

Pro Arch IIG

SEMI-ADJUSTABLE ARTICULATOR



Instructions for Use



Shofu Pro Arch IIG

SEMI-ADJUSTABLE ARTICULATOR

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Introduction

Shofu arcon-type articulators, Pro Arch series have been designed to facilitate fabrication of elaborate and accurate dental prostheses that match precisely with patient's natural jaw movement.

Pro Arch IIG is a semi-adjustable articulator, designed for easy handling with its simple adjustment system of condylar path and sagittal condylar path. The balancing side lateral condylar path angle and working side lateral condylar path angle are fixed at 15° and 0° respectively.

The sagittal or lateral incisal path angle can be changed using different incisal tables.

The twin-plate mechanism at the condylar guidance combines the benefits of both box and slot type. When fabricating a denture, this mechanism prevents the condylar guidance and ball from being dislodged in eccentric position to provide an accurate occlusion. Maxillary and mandibular jaws are easily separated, for excellent handling properties when fabricating crowns or bridges; it can be used just like an ordinary box-type articulator.

This semi-adjustable articulator is designed for easy and quick reproduction of patient's natural protrusive and lateral movement of the mandible.

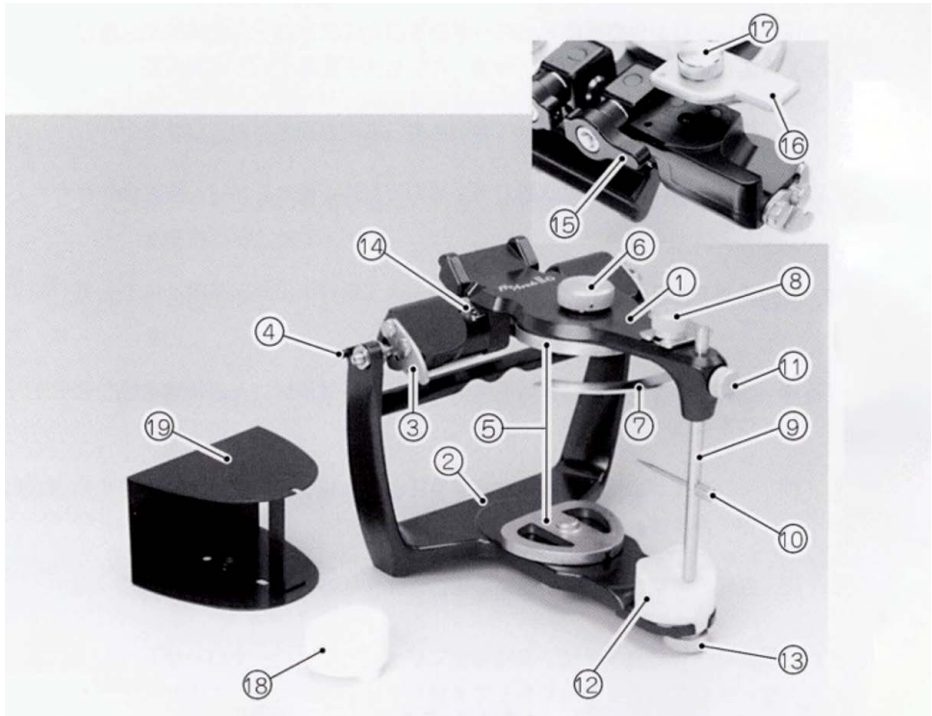
Features

- 1 Twin-plate mechanism at the condylar guidance combines the benefits of both box and slot type articulators.
 - When fabricating a denture, this mechanism prevents the condylar guidance and ball from being dislodged in eccentric position to provide an accurate occlusion.
 - When fabricating crowns or bridges the maxillary and mandibular jaws can be easily separated for excellent handling while providing the flexibility to use as an ordinary box-type articulator when required.
- 2 The inverted-type adjustment feature makes the condylar path adjustment easy and accurate.
- 3 The sagittal condylar path angle is easily adjustable using anterior check bite record.
- 4 This arcon-type articulator is similar to the human jaw structure, which provides easy comprehension of jaw movement and excellent handling properties.
- 5 Centric registration can be obtained easily.
- 6 The Incisal Pin has a notch that precisely stops at 0 position to reproduce accurate centric occlusal position.
- 7 The Ear Location Pin and Reference Indicator enables accurate transfer of each patient's natural head position using a Face Bow.
- 8 The Occlusal Plate makes it easy to mount a cast using a mean value of head position.
- 9 A cast can be easily mounted by taking the occlusal plane as a reference. The guideline marked on the Occlusal Plate provides easy positioning of the cast.

Features

- 10 Die-cast framework is lightweight and designed with high precision. Its robust structure prevents flexure and the resin coating provides a durable surface finish.
- 11 The Mounting Plate for lower jaw is 8mm behind the plate for upper jaw, which provides natural head position to mount a cast efficiently.
- 12 Upper and lower jaws are easily separated when the Centric Lock Levers are released.
- 13 Upper jaw can be opened up to 120° and stays in place for increased access and added convenience.
- 14 Incisal Indicator can also be used as a reference for tooth arrangement.
- 15 The shape of Incisal Table makes it easy to check the contact between Incisal Pin and Table.
- 16 Incisal Table is replaceable to change incisal path angle.
- 17 Each part is ergonomically designed for superior handling and increased efficiency.

Identification of Parts

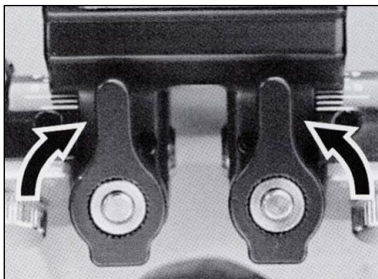


- ① Upper Jaw
- ② Lower Jaw
- ③ Centric Lock Lever
- ④ Ear Location Pin
- ⑤ Mounting Ring
- ⑥ Mounting Ring Screw
- ⑦ Reference Indicator
- ⑧ Reference Indicator Screw
- ⑨ Incisal Pin
- ⑩ Incisal Indicator
- ⑪ Incisal Pin Screw
- ⑫ Incisal Table 10°
- ⑬ Incisal Table Screw
- ⑭ Sagittal Condylar Path Adjuster
- ⑮ Sagittal Condylar Path Lock Lever
- ⑯ Condylar Path Downward Guide Plate ("Twin Plates")
- ⑰ Condylar Path Downward Guide Plate Screw
- ⑱ Incisal table 0°
- ⑲ Occlusal Plate (for IG, IIG, III EG)

Operating Procedures

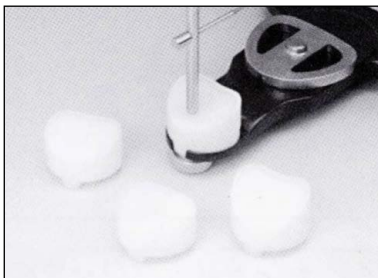
1 Adjusting the sagittal condylar path angle

- Move the lever upward to release the lock.
- Move the lever downward to close the lock.



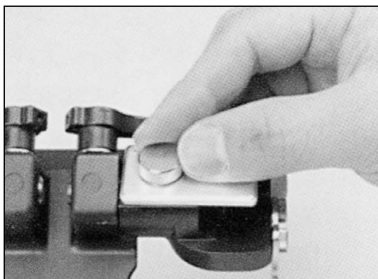
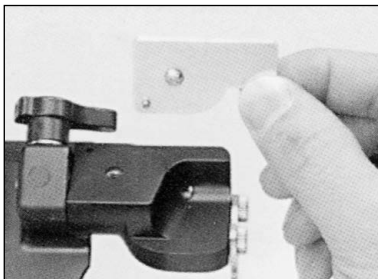
2 Replacing Incisal Table

Take out the Incisal Table Screw and replace the table with the desired one (0°, 10°, option: 5°, 15°).



3 Twin-Plate mechanism

- **Loosen the Guide Plate Screw to detach the Condylar Path Downward Guide Plate.** (Twin Plates)
- **Mounting the Twin Plates**
Insert the little projection (on the back of the plate) into the corresponding slot at the upper jaw frame and tighten the screw.



4 Using the Centric Lock

To release the Centric Lock, hold the upper jaw frame and lift the lever up. To close the lock, press the lever down firmly until the shaft snaps.

Ensure that both Centric Locks are being released when moving forward or laterally.

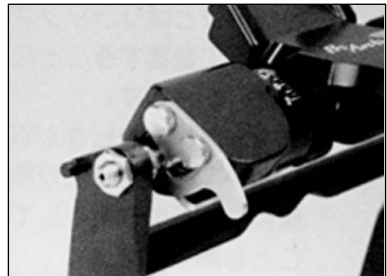
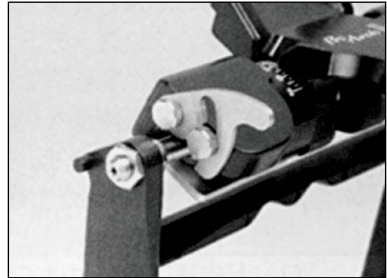
Releasing only one of the locks provides inaccurate reproduction of lateral movement and may damage the locks themselves.



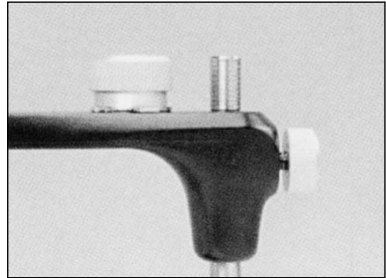
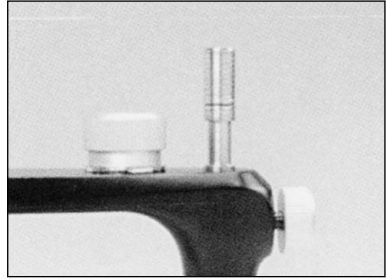
Directions for Use

STEP 1 Before mounting a cast

- 1 Lock in centric position using the Centric Lock Lever.



- 2** Check that the Incisal Pin scale is set to “0” (red line). A notch in the Incisal Pin helps the pin to stop precisely at “0” every time to ensure accurate occlusal position.



- 3** Set an angle of sagittal condylar path to 30°.

STEP 2 Positioning the upper cast

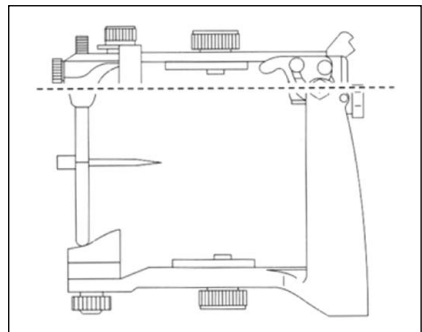
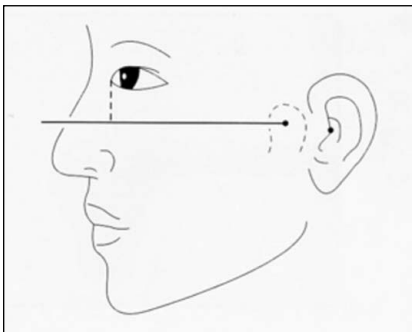
A. USING PRO ARCH FACE BOW

In the Pro Arch articulator series, each patient's maxillary dentition can be easily transferred with the use of Pro Arch Face Bow on the basis of patient's skull and mandibular joint.

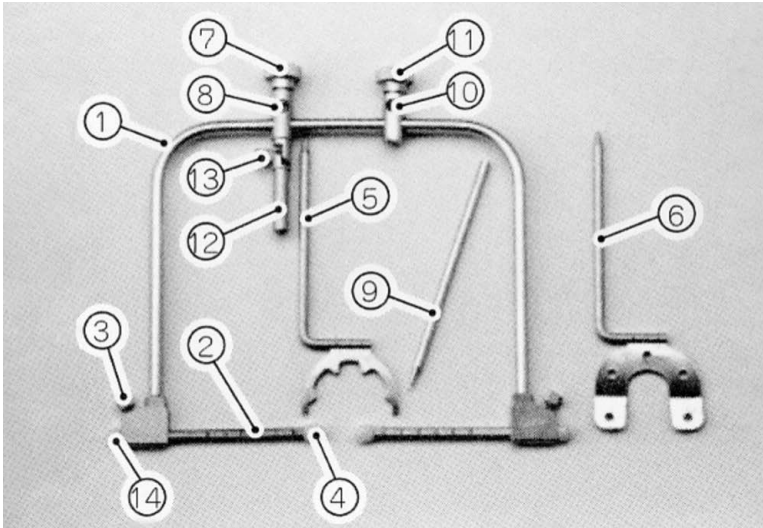
First, select either the horizontal reference plane in natural head posture or axis orbital plane to transfer with the Face Bow. When using horizontal reference plane patient's mandibular position is naturally transferred to the articulator. In this case, posterior reference point should be at the external auditory meatus, and anterior reference point should be 23mm below the inner canthus or 45 mm above the maxillary incisal edge. When using the axis orbital plane, remove the earpieces. Posterior reference point should be at the average condylar point and anterior reference point should be at the infraorbital canal.

"Natural head posture" is the head position obtained when one is relaxed. When mounting a cast in this posture, accurate adjustment of the articulator and precise fabrication of prostheses can be achieved.

Face bow transfer with axis orbital plane makes the occlusal plane of a maxillary model tilt further forward than that of the natural head posture, resulting in higher inclination of sagittal condylar path, which may make laboratory procedures more complicated.



PRO ARCH FACE BOW - IDENTIFICATION OF PARTS



- | | |
|--|--------------------------------|
| ① Face Bow main body | ⑧ Bite Fork Clamp |
| ② Ear Rod | ⑨ Anterior Reference Pin |
| ③ Ear Rod Screw | ⑩ Anterior Reference Pin Clamp |
| ④ Earpiece | ⑪ Anterior Reference Pin Screw |
| ⑤ Bite Fork for edentulous jaw | ⑫ Elevating Rod |
| ⑥ Bite Fork for dentulous jaw (optional) | ⑬ Elevating Rod Screw |
| ⑦ Bite Fork Screw | ⑭ Ear Rod Stopper |

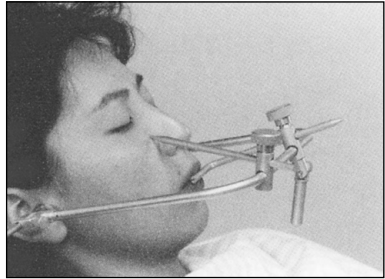
STEP 2 Positioning the upper cast

A. USING PRO ARCH FACE BOW

1 Registration of maxillary relation using Face Bow

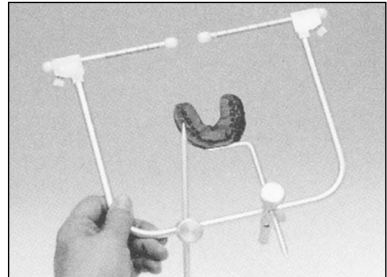
- 1.1 Insert Earpieces into each external auditory meatus to obtain a posterior reference point.

To get an anterior reference point, align the tip of the anterior reference pin to point 23mm below the inner canthus or 45mm above the maxillary incisal edge. This enables transfer of natural head posture to the articulator.



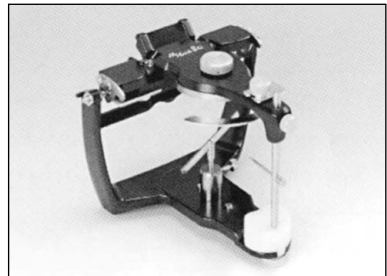
- 1.2 Registration with Face Bow has been completed.

(See the instruction manual for Pro Arch Face-Bow for further details.)



2 Attaching Reference Indicator and Cast Support

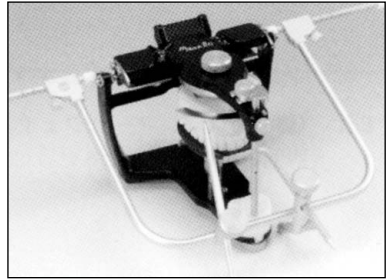
Attach the Reference Indicator to the upper jaw and Cast Support to the lower jaw respectively.



3 Transferring to the articulator

- 3.1 Attach the Face Bow Ear Rods to the Ear Location Pins on the articulator to obtain posterior reference points.
- 3.2 To determine the vertical alignment at the front part of the Face Bow, place the tip of the anterior reference pin to come in contact with the under surface of the Reference Indicator.

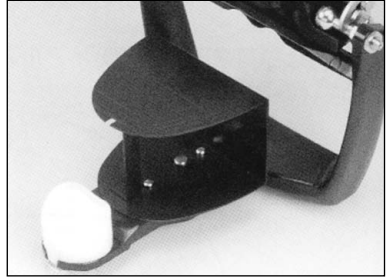
Then adjust the Elevating Rod and secure it with the Elevating Rod Screw.
- 3.3 Hold the bite fork of the Face Bow from below using the Cast Support.
- 3.4 Match the registration on the upper surface of the Bite Fork with the occlusal surface of the maxillary cast in order to position it.



STEP 2 Positioning the upper cast

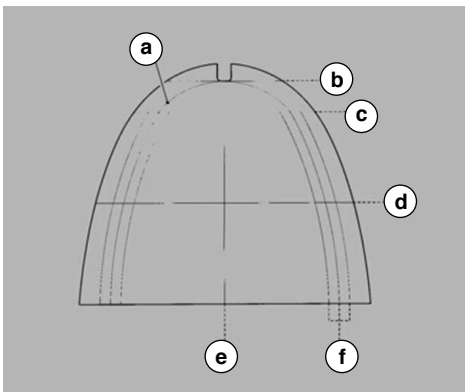
B. USING OCCLUSAL PLATE

1 The use of the Occlusal Plate with mean value is an easy alternative to the face bow. First, remove the Magnetic Split Cast Mounting Plate (MSMP) from the lower jaw and replace it with the Occlusal Plate provided.



2 The height of the Occlusal Plate is designed to be the average vertical position of the maxillary central incisal edge, which makes it easier to position the maxillary cast and occlusal rim.

3 On the upper surface of the Occlusal Plate: the median line, ideal arch for the maxillary anterior dentition, the average anteroposterior position of the cuspids and the center of the first molars are indicated.

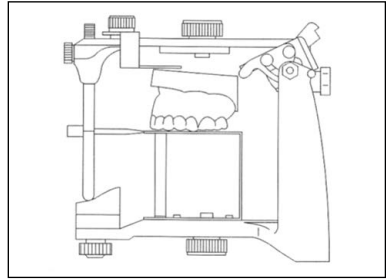


- a. Ideal arch for the upper anterior teeth
- b. Maxillary anterior incisal edge
- c. Cuspids
- d. Center of the first molars
- e. Median line
- f. Lines of reference for posterior wax occlusal rim (S, M, L)

4 Using the occlusal plane as a reference plane

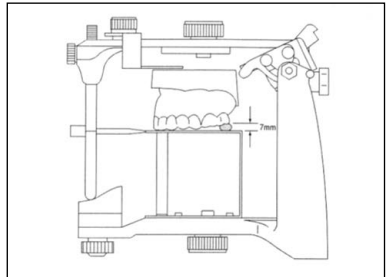
When positioning upper cast and wax occlusal rim with the occlusal plane as a reference plane, the ideal arch for the upper anterior teeth and the median line should be matched with upper labial side and median of the wax rim.

Based on one of the reference lines selected among S, M and L for posterior wax rim, the buccal side of wax rim should be symmetrically positioned. Check the position of the wax rim from above and behind.



5 Positioning the wax rim based on the mean value of natural head posture

When applying the mean value of natural head posture to position the wax rim, the occlusal plate is used. In this case, beading wax is used to raise the distobuccal cusps of the upper second molars about 7mm higher than the occlusal plate, to make the occlusal plane angle approximately 10 degrees.

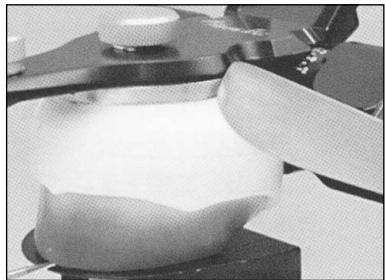
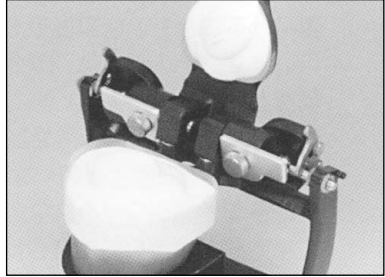


6 When the median lines of the articulator and the upper cast have been matched to mount the cast, arrangement of the upper central incisors can be checked with the incisal indicator. (Prior to checking, the incisal indicator should be pointed in the median direction using the occlusal plate).



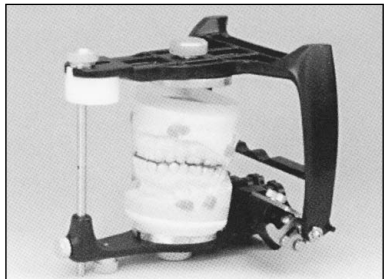
STEP 3 Mounting the upper cast

- 1 When the positioning of the upper cast is complete, moisten the basal surface of the cast sufficiently and place adequate amount of plaster.
- 2 Place plaster at the undercut of the Cast Plate.
- 3 Close the upper jaw gently until the Incisal Pin comes in contact with the Incisal Table. Remove the excess plaster and let plaster cure.



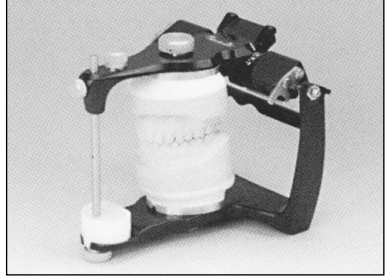
STEP 4 Mounting the lower cast

- 1 Fasten the Centric Lock Lever and tuen the articulator upside down, then position the lower cast.
- 2 Double investing technique is effective to minimize the distortion in centric occlusion due to expansion of cast during curing.
- 3 Close the articulator gently until the Incisal Pin comes in contact with the Incisal Table. Remove the excess plaster and let plaster cure. An elastic band can be used to minimize the expansion of cast during curing.



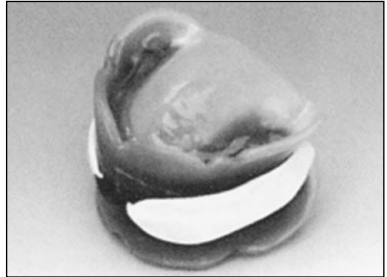
STEP 5 Mounting of the upper/lower cast is complete

When mounting of both upper and lower casts are complete, put the articulator back in place and check if the Incisal Pin is in contact with the Incisal Table.



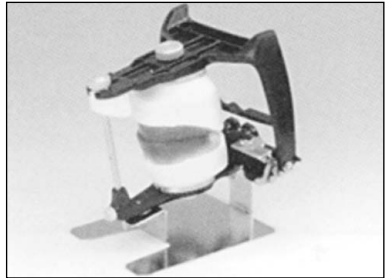
1 Anterior bite registration

Take patient's anterior bite registration with the mandible moved forward by 4 to 5mm.



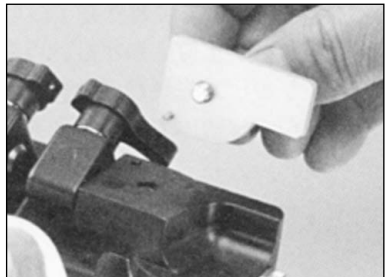
2 Condylar path adjustment

Turn the articulator upside down for condylar path adjustment. Use the Special Pedestal (optional) for more stability and easy handling of the upper jaw.



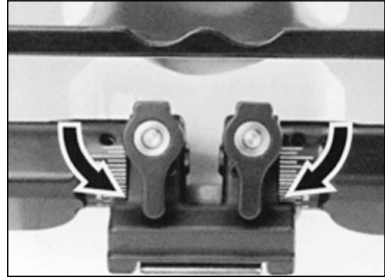
Removing the Twin Plates

Loosen the screws of the Condylar Path Downward Guide Plates to remove the Twin Plates.

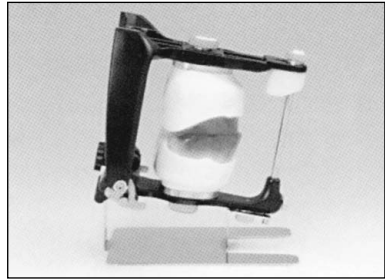


3 Releasing Sagittal Condylar Path Lock Levers

Unlock both sides of Sagittal Condylar Path Lock Levers.

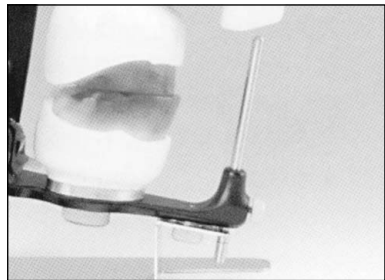


4 Set the sagittal condylar path angle to a negative value of approx. -20°.



5 Releasing the Incisal Pin

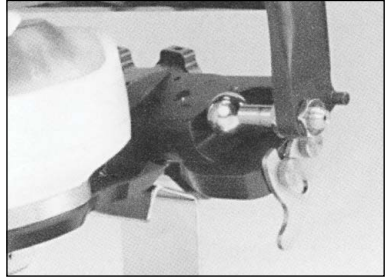
Loosen the Incisal Pin Screw and lower the Incisal Pin to separate it from the Incisal Table.



6 Adjusting sagittal condylar path angle

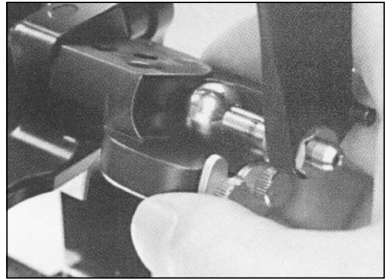
- 6.1 Place the Occlusal Plate of anterior bite record and mount the lower jaw.

The Condylar Ball of the articulator should be detached from the Sagittal Condylar Path Guide Plate.



- 6.2 Move both sides of the Guide Plates and fasten the Lock Levers when the Guide Plates and Condylar Ball come in contact with each other.

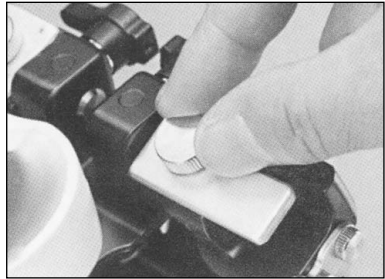
To minimize deviation, use bite registration and hold the lower cast down to stabilize it.



7 Attaching Condylar Path Downward Guide Plates

After adjusting the condylar path, remove the Guide Plate and attach the Twin Plates again.

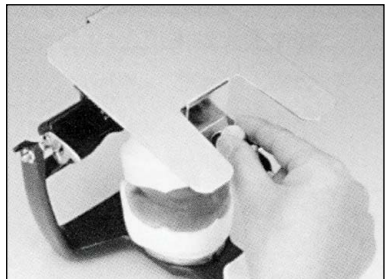
Put the upper and lower jaws together and close the Centric Lock Levers.



8 Removing the Condylar Path Adjusting Pedestal

Turn the articulator in to normal position. Adjust the Incisal Pin back to "0" position and remove the Pedestal.

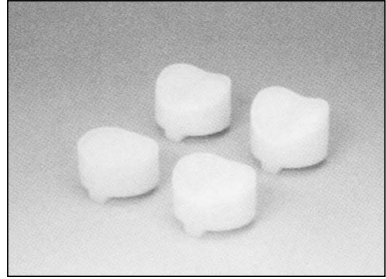
Condylar path adjustment is now complete.



9 Selecting an Incisal Table

Select a suitable Incisal Table for each individual case.

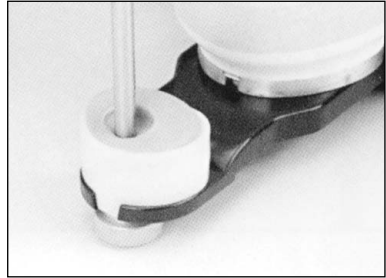
Accompanying items are the tables with sagittal condylar angles of 10° and 0° . For Pro Arch IIG, 5° and 15° tables are available as optional accessories.



10 Fabricating Incisal Table for dentulous patients

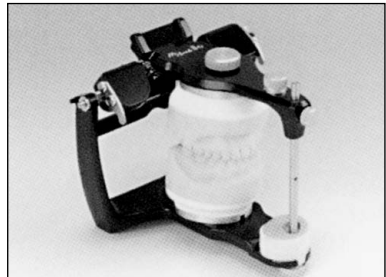
For dentulous patients with anterior guidance, an Incisal Table can be fabricated. Place self-cured resin such as tray resin on the 0° Incisal Table with a sheet of polyethylene film placed between upper and lower casts, move the articulator forward and laterally until the resin is set.

A patient's unique incisal guidance that matches the upper/lower guidance for remaining anterior teeth can be obtained with this method.



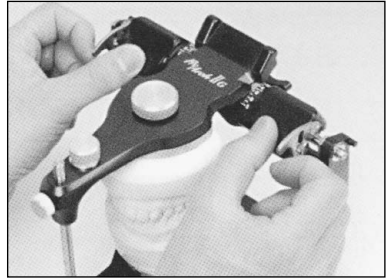
11 Adjustment of the articulator is complete

The above procedures can be performed without Condylar Path Downward Guide Plates (Twin Plates) attached if desired.

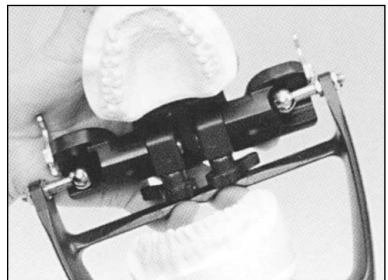


Caution

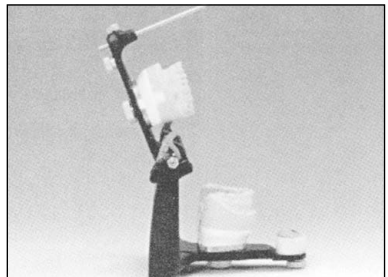
- 1 When releasing the Centric Lock Levers, make sure to release both left and right levers.



- 2 Lateral movement should be performed with the balancing side condylar ball coming in contact with the balancing side lateral condylar guidance.



- 3 When the articulator is open with the Centric Lock Levers released and Condylar Path Downward Guide Plates (Twin Plates) detached, rest the rear end of the upper jaw on the stabilizer bar of the lower jaw to prevent the upper jaw from falling back.



- 4 Avoid contact of wax or plaster with the Condylar Ball and Condylar Guide. In case of accidental contact, remove the wax or plaster immediately.

The use SHOFU HI-SOL spray on the working parts will prevent contact of wax or plaster. Regular cleaning and lubrication on the working parts are essential.

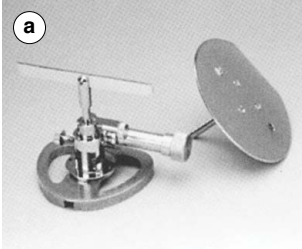
Specifications

Type	Arcon type
Distance between condyles	110mm
Distance between upper and lower jaws	110mm
Maximum opening angle	120°
Condylar Guidance Structure	Twin-Plate Structure <i>(Condylar Upward Guide Plate and removable Condylar Downward Guide plate)</i>
Angle of sagittal condylar path	-20° ~ +80°
Angle of lateral condylar path	15°
Incisal Table	10° and 0° for anterior and lateral (5° and 15° optional)
Incisal Pin	with Incisal Indicator
Mounting / removal of cast	Mounting Rng (MSMP can be also used)
Face Bow transfer mechanism	With Ear Location Pin Condylar ball rod with a hole on the front edge

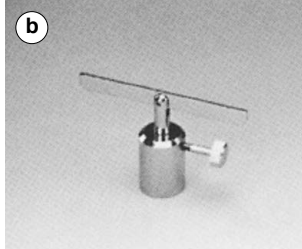
Accessories

- Incisal Tables 0°, 10° (pre attached)
- Occlusal Plates (for IG, II, III EG)

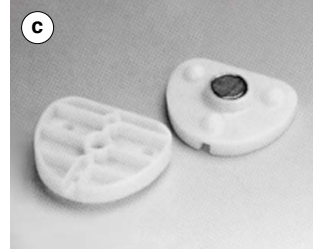
OPTIONAL ACCESSORIES



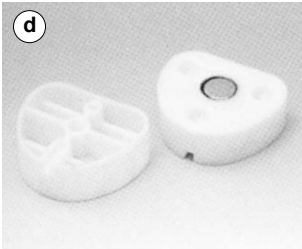
a
Gear-type Cast Support
/ with Occlusal Plate



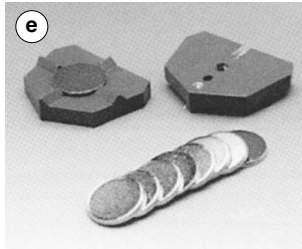
b
Handy Cast Support



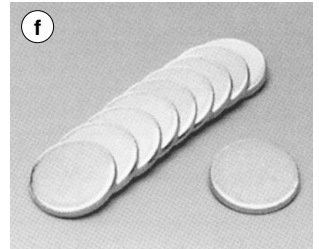
c
MSMP Single



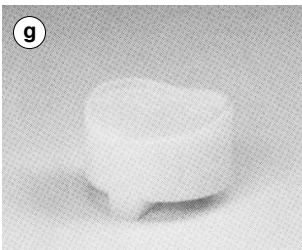
d
MSMP Double



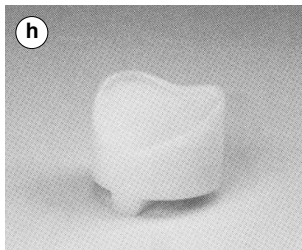
e
Pro Arch Split Cast
Plates



f
Steel Plates (10 plates)



g
Incisal Tables 5°

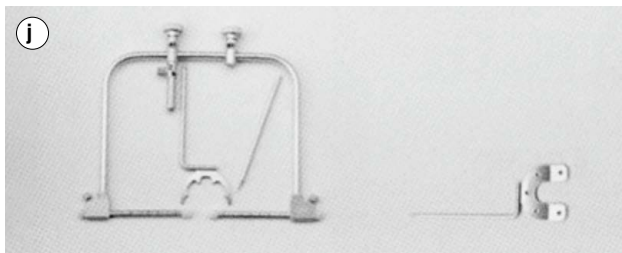


h
Incisal Tables 15°

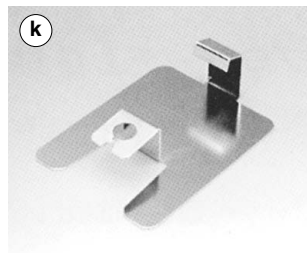


i
Cast Plates (10 plates)

OPTIONAL ACCESSORIES



- Pro Arch Face Bow
(with Bite Fork for edentulous jaw and Anterior Reference Pin)
- Bite Fork for dentulous jaw (optional)

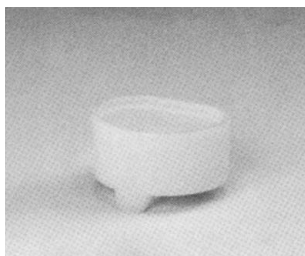


Condylar Path
Adjustment Pedestal

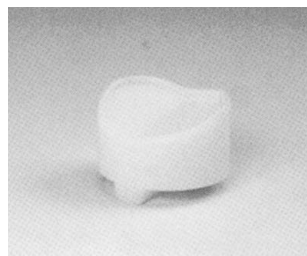
OPEN STOCK ITEMS



Mounting Rings



Incisal Table 0°



Incisal Table 10°



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