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CE

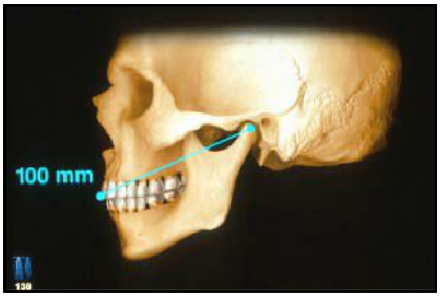
These instructions apply to the following items:

REF 4300
4305
Includes:
4322 ⊗

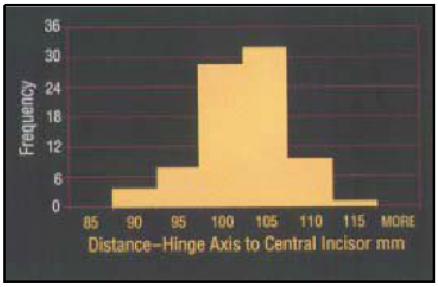
# Kois Dento-Facial Analyzer System Instructions
# "A Simplified Face-Bow for Esthetics and Function"

## RESEARCH:

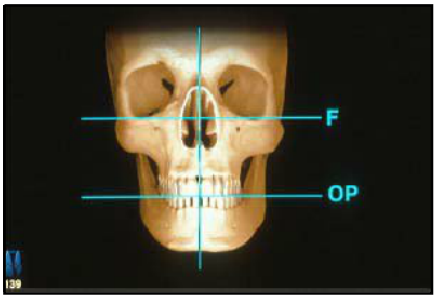
1. Based on Dr. John C. Kois's research of an average axis-incisal distance of 100mm, the Kois Dento-Facial Analyzer was developed to simplify the procedures of transferring and mounting study casts for both esthetics and function. Dr. Kois research is substantiated and corroborated by Bonwill's Equilateral Triangle, Monson's Spherical Theory (4"=100.12mm), Weinberg studies in 1963 as well as others.



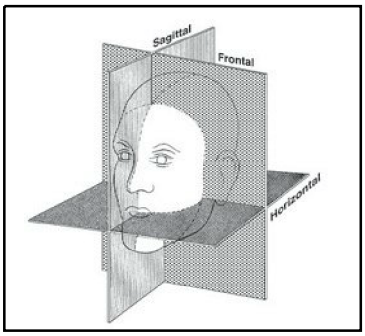

2. Dr. Kois's studies were done using different Ethnic backgrounds and genders. This bar chart shows the distribution of measurements from the hinge axis to the incisal edge of the maxillary central incisor. As you can see, approximately 80% are within 5mm of the average 100mm axis-insical distance, which is approximately the same percentages reported in research comparing arbitrary earbows.



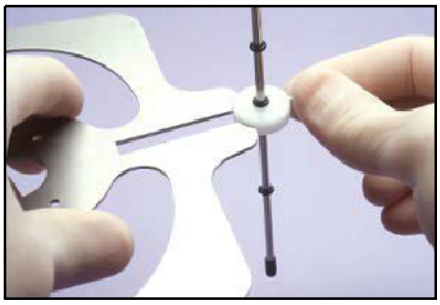

3. Traditionally, dentists are taught to make the incisal-canine line parallel to the eyes. If the eyes are slanted, then the teeth would also be made slanted. The dental midline is critical and is always related to the facial midline. Therefore, we need to register the facial midline which dictates the dental midline. Then the occlusal plane will be made perpendicular to the dental midline.




4. This system registers the steepness and tilts of the occlusal plane related in three planes of space. The horizontal portion of the Analyzer Bow will register an occlusal-horizontal plane of reference. The Vertical Rod will register the facial mid-line for the sagittal plane of reference; and the average axis-incisal distance of 100mm relates to the frontal plane of reference.

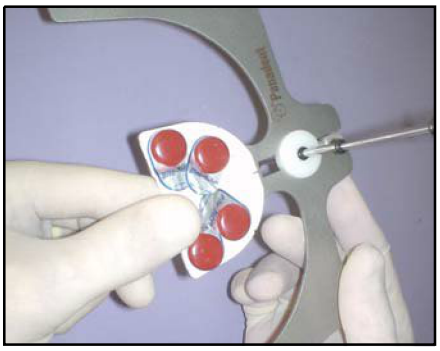


1. Attach Vertical Indicator Rod to Analyzer bow by sliding white attachment disk on the rod into the keyway slot on the Analyzer bow.



2. Attach disposable Index Tray to Analyzer bow by aligning protruding pins on Index Tray into the holes in the bite fork section of the Analyzer bow. Seat Index Tray all the way flat onto Analyzer bow.

3. It is best to place 4 Bite-Tabs™ impression compound onto posterior and bicuspid area of the Index Tray. If using registration material other than Bite-Tabs™, first apply an adhesive to occlusal surfaces of Index Tray.

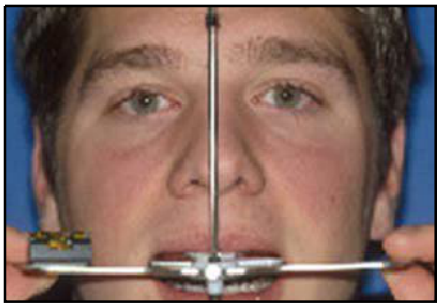


4. Place Index Tray into a bowl of hot water to temper Bite-Tabs™ impression compound. The compound can be squeezed into a cone shape if more height is required.

## REGISTRATION:

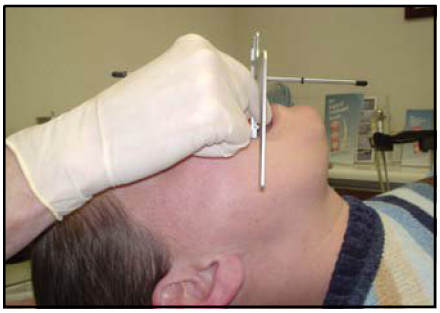
1. Having posterior portion of Analyzer Bow down out of occlusion, set incisal edge of maxillary incisors to the wall or ledge on Index Tray. This registers the incisal point of the average 100mm axis-incisal distance for function.

2. Align Vertical Indicator Rod to patient's facial midline to register the dental midline of the teeth to the frontal plane for esthetics. The Vertical Indicator Rod can be positioned posteriorly in keyway slot of Analyzer Bow to be close to the patient's nose.

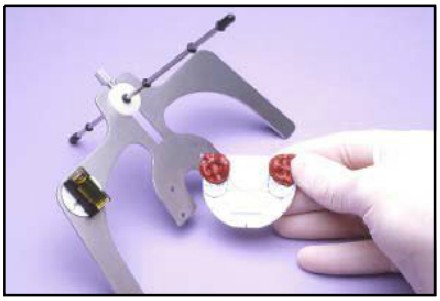


3. While maintaining incisal contact with the Index Tray and vertical rod alignment to the facial midline, rotate Analyzer Bow up in the posterior until the lateral wings are level to the horizon. This should be done while looking at the front of the patient. The Bioesthetic Level Gauge™ is not required. However, it can be added to verify that the bow is level in the sagittal plane.

4. These procedures can be more simply done with the patient in a supine position. By doing this, the head is supported by the dental chair head rest. Align the incisal edge to the wall on the Index Tray. You can look at the vertical rod related to the facial midline better from behind the patient. Have the lateral wings hang straight down as you make the registration of the teeth.

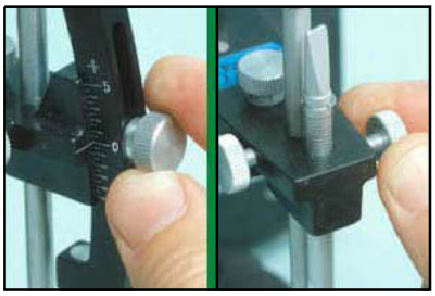


5. You have now captured the steepness and tilts of the occlusal plane in the registration material on the horizontally aligned Index Tray. Remove Index Tray from Analyzer Bow and send to the lab for mounting of study casts. This disposable Index Tray now becomes a permanent bite fork registration record.

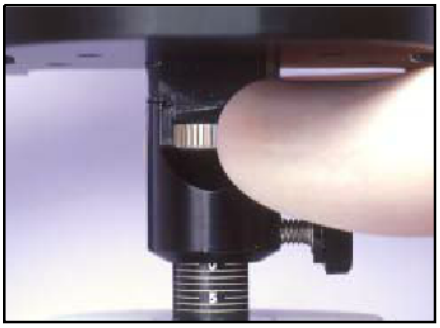


## PREPARATION FOR MOUNTING:

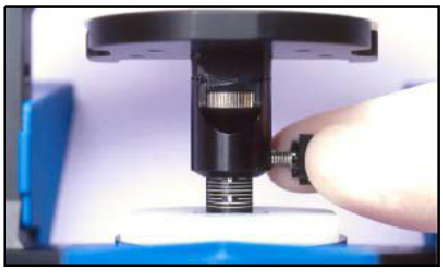
1. If using the curved incisal pin articulator, set incisal pin to zero. If using the straight incisal pin articulator, set to the heavy centered ring.



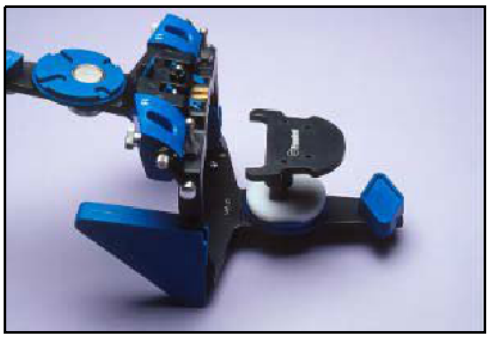
2. Set Adjustable Platform to the zero position with the adjustment screw.



3. Lock in place with lock screw.



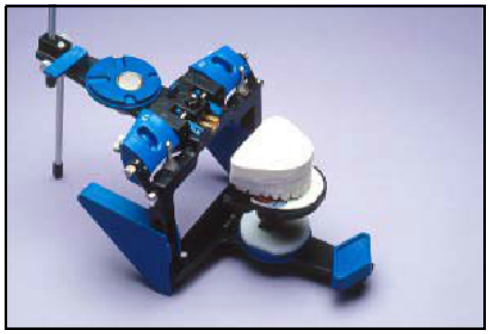
4. Index Adjustable Platform to magnetic mounting plate on lower frame of the articulator.



## MOUNTING:

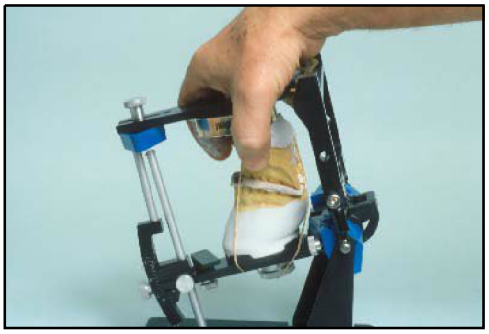
1. Place Index Tray on Adjustable Platform by aligning protruding pins of Index Tray to the holes on the Adjustable Platform. Seat Index Tray all the way down flat to the Adjustable Platform.

2. Index study cast into impressions on the Index Tray. The Adjustable Platform now becomes a built-in bite fork support system.



3. Add plaster to mounting plate and cast to mount maxillary study cast in usual manner. It has been engineered that the incisal edges are now 100mm from the axis.

4. Mount mandibular study cast in usual manner using interocclusal record and the Mandibular Mounting Stand. Note that the front of the articulator can be adjusted down with the support pin to control the plaster.



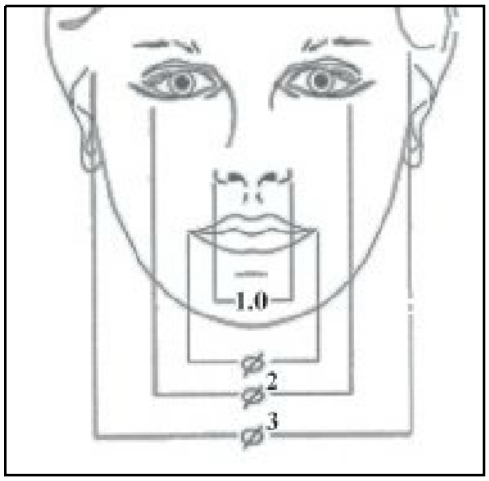
5. The steepness and tilts of the occlusal plane, the dental midline, incisal edge position as well as gingival contours can now be diagnosed for symmetry and balance.

## DIAGNOSTIC OPTIONS:

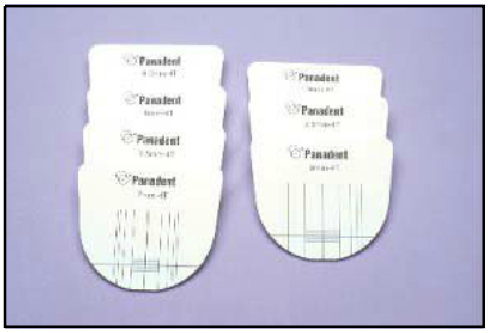
1. While the Analyzer bow is on the patient, have the patient smile. Measure and chart the height of the lip commissures from the Index Tray (ie. right side, mesial of 2cd bicuspid, 3mm; left side, distal of 1st bicuspid, 2mm).

2. Mark the charted height of the lip commissures on the study cast to evaluate lip curvature and smile lines.

3. This chart shows the different facial landmarks to evaluate lateral facial proportions. This chart shows that the width of the eyes are 60% wider than the mouth. The mouth is 60% wider than the nose, and the nose is 60% wider than the two central incisors. Divide that distance by 2 to get the width of one central incisor.



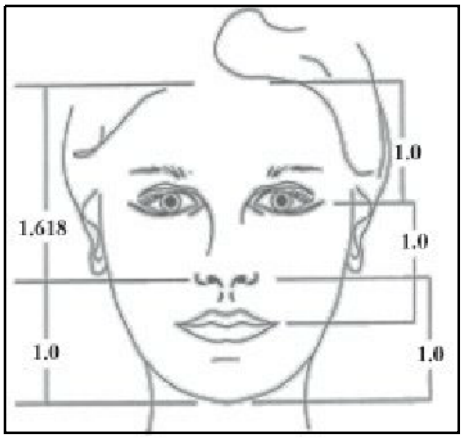

4. A reusable set of 7 Golden Proportion Waxing Guides are available ranging from 7-10mm in .5mm increments (7, 7.5, 8, 8.5, 9, 9.5, 10mm) to correspond to the width of one central incisor. Place appropriate Waxing Guide on Adjustable Platform by indexing protruding pins of Waxing Guide to the holes on the Adjustable Platform.



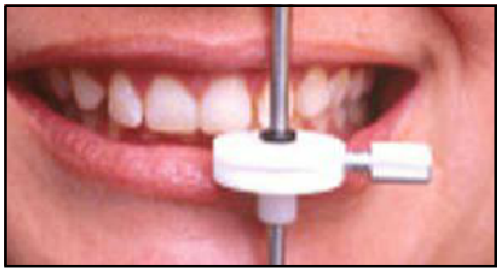
5. Anterior tooth widths can now be diagnosed for proper anterior proportions for optimum esthetics. There are also three 1 mm lines anteriorly and posteriorly if you want a guide to move the incisal edges forward or backward for better lip support.

## DIAGNOSTIC OPTIONS CONTINUED...

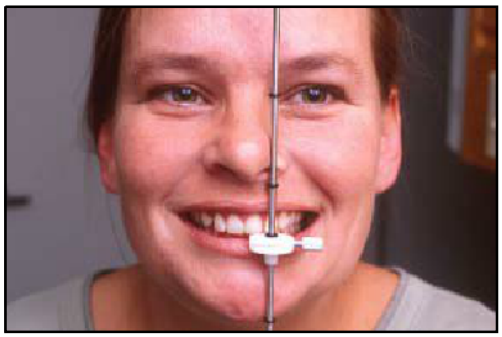
6. This chart shows the different facial landmarks to evaluate vertical facial proportions. Knowing that we can not change the inner canthus of the eyes or the ayla of the nose, we will use these points as references to evaluate incisal edge position vertically in the face for diagnosing tooth lengths. Using the nasial-labial angle and the new incisal edge position, we can elvaluate menton for diagnosing vertical dimension for optimum facial esthetics.



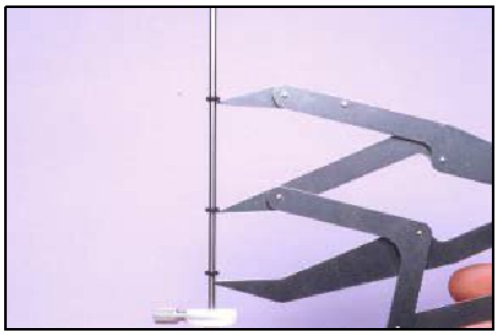

7. Remove Vertical Indicator Rod from Analyzer bow. Have patient bite their teeth together and place white attachment disk to the incisal edge of the patient's maxillary central incisor.



8. Adjust slideable O-rings on vertical rod to specific landmarks on patient's face (ie. inner canthus and ayla of the nose, incisal edge and menton). The vertical rod can also be placed on patient's chart to record the O-Ring points on the rod for a permanent reference of the patient's facial proportions.



9. Using the inner canthus of the eye and the ayla of the nose as reference points, evaluate incisal edge position vertically in the face. This picture shows that approximately 3mm could be added to the incisal edge length to improve this patient's midface proportions.

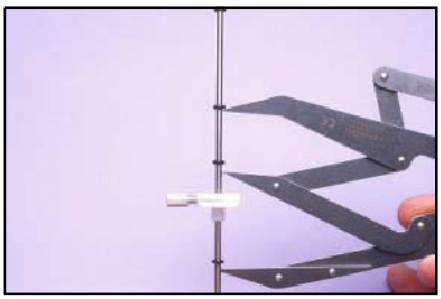


## DIAGNOSTIC OPTIONS CONTINUED...

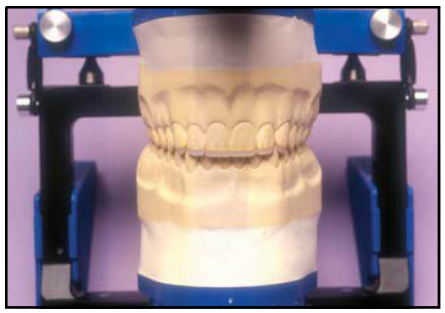
10. Using adjustment screw, adjust platform down 3mm to the incisal length to be fabricated. The study cast is now suspended 3mm above waxing guide by the incisal pin.

11. The technician can now add wax or porcelain until it touches the waxing guide for a determined incisal length to be fabricated. The Golden Proportion Waxing Guide can also be used at the same time for tooth widths.

12. Knowing the new incisor length that will be restored, measure from the nasial-labial to new incisal edge to be fabricated and evaluate menton position for proper vertical dimension. This picture shows that the vertical dimension could be restored approximately 2mm to improve this patient's lower facial proportions.



13. The steepness and tilts of the occlusal plane related to the hinge axis, smile and gingival symmetry and balance, lip curvature, tooth and facial proportions can now be diagnosed to achieve a superior treatment plan for optimum esthetics and function.



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4322: If used more than one time, patient cross-contamination may occur.