingers can be hurt by  
sharp edges of Digital Lab Analog during the  
separation process.

#### Tip!

- In order to disconnect Positioning Jig and Digital Lab Analog easier and safer, do not completely tighten up Positioning Jig and Digital Lab Analog when connecting.
- Digital Lab Analog will be easily removed from 3D Printed Model after Screw is removed with 1.2 Hex Driver, therefore, just enough to hold Digital Lab Analog to pull out from 3D Printed Model is required when connecting Positioning Jig and Digital Lab Analog.

Thank  
you.

Q&A

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