

CAD/CAM TOOTH PREPARATION

Anterior & Posterior

1.



Pre-treatment

Lower right first molar with large existing restoration with recurrent caries.

2.



Rough occlusal reduction using 1558SC

Removal of occlusal enamel following the cuspal inclines.

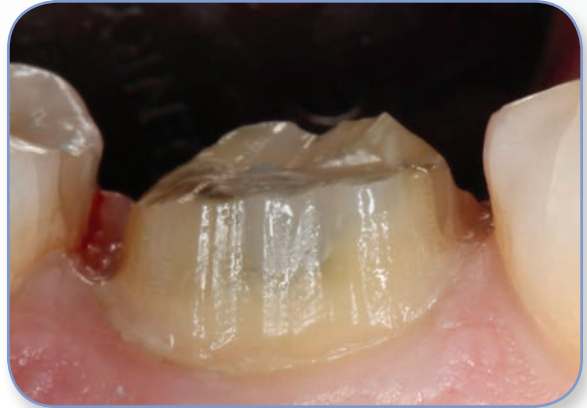
3.



Gross reduction of buccal, mesial and lingual

The 1558SC is used to break the proximal contact and remove the buccal and lingual enamel.

4.



Gross reduction completed

The initial reduction is complete. The preparation is at the level of the gingiva except on the distal where it is deeper to break contact.

5.



Occlusal reduction refined with the 5811.037

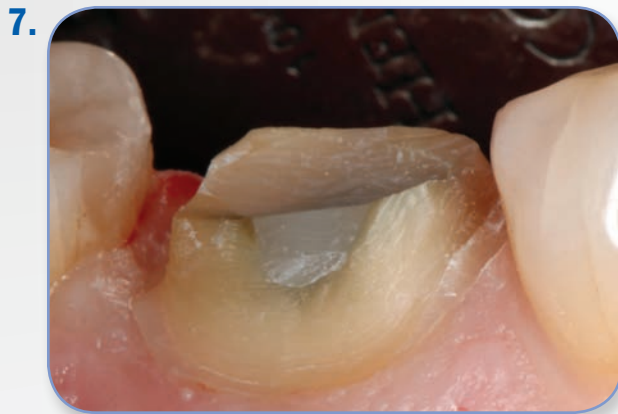
The occlusal surface is now refined with an occlusal reduction diamond bur. The reduction should be 1.5-2.0mm.

6.

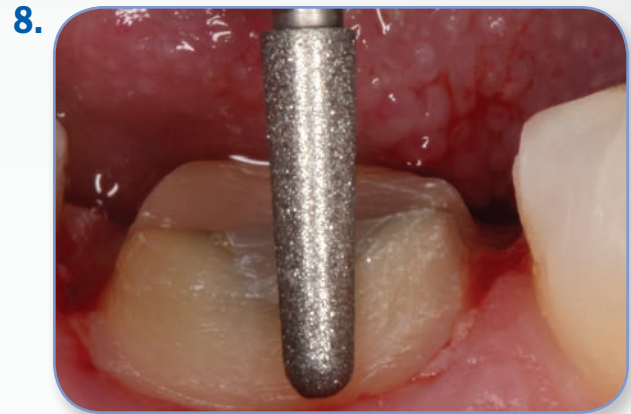


Smoothing axial reduction

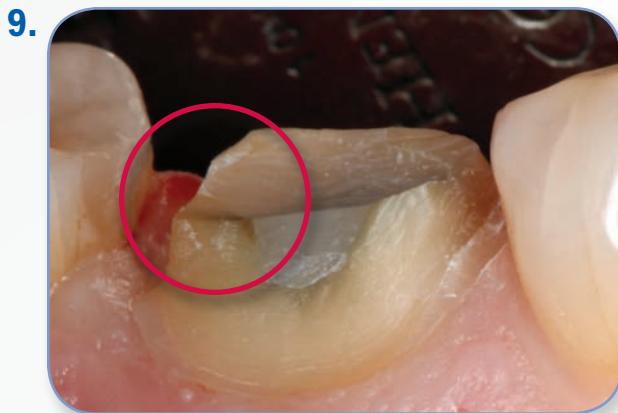
The axial walls are smoothed with a 5856.016 or 5856.018 round end chamfer bur. This bur is also used to refine the margin.



Completed reduction



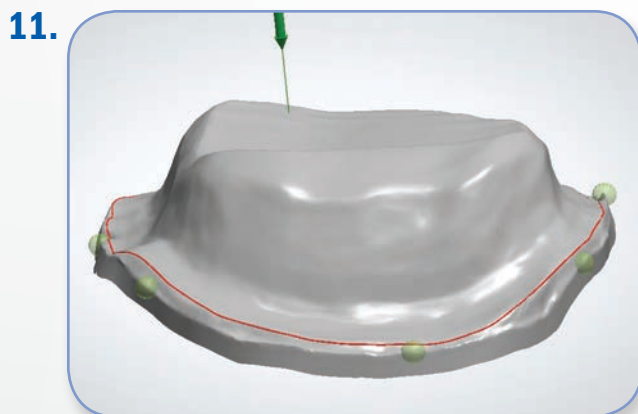
Refining axial reduction with 8856.018 round end chamfer
The axial walls and margin are finished with a fine diamond.



Sharp corner created by axial and occlusal reduction
This corner must be rounded for CAD/CAM. The milling tool cannot faithfully reproduce a 90° corner.



Sharp corner rounded with 8833R.031 FFB
This angle can be eliminated with a diamond instrument designed to conform to the milling tool.



Screen shot of the intra-oral scan showing the preparation
The sharp angle of the axial and occlusal reduction has been rounded.



Cemented lithium disilicate crown
Completed crown requiring no adjustment to the occlusal surface or contact points.



K0283 Ferencz CAD/CAMSystem

					
US No.	1558SC	—	—	—	—
Figure No.	H031RS	5856	5856	5856	5856
Head Size ($\frac{1}{10}$ mm)	012	014	016	018	021
Grit	—	Super-Coarse	Super-Coarse	Super-Coarse	Super-Coarse
Shank Type	FG	FG	FG	FG	FG
Quantity	1	1	1	1	1

						
US No.	—	—	FFB	—	—	—
Figure No.	5811	5379	8833R	379F	8856	8856
Head Size ($\frac{1}{10}$ mm)	037	023	031	023	018	021
Grit	Super-Coarse	Super-Coarse	Fine	Fine	Fine	Fine
Shank Type	FG	FG	FG	FG	FG	FG
Quantity	1	1	1	1	1	1



The FFB 8833R.31.031 is a new diamond, designed by Dr. Jonathan Ferencz, to inversely match the geometry of the milling tool by rounding the 90° angles left behind after axial and occlusal reduction. When the geometry of the preparation bur matches the geometry of the milling tool, the fit of the CAD/CAM crown is far more accurate.





Jonathan L. Ferencz, DDS, FACP

Dr. Ferencz is a Diplomate of the American Board of Prosthodontics and Clinical Professor of Prosthodontics and Occlusion in the Department of Advanced Education in Prosthodontics at the New York University College of Dentistry, where he has taught since 1972. He is also Adjunct Professor of Restorative Dentistry at the University of Pennsylvania School of Dental Medicine.

Dr. Ferencz is a member of the American Academy of Restorative Dentistry, the American Academy of Fixed Prosthodontics, the American College of Dentists, the New York Academy of Dentistry, and the American Dental Association. He is a Fellow of the American College of Prosthodontics, the American College of Dentists, the Academy of Prosthodontics, and the Northeastern Gnathological Society. Dr. Ferencz has served as President of the Greater New York Academy of Prosthodontics, President of the Northeastern Gnathological Society, and President of the American College of Prosthodontists.

Dr. Ferencz is a frequent contributor to the dental literature, having written numerous journal articles and textbook chapters, and has served on the editorial board of the Journal of Prosthetic Dentistry. He currently serves on the Editorial Review Board of the Journal of Cosmetic Dentistry and recently released the textbook "High-Strength Ceramics: Collaborative Perspectives", Ferencz, Silva and Navarro, Editors, Quintessence Publishing Co.

Dr. Ferencz has given over 250 invited lectures and presentations to dentists and post-graduate dental students throughout the United States, Europe, and the Middle East.

Dr. Ferencz has received many prestigious awards as follows:

- Greater New York Academy of Prosthodontics Distinguished Lecturer Award, 2011
- American College of Prosthodontists Distinguished Lecturer Award, 2010
- Greater NY Academy of Prosthodontics Achievement Award, 2007
- NYU College of Dentistry David B. Kriser Medal, 2006
- American College of Prosthodontists Presidents Award, 2006

Dr. Ferencz has engaged in clinical research involving clinical applications of zirconia based ceramics, complete dentures, and implant prosthetics.

Education:

Rensselaer Polytechnic Institute, Troy, NY, B.S, Biology 1967

New York University College of Dentistry, New York, NY, D.D.S., 1971

Montefiore Hospital and Medical Center, Rotating Dental Internship, 1971 - 72

New York University College of Dentistry, New York, NY, Advanced Education in Prosthodontics, 1984

