



3000 Series  
Articulator  
and  
Quick Mount  
Face-Bow  
Instruction  
Manual



## WHIP MIX 3000 SERIES ARTICULATORS

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**Model 3040**



**Model 3140**

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# INTRODUCTION

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WHIP MIX Articulators and QUICK MOUNT Face-Bows are designed to enable the user to quickly and easily mount casts of a patient's dentition on a mechanical device that will reproduce their natural relationship and movements with an acceptable degree of accuracy. The simplicity and speed with which the necessary registrations are obtained and transferred to a WHIP MIX Articulator enable the operator to accomplish corrective and restorative dentistry with much greater precision than has ever before been possible without the use of expensive equipment and time consuming techniques.

For those already using a fully adjustable instrument, a WHIP MIX Articulator serves as an excellent auxiliary instrument for diagnostic and patient education purposes, as well as constructing the clutches and recording devices needed to secure the proper recordings for setting the more complex instrument. Being arcon type instruments, WHIP MIX Articulators are ideal for the study of occlusion and the movements of the temporomandibular joints. With the condyle located on the lower frame and the guidance on the upper frame (arcon design), WHIP MIX semi-adjustable articulators have become the preferred choice of many teaching institutions. Advancing to a fully adjustable articulator becomes a much easier process after initial training on an arcon semi-adjustable articulator.

Series 3000 Articulators feature the same sturdy construction and reliability which have been demonstrated successfully in other WHIP MIX Articulator Series. In addition, the following innovative and useful features have been incorporated:

- Ergonomic design with wide lingual access and ample interframe distance.
- Tracking condylar guidance with progressive side shift capability.
- An easily positioned centric latch provides a quick way to return to centric position.
- A permanent intercondylar width of 110 mm — the same as the M setting found on other WHIP MIX Articulators.
- Elastics provide positive tracking of the condyles during excursive movements if secured.
- Condyle release mechanisms to prevent accidental separation of the condyles from the tracking condylar guidance.
- Non-skid rubber feet for stabilizing articulator when open

WHIP MIX Series 3000 Articulators feature the innovative ACCUMOUNT Mounting System of interchangeability. This makes it possible to interchange mounted casts between any Series 3000 Articulator without loss of accuracy.

As with other models in the WHIP MIX family of Articulators, a variety of accessories are available. Each Series 3000 Articulator is packaged with the following items:

- 1 - Instruction Manual
- 1 - #8580B Plastic Mounting Plate, Set of 2
- 1 - Serial Number Card
- 1 - #8580 Metal Mounting Plate, Set of 2

# OBTAINING FACE-BOW REGISTRATION

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**Fig. 1**

Items needed for a Face-Bow Registration:

1. Face-Bow with Nasion Relator Assembly and Face-Bow Fork (bite fork)
2. Compound or Wax Registration Material
3. Bard-Parker® Blade or similar instrument

## I. Preparing Face-Bows



**Fig. 2**

Clean and properly disinfect the plastic ear pieces before each use. If replacing them, make sure the hole on the flat side of each is above the side arm and the plastic is forced on until it touches the shoulder of the arm.



**Fig. 3**

A rubber band may be easily positioned on the face-bow to aid in its manipulation.

Note the caliper design of the QUICK MOUNT face-bow whereby the side arms move equal distances during the opening and closing motions.



**Fig. 4**

Slide the #8605A Nasion Relator Assembly until it is centered on the #8608 Cross Bar of the face-bow.



**Fig. 5**

Loosen the #8604 Thumb Screw on top of the face-bow. If using the Whip Mix metal face-bow you will need to loosen the three thumb screws on top of the face-bow.



**Fig. 6**

Loosen the #8640 T-Screw.



**Fig. 7**

Loosen the #8643 T-Screw.

## II. Preparing The Face-Bow Fork



**Fig. 8**

Make sure the bite fork has been properly sterilized.

Low-heat impression compound, wax, or elastomeric are some of the materials which may be used as a bite registration medium for the bite fork. Elastomeric material is used in this demonstration due to its popularity.



**Fig. 9**

Place the elastomeric material uniformly over the top surface of the bite fork.



**Fig. 10**

Inspect the underside of the bite fork to ensure material is locked onto the bite fork via the retention holes.



**Fig. 11**

Position the bite fork so the mid-line of the bite fork aligns with the mid-line of the maxilla.



**Fig. 12**

Support the bite fork underneath by having the patient bite on cotton rolls. Some clinicians prefer to have the patient bite on the bite fork itself after registration material has been placed on both sides.

Whichever registration technique is used, the goal is to record a shallow registration of the maxillary cusp tips.



**Fig. 13**

Inspect the registration for any soft tissue or deep occlusal registrations. Soft tissue registrations and excess registration material may be easily cut away with a Bard-Parker® Blade. Remember, it is only necessary to record the maxillary cusp tips!

After trimming, place the registration back in the patient's mouth and check for accuracy and stability.

### **III. Positioning The Face-Bow On The Patient**



**Fig. 14**

Before attempting to place the face-bow onto the bite fork, it is suggested the operator rehearse the following procedure with the patient. Caution the patient that the plastic ear pieces in the auditory canal will greatly amplify noises during the procedure.



**Fig. 15**

A finger cot placed over each ear piece will help facilitate proper disinfection of the face-bow.

Remember, a rubber band correctly placed will aid face-bow manipulation!



**Fig. 16**

With the bite fork repositioned in the patient's mouth, have the patient grasp both arms of the face-bow and bring them backwards to a position just forward of the patient's ears. Then have the patient place each ear piece in the external auditory meatus and hold in place with a firm forward pressure.



**Fig. 17**

Start the #8642 Toggle onto the bite fork shaft and make sure each ear piece is securely positioned in the external auditory meatus and the horizontal cross bar is above the bite fork shaft.



**Fig. 18**

Push the toggle back on the fork shaft until it is near, but not touching, the lips.



**Fig. 19**

Center the plastic nose piece on the patient's nasion and exert firm pressure on the nose piece shaft while tightening the thumb screw of the nasion relator assembly.



**Fig. 20**

Tighten the center #8604 Thumb Screw on top of the face-bow.



**Fig. 21**

To prevent torquing of the face-bow and discomfort to the patient, support the face-bow with one hand and tighten the #8640 T-Screw.



**Fig. 22**

Next, tighten the #8643 T-Screw on the vertical bar, again taking care not to tilt the face-bow.

|— 110 mm —|



**Fig. 23**

A permanent intercondylar width of 110 mm is incorporated into all Series 3000 Articulators. This corresponds to the “M” setting found on the face-bow.



**Fig. 24**

Therefore, when mounting a cast on a Series 3000 Articulator, it is not necessary to record the intercondylar width marking designated by the S-M-L markings on the upper arm of the face-bow.

#### **IV. Removing The Face-Bow From The Patient**



**Fig. 25**

Loosen the #8604 Thumb Screw on the nasion relator assembly and slide the nasion relator assembly away from the patient.



**Fig. 26**

Have the patient hold both arms of the face-bow and loosen the center thumb screw on top of the face-bow.

Note: If using Whip Mix metal face-bow, loosen the three thumb screws located on the top.



**Fig. 27**

Advise the patient to gently pull the ear pieces out of his or her ears and help the patient carefully remove the face-bow with his or her mouth open. Now is a convenient time to take the interocclusal records necessary to mount the lower cast and set the condylar guidance of the articulator.

## V. Obtaining Interocclusal Records

There are several materials available which may be used to make interocclusal records. There are also different techniques and philosophies for making these records. The material selected should complement the particular technique used. The technique suggested in this manual is but one method and Whip Mix does not imply that this is the only technique one can use.

The following interocclusal records (check bites) may be utilized to program the condylar guidance of the articulator:

- Centric Relation and/or Maximum Intercuspatation
- Right Lateral
- Left Lateral
- Protrusive (optional)

### Centric Relation Record



**Fig. 28**

Manipulate the mandible into centric relation using your standard technique and slowly arc the mandible closed until initial contact.



**Fig. 29**

Trim a wax record so it:

- a. Matches the buccal-to-buccal dimension of the patient's maxillary arch, and
- b. Covers only the posterior teeth.



**Fig. 30**

Warm the wax record in water until the tooth-contacting edges are soft enough to offer no resistance.



**Fig. 31**

Position the wax record against the maxillary posterior teeth. Do not press against the teeth or you may perforate the thin record.



**Fig. 32**

Manipulate the mandible into centric relation. The maxillary and mandibular posterior teeth will automatically create "cuspal indents" in the wax.



**Fig. 33**

Maintain this position while cooling the wax with a stream of air until the wax is no longer soft, then instruct the patient to "snap open."



**Fig. 34**

Remove and examine the centric relation wax record for:

- a. The presence of adequate cuspal indents.
- b. The absence of wax perforation and/or soft tissue contact.

## Maximum Intercusation Record



**Fig. 35**

Clinicians may choose to use any of the several techniques for obtaining maximum intercuspation records. Use of elastomeric material is demonstrated here.



**Fig. 36**

Have the patient close in the position of maximum intercuspation, and note the relative position of the teeth.



**Fig. 37**

Apply interocclusal registration material. Use enough material to cover the occlusal surfaces and incisal edges of the mandibular teeth.



**Fig. 38**

Have the patient close into a position of maximum intercuspation and verify relative tooth position noted earlier. The maxillary and mandibular posterior teeth will automatically create “cuspal indents” in the registration material.



**Fig. 39**

Maintain this position while the elastomer is setting. Remove and examine the maximum intercuspation wax record for:

- a. The presence of adequate cuspal indents.
- b. The absence of perforation, and/or soft tissue contact.

## Lateral Records

Trim a wax record to the size of the centric relation record (refer to Section on Centric Relation Record).

**Fig. 40**



The thickness on the non-working side may have to be increased to achieve “cuspal indents” of the posterior teeth when the mandible has moved 4–6 mm laterally from the centric relation position. Observe the interocclusal space with the mandible in this position and use some of the previously trimmed excess wax to build up the required thickness if necessary.

Warm the wax record in water until the tooth-contacting edges are soft enough to offer no resistance, then position the wax record against the maxillary posterior teeth. Do not press the record against the teeth or you may perforate the thin record.



**Fig. 41**

Manipulate the mandible into centric relation and caution the patient to keep the teeth separated to avoid contact with the wax. Instruct the patient to slowly move the jaw toward his or her right shoulder. After moving 4–6 mm laterally, instruct the patient to close into the wax until “cuspal indents” have been created.

Maintain this position while cooling the wax with a stream of air then instruct the patient to “snap open.” Remove and examine the right lateral record for:

- a. The presence of adequate cuspal indents.
- b. The absence of wax perforation and/or soft tissue contact.



**Fig. 42**

Repeat this procedure for the left lateral record, having the patient move his or her jaw toward his or her left shoulder.

## **Protrusive Record**

Trim a wax record to the size of the centric relation record (refer to section on Centric Relation Record).

The thickness may have to be increased to achieve “cuspal indents” of the posterior teeth when the mandible has been protruded 4–6 mm from the centric relation position. Observe the interocclusal space with the mandible in this position and use some of the previously trimmed excess wax to build up the required thickness if necessary.

Warm the wax record in water until the tooth-contacting edges are soft enough to offer no resistance, then position the wax record against the maxillary posterior teeth. Do not press the record against the teeth.



**Fig. 43**

Manipulate the mandible into centric relation and caution the patient to keep his or her teeth separated to avoid contact with the wax. Instruct the patient to slowly move the mandible straight forward. After the patient has protruded his or her mandible 4–6 mm, verbally instruct the patient to close into the wax until “cuspal indents” have been created.

Maintain this position while cooling the wax with a stream of air until the wax is no longer soft, then instruct the patient to “snap open.” Remove and examine the protrusive record for:

- a. The presence of adequate cuspal indents.
- b. The absence of wax perforation and/or soft tissue contact.



**Fig. 44**

Interocclusal wax records should always be used as soon as possible. Store the records in room temperature water until ready for use.

Some clinicians prefer to utilize average settings for certain casework. The following figures are median values which may be taken into consideration when selecting appropriate average guidance figures:<sup>1</sup>

Immediate Side Shift	1.0 mm
Condylar Inclination	40°

Registration material/wax records should be sterilized using an infection control spray.

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<sup>1</sup> Lundeen & Wirth, “Condylar Movement Patterns Engraved in Plastic Blocks,” *Journal of Prosthetic Dentistry*, Vol. 30, No. 6, pp. 866-875, 1973.



# DIRECT MOUNTING THE MAXILLARY CAST ON SERIES 3000 ARTICULATORS

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## I. Preparing The Articulator For Mounting Casts



**Fig. 45**

The following items are needed for mounting casts on a Series 3000 Articulator:

- MOUNTING STONE or MOUNTING PLASTER
- Spatula
- Rubber Bowl
- Face-Bow Registration
- 2 Clean Mounting Plates
- Upper and Lower Casts
- Interocclusal Records
- Graduated Cylinder
- Plaster Knife
- Rubber Bands (Optional)



**Fig. 46**

Set the centric latch in the "open" position.



**Fig. 47**

Detach the #2426 Elastics from the lower frame by releasing the #2425 Catch from the #2413 Latch Block.



**Fig. 48**

Center the plastic incisal guide table so the rounded end of the incisal guide pin rests in the center of the table.



**Fig. 49**

Loosen the #8511 Incisal Guide Pin Screw.



**Fig. 50**

Remove or sufficiently raise the incisal guide pin so the upper member of the articulator will be able to rest on the horizontal crossbar of the face-bow.



**Fig. 51**

Press tab on condyle release to free condyle from condylar guide on the Model 3040.



**Fig. 52**

Each condylar guide assembly on the Model 3140 Articulator does not have a condyle release mechanism because it features a half-tracking condylar guidance.



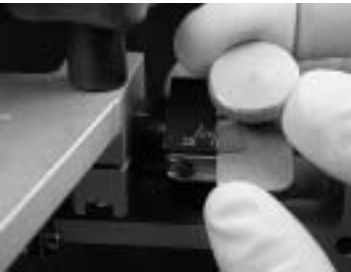
**Fig. 53**

Note: Set each condylar guide to 30° on the condylar inclination scale in preparation for attaching the face-bow assembly to the upper frame of the articulator.



**Fig. 54**

Tighten the black clamp knob while pressing the condylar guide assembly against the upper frame of the articulator.



**Fig. 55**

Set each progressive side shift guide setting to the "0" mark and tighten the side shift locking screw.



**Fig. 56**

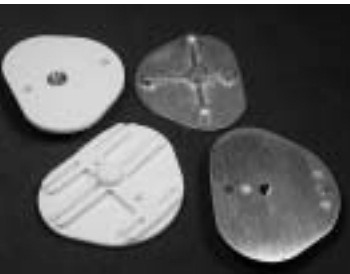
Place clean Mounting Plates on the upper and lower frames. The Quick Magnetic Mounting System is shown here.



**Fig. 57**

Place metal disk into plastic mounting plate and attach to articulator.

If using standard screw-type mounting plates, firmly tighten the #8508 Mounting Plate knob when securing a mounting plate to the articulator.



**Fig. 58**

Two screw-type mounting plates are available.

Plastic #8580B Mounting Plates are an economical alternative to metal mounting plates. They are designed to be utilized for one case. Metal mounting plates are rigid and reusable.

The articulator is now ready to have the face-bow secured to its upper frame.

## **II. Placing A Direct Mounting Face-Bow On The Articulator**

Slide the plastic nasion relator assembly to the patients left, away from the center of the horizontal crossbar of the face-bow if this has not already been done.



**Fig. 59**

Loosen the center thumb screw on the top of the face-bow.

Note: A rubber band properly positioned aids in manipulation.

If using the original metal face-bow, loosen the three thumb screws on top of the face-bow.



**Fig. 60**

Hold the face-bow in one hand and the articulator in the other.

Note: The rubber band maintains the earpieces against the brass mounting pins with a slight pressure which helps facilitate stable placement of the face-bow on the articulator.



**Fig. 61**

Position the brass mounting pin located on the outer edge of the upright of the lower frame into the hole on the medial side of each plastic earpiece of the face-bow.



**Fig. 62**

While holding the left-bow against one's body, make sure the right brass mounting pin fits securely into the hole in the right face-bow earpiece.

Allow the anterior end of the upper frame of the articulator to rest on the horizontal crossbar of the face-bow.

Securely tighten the thumb screw on top of the face-bow while still pressing the face-bow arms against one's body.



**Fig. 63**

Make sure the articulator with attached face-bow is stable. You may want to use a face-bow fork support to stabilize maxillary cast during mounting procedures.



**Fig. 64**

Engage the centric latch for added stability.

### III. Mounting The Maxillary Cast With A Direct Mounting Face-Bow



**Fig. 65**

Soak the cast in water for 3 to 4 minutes.



**Fig. 66**

For best orientation of the MOUNTING STONE to the cast, place indices on the top of the cast. Indices allow separation of cast from mounting with easy, accurate re-alignment.



**Fig. 67**

Seat the maxillary cast in the face-bow registration and make sure it is stable with no rocking. The cast will need additional trimming if the upper frame will not close. An inaccurate mounting will result if the bite fork flexes during mounting.



**Fig. 68**

The #28706 Face-Bow Fork Support (shown here) is a convenient accessory used to support the bite fork during the mounting of the cast. The face-bow fork support attaches to the lower frame in place of the lower mounting plate. Its cross arm is raised to contact the under-surface of the face-bow fork to prevent flexing of the fork.



**Fig. 69**

Whip Mix MOUNTING STONE is ideal for mounting casts because it is formulated to have a short working time, great stacking ability and extremely low setting expansion.

Lift the upper frame of the articulator and apply MOUNTING STONE to the base of the cast and the mounting plate.



**Fig. 70**

Close the upper frame to contact the cross bar, bringing the MOUNTING STONE on the two surfaces together. Do not use too thick a mix of MOUNTING STONE or attempt to apply force when the stone has already begun to set. Hold the upper frame in position until the MOUNTING STONE has set.



**Fig. 71**

Carefully remove the face-bow from the articulator.



**Fig. 72**

It is not necessary that the MOUNTING STONE be smooth and all voids filled with the first mix, but excess stone should be removed from the cast and articulator. Many clinicians prefer to utilize a second mix to fill the voids after the first mix has set.

## INDIRECT MOUNTING THE MAXILLARY CAST



**Fig. 73**

Whip Mix indirect mounting face-bows combine the face-bow registration technique of the traditional QUICK MOUNT face-bow with the many advantages of indirect mounting. The indirect mounting procedure offers the user more access, increased stability, greater ease of use, and optimum instrument efficiency.

Incorporating the indirect mounting technique does not require dramatic technique changes. The face-bow registration is taken on the patient utilizing the same technique as with the original Whip Mix QUICK MOUNT face-bow. Once the registration is obtained, the transfer assembly is removed from the face-bow and positioned onto the lower frame of the articulator.

Articulator Model #	Face-Bow Model #	Transfer Assembly #
2240, 2340	9185	—
3040, 3140	9185	9188
8500	9195	9197



**Fig. 74**

Indirect mounting face-bow used with the QUICK MOUNT Magnetic System.

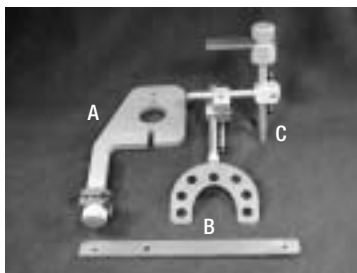


**Fig. 75**

Whip Mix indirect mounting face-bows have been designed to be used with specific Whip Mix articulators as described in the chart. Additional transfer assemblies are available separately which allow the operator to mount one case and, with the aid of an additional transfer assembly, have the face-bow available for a second face-bow registration.

Each transfer assembly includes:

- 1 - Face-Bow Fork (#8609)
- 1 - Vertical Rod with Horizontal Slide Bar, Toggles and "T" Screws
- 1 - Support Bar (#8686)
- 1 - Face-Bow Locking Screw (#8604)



**Fig. 76**

All Whip Mix QUICK MOUNT face-bows can be modified to have indirect mounting capability.

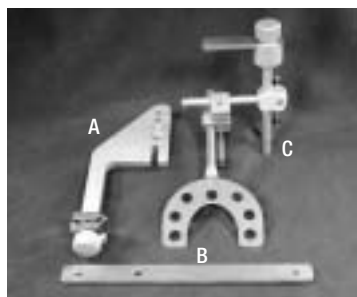
The conversion package includes:

A. Transfer Base Assembly (#9176Q, Figure 76 for the QUICK MOUNT magnet system) or (#1976A, Figure 77).

B. Cross Bar (#8679)

C. Transfer Assembly (see selection chart) Contains:

- Locking Screw
- Support Bar
- Face-Bow Fork
- Vertical Rod with Horizontal Slide Bar, Toggles and "T" Screws



**Fig. 77**



**Fig. 78**

Before using the indirect mounting face-bow, be sure the transfer assembly is oriented as pictured.



**Fig. 79**

Disinfect the face-bow and take a face-bow registration of the patient in the usual manner.

## I. Preparing The Face-Bow And Articulator For Mounting Casts



**Fig. 80**

Remove the face-bow from the patient. Next, unscrew the #8604 Locking Screw on the cross bar to release the transfer assembly which holds the bite registration from the face-bow.



**Fig. 81**

Position the #8686 Support Bar onto the top of the transfer assembly and secure in place with the same #8604 Locking Screw.

Remove the upper frame of the articulator from the lower frame and then remove the incisal guide pin.



**Fig. 82**

Place the #9176Q Transfer Base Assembly for the QUICK MOUNT magnetic system on the articulator. Secure the Transfer Base Assembly to the magnet using a metal disc.

You may want to use the #28706 QUICK MOUNT magnetic system face-bow fork support as described in Figure 68.



**Fig. 83**

Note: All transfer base assemblies now have four holes. The extra set of holes allows the transfer base assemblies to be used on Hanau Wide Vue Articulators with the appropriate Whip Mix Adaptor.

## II. Placing The Face-Bow Transfer Assembly On The Articulator



**Fig. 84**

Insert the vertical rod of the transfer assembly into the transfer base and lower it until the bottom of the vertical rod contacts the transfer base.



**Fig. 85**

Tighten the #9184 Clamp Screw so the vertical rod fits securely in the transfer base. The transfer assembly should be oriented on the articulator as pictured.



**Fig. 86**

Place the upper frame of the articulator onto the lower frame, so the bottom of the metal boss now rests on the #8686 Support Bar.



**Fig. 87**

Engage the #2415 Latch and #2425 Catch on the articulator to keep the condyles in contact with the posterior and superior walls of the condylar guides.

### III. Mounting The Maxillary Cast



**Fig. 88**

Properly support the bite fork as needed with a #28706 Face-Bow Fork Support or other appropriate object. Position the cast into the bite registration.



**Fig. 89**

Apply Whip Mix MOUNTING STONE to the upper mounting plate and the top of the cast.



**Fig. 90**

Carefully hinge the upper frame so it contacts the top of the #8686 Support Bar. When the stone has set, remove the upper frame to allow removal of the transfer assembly and transfer base.



**Fig. 91**

Replace the incisal guide pin in the upper frame, rounded end down, and reattach to lower frame.



**Fig. 9**

Place the mounting plate on the lower frame and proceed with the mounting of the lower cast as described in the next section of this Articulator Instruction Manual.

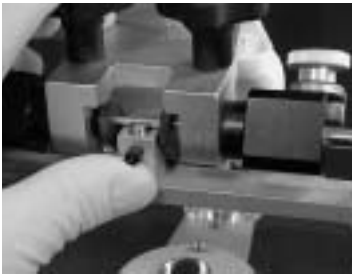
## MOUNTING THE MANDIBULAR CAST

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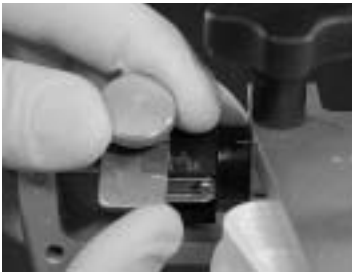
**Fig 93**

The upper and lower frames are made parallel by aligning the top of the pin boss with the dark line which completely encircles the pin. The pin, shown here at the zero mark, should be adjusted 3 to 5 millimeters above the zero mark to compensate for the thickness of the centric relation (CR) or maximum intercuspation (MI) registration used to mount the lower model.



**Fig. 94**

Make sure the #2415 Latch is engaged.



**Fig. 95**

Set both progressive side shift guides to the "0" position.



**Fig. 96**

Secure the elastics to the lower frame.



**Fig. 97**

Place the articulator upside-down. This positions the mounted cast with its occlusal surfaces upward. Check for complete seating — no rocking should occur.



**Fig. 98**

Place an interocclusal CR or MI registration on the maxillary cast. Make sure the record is completely seated.

Make sure indices have been cut into the base of the mandibular cast and it has been properly wetted prior to mounting.



**Fig. 99**

Position the cast on the CR or MI registration and check for stability. A variety of techniques and materials may be used to enhance stability.



**Fig. 100**

Hinge the lower frame into an open position and apply MOUNTING STONE to the base of the lower cast and the lower mounting plate.



**Fig. 101**

Hinge the lower frame closed until the incisal guide pin meets the incisal guide block. Make sure the condylar elements are seated flush against the posterior and superior walls of the condylar guides. Carefully hold the articulator in this position until the MOUNTING STONE has set. Some clinicians like to use a rubber band to stabilize the incisal guide pin against the incisal guide table.



**Fig. 102**

Once the initial mix of MOUNTING STONE has set, remove the material used to stabilize the cast. Prepare a second mix to fill any voids so an aesthetically pleasing product results.



**Fig. 103**

Finally, loosen the incisal guide pin screw and make sure the upper and lower casts contact. Retighten the incisal guide pin screw and make sure the incisal guide pin is positioned in the center of the incisal guide table. If a rubber band has been used to help hold the upper and lower frame together, it should be removed so the upper and lower frames may be easily hinged open.

## SETTING THE CONDYLAR GUIDANCE OF THE MODEL 3040 ARTICULATOR

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**Fig. 104**

After removing the CR or MI registration, release the centric latch.



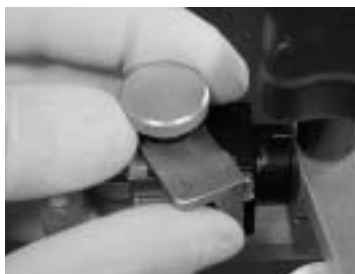
**Fig. 105**

Release the elastics.



**Fig. 106**

Set both condylar guides to the 0° setting indicated on the condylar inclination scale — firmly tighten the left condylar guide locking screw and lightly secure the right condylar guide locking screw.



**Fig. 107**

Note: Set the progressive side shift guides to their most open position.



**Fig. 108**

Loosen the incisal guide pin screw. Raise the incisal guide pin to prevent any interference and retighten the screw.



**Fig. 109**

With the upper frame and its cast inverted, carefully seat the left lateral excursion interocclusal record on the maxillary cast.



**Fig. 110**

Lightly holding the articulator together, make sure the left condyle is seated “flush” against the rear wall. Gently seat the lower cast into the left lateral record and lightly hold the articulator and casts in position.

Note: The teeth of the cast should seat evenly into the left lateral record. If the posterior teeth are raised out of the record, the condylar inclination needs to be decreased until the teeth are seated evenly in the record.



**Fig. 111**

To set the inclination of the right condylar guide, carefully loosen the #2432 Clamp Knob and rotate the guide until the teeth of the upper cast seat evenly in the left lateral record.

It is advisable when making these adjustments that the contact should also be judged by sight, rather than depending solely on the sense of touch. This helps to ensure the casts are not forced out of position.



**Fig. 112**

Tighten the #2432 Clamp Knob to secure the guide into position. **DO NOT USE EXCESSIVE PRESSURE** when tightening the clamp knob.








**Fig. 113**

To set the right progressive side shift, loosen the right #8520A Side Shift Guide Locking Screw and move the #2405 Right Side Shift Guide until it touches the side of the condyle element.

Retighten the right #8520A Screw.

**Fig. 114**

Record the amount of condylar inclination and progressive side shift found on the Patient Registration Card.

		Patient <u>JEFFREY SMITH</u>	
Articulator No. <u>204041</u>		Date <u>MAY 20, 2002</u>	
Condylar Width — Small, Medium, Large			
Progressive Side Shift		Condylar Inclination	
Right	Left	Right	Left
<u>12</u>	<u>15</u>	<u>35</u>	<u>40</u>
			
Patient Record Card For Models 8500, 3040, 3140.			



**Fig. 115**

After the right condylar guidance has been recorded, the condylar guidance should be neutralized as previously described. Next, the left condylar guidance is adjusted using the right lateral excursion record and repeating the above procedure.



**Fig. 116**

Many wish to set the condylar inclination of the articulator with a protrusive record. To utilize the protrusive record, first neutralize the condylar inclination and progressive side shift settings. Place the protrusive record on the inverted upper frame of the articulator and gently seat the lower cast into the protrusive record.

Both condylar elements will have moved away from the posterior surfaces of their respective condylar guides.



**Fig. 117**

Using sight and touch, rotate the left condylar guide until the teeth on the left side of the upper cast seat evenly into the protrusive record, then tighten the #2432 Clamp Knob. Record the reading and repeat the procedure on the right side. Note: The lateral records are used to determine the progressive side shift settings.



**Fig. 118**

The mounted case on a Model 3040 Articulator.

## SETTING THE CONDYLAR GUIDANCE OF THE MODEL 3140 ARTICULATOR

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**Fig. 119**

Follow the technique recommended for setting the condylar guidance of the Model 3040 Articulator, Fig. 104–118 (p. 36–39). Next, with the upper frame and its cast inverted, carefully seat the right lateral interocclusal record on the upper cast. Holding the upper frame with one hand and the lower frame in the other, place the right (working) condylar element in the right condylar guide. Make sure the right condyle element is seated “flush” against the rear wall. Gently seat the lower cast into the right lateral record and tightly hold the articulator and casts in position on the right side.



**Fig. 120**

Notice that the left condylar element has moved away from both the superior and posterior surface of the condylar guide and toward the medial wall.



**Fig. 121**

To set the inclination of the left condylar guide, carefully loosen its clamp knob and rotate the guide until the superior wall touches the condyle element.

It is advisable when making these adjustments, that the contact should also be judged by sight, rather than depending solely on the sense of touch. This helps to ensure that the casts are not forced out of position.



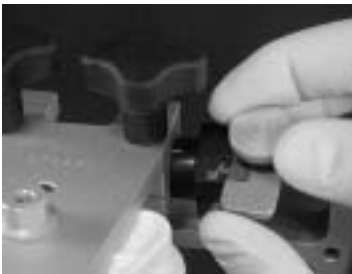
**Fig. 122**

Tighten the #2432 Clamp Knob to secure the guide in position. **DO NOT USE EXCESSIVE PRESSURE** when tightening the clamp knob.



**Fig. 123**

To set the left progressive side shift guide, loosen the left #8520A Locking Screw and move the #2406 Left Side Shift Guide until it touches the side of the condyle element and retighten the #8520A Locking Screw.



**Fig. 124**

After the left condylar guidance has been recorded, the condylar guidance should be neutralized as previously described. Next, the right condylar guidance is adjusted using the left lateral excursion record and repeating the above procedure.



**Fig. 125**

Many wish to set the condylar inclination of the articulator with a protrusive record. To utilize the protrusive record, first neutralize the condylar inclination and progressive side shift settings. Place the protrusive record on the inverted upper frame of the articulator and gently seat the lower cast into the protrusive record. Both condylar elements will have moved away from the posterior and superior surfaces of their respective condylar guide assemblies.



**Fig. 126**

Using sight and touch, rotate the right condylar guide until it contacts the condylar ball, then tighten the #2432 Clamp Knob. Record the reading and repeat the procedure on the left side. The right and left lateral records are then used to determine the progressive side shift settings.

## TECHNIQUE FOR FABRICATION OF A CUSTOM INCISAL GUIDE TABLE

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**Fig. 127**

To prevent possible wearing away of the stone casts during manipulation of the articulator, or to make a permanent record of a specific case, the natural incisal guidance may be recorded. This is done by adding a layer of self-curing resin to the #8526F Plastic Incisal Guide Table and forming the guidance path into the resin as it cures.

Figure shows materials needed for fabrication of a custom incisal guide table.



**Fig. 128**

1. Raise the incisal guide pin 1–2 mm.
2. Lubricate the rounded end of the incisal guide pin. Next, moisten the surface of the incisal guide table with 1–2 drops of self-curing acrylic monomer.
3. Mix enough acrylic to place approximately 1/4" on the top of the incisal guide table.
4. Once the acrylic is in a doughy state, place the acrylic on the table.



**Fig. 129**

5. Carefully, close the articulator in centric position.
6. Move the upper frame of the articulator back to simulate a straight protrusive movement (end to end).
7. From centric, move the upper member of the articulator to give a straight right lateral movement.
8. Then, move the upper member of the articulator to give a straight left lateral movement.
9. Move through all intermediate excursions between the lateral and protrusive positions. Allow the acrylic to harden and trim off excess acrylic.



**Fig. 130**

The #8533 Dovetail Incisal Block is a convenient accessory designed so a custom acrylic guide may be easily removed and can later be easily replaced. Its dovetail sides and centering screw assure the user of accurate repositioning time after time.

# COMPLETE DENTURE TECHNIQUE (Shown on Model 2240 Articulator)

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## I. Constructing Occlusion Rims

Having obtained a master cast, wax occlusion rims should be formed on well-adapted record bases (base plates) for the upper and lower arches. After examination of the upper record base in the patient's mouth, adjust the base plate, if necessary.



**Fig. 131**

Contour the upper and lower occlusion rims, establish occlusal vertical dimension and plane of orientation.



**Fig. 132**

Create wedge-shaped V indices in the wax occlusion rims.

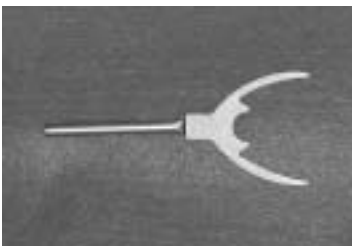
## II. Preparing The Face-Bow Fork



**Fig. 133**

Apply vinylpolysiloxane (VPS) adhesive to a properly sterilized bite fork.

Note: Adhesive not mandatory when using perforated bite fork.



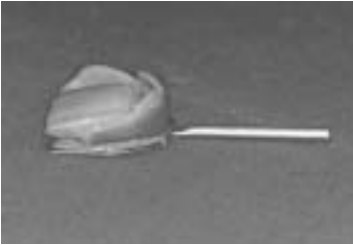
**Fig. 134**

Some clinicians prefer to utilize a pronged bite fork.

### III. Preparing Face-Bow Armamentarium

Follow the same procedure as that outlined earlier on pages 6-7.

### IV. Positioning Face-Bow



**Fig. 135**

Extraorally, record the maxillary wax rim indices onto the bite fork using VPS. Make sure the mid-line of the palate and the stem of the bite fork are properly aligned.



**Fig. 136**

Place bite fork/wax rim assembly into patient's mouth.



**Fig. 137**

Position the face-bow onto the patient as described on pages 9-12.



**Fig. 138**

Tighten the thumb screw on top of the face-bow.



**Fig.139**

Tighten the T-screw on the horizontal bar first. Next, tighten the T-screw on the vertical bar.



**Fig. 140**

Once the face-bow record has been made, remove the wax rim and record base from the bite fork registration. Set aside the face-bow assembly for later mounting.

## **V. Obtaining Interocclusal Records**



**Fig. 141**

To make the jaw relation record, a vinylpolysiloxane registration material or other appropriate record medium is placed onto the V-indices of the wax rim.



**Fig. 142**

The patient is guided into centric relation and is allowed to close until the wax rims come into contact. The registration material is allowed to set and is then removed.

## VI. Preparing The Articulator For Mounting Casts



**Fig. 143**

Many operators prefer to replace the plastic incisal guide block with an adjustable metal table, such as the #2460 Adjustable Guide Table (shown).



**Fig. 144**

To install the adjustable guide table, remove the #8526F Plastic Incisal Guide from the articulator. Slide the adjustable table into the thumb screw slot in the lower frame of the articulator and tighten the thumb screw.



**Fig. 145**

Adjust the position of the adjustable guide table until the chiseled end of the incisal guide pin lies directly over the scribed line on the guide table.

Note: Guide pin must be set at "0" on upper member.

## VII. Mounting The Maxillary Cast

The indirect technique of mounting the maxillary cast will be demonstrated. However, the direct mounting technique may also be used to mount the maxillary edentulous cast.



**Fig. 146**

The transfer assembly has been removed from the face-bow and the support bar is placed into position.



**Fig. 147**

The QUICK MOUNT transfer base has been placed onto the lower member of the articulator and is held in position by the QUICK MOUNT cast support. The transfer assembly is inserted into the transfer base and the clamp is securely tightened.



**Fig. 148**

The QUICK MOUNT cast support is adjusted until it lightly makes contact with the bottom of the bite fork.



**Fig. 149**

The cast is placed into the occlusion rim, which is then seated into the registration on the bite fork. The assembly is now completed and ready for the addition of Whip Mix MOUNTING STONE.



**Fig. 150**

The completed mounted maxillary cast. The transfer assembly and transfer base may be removed and the incisal guide pin replaced.

## VIII. Mounting The Mandibular Cast



**Fig. 151**

Place the jaw relation records between the wax occlusion rims. Be certain the casts or record bases are not in contact with one another. Casts may be secured in this position by using rigid wire and sticky wax.



**Fig. 152**

The mounted maxillary and the affixed mandibular casts can now be placed on the articulator. The casts and articulator are inverted and Whip Mix MOUNTING STONE is added.



**Fig. 153**

The mounting is complete. Additional jaw relation records can verify its accuracy. Accurate fit of the verification records into the V-shaped indices will denote a precise mounting.

## IX. Setting the Adjustable Incisal Guide Table

After the anterior denture teeth are positioned, the adjustable guide table may be set.



**Fig. 154**

Loosen the thumb screw of the incisal guide table and bring the anterior teeth into edge-to-edge contact.



**Fig. 155**

Adjust the inclination of the guide table until it contacts the incisal pin, then retighten the thumb screw.



**Fig. 156**

Move the teeth into a left lateral relation.



**Fig. 157**

Loosen the thumb screw and raise the right wing of the table until it touches the chisel end of the guide pin. Tighten the thumb screw to secure this position and repeat the same operation for the left wing with the teeth in a right lateral position.

## **X. Obtaining Protrusive Record**



**Fig. 158**

The aesthetic try-in appointment affords the clinician the ability to verify tooth setup and obtain a well-indexed protrusive record. The record should be created at an extended protrusive position to allow for bilateral condylar movement.



**Fig. 159**

Set condylar inclinations on the articulator as described previously on pages 36-41.

## XI. Fabricating A Remount Index



**Fig. 160**

After denture processing, replace the maxillary denture and cast onto the indexed mounting. Replace the mounting, cast, and denture onto the articulator. Attach the QUICK MOUNT remount jig to the lower frame.



**Fig. 161**

Add sufficient stone to the remount jig to index only the cusp tips of the denture teeth.



**Fig. 162**

The completed remount index.

## XII. Remounting Casts

After the dentures have been polished, the maxillary denture can be mounted to the articulator in anticipation of a clinical remount to evaluate the denture occlusion.



**Fig. 163**

Obtain remount casts. Using the remount index, mount the maxillary denture and remount cast to the articulator.



**Fig. 164**

During the clinical placement of the dentures following adjustment of tissue surfaces, new centric relation records are made and used to mount the mandibular denture and remount cast. The denture occlusion may be evaluated and adjusted as needed.

## XIII. Completed Dentures



**Fig. 165**

The patient and her completed dentures.

# INTERCHANGEABILITY WITH THE MODEL 3040 ARTICULATOR

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**Fig. 166**

All Series 3000 Articulators feature the ACCUMOUNT Mounting System. The ACCUMOUNT System makes it possible for the dental practitioner and the dental laboratory to interchange casts without exchanging articulators.



**Fig. 167**

During manufacture, each Series 3000 Articulator has a special table firmly and precisely attached to the lower frame using a special fixture and low-fusing alloy.



**Fig. 168**

The relationship between the upper and lower mounting plate is checked to verify precise alignment. This assures casts can be interchanged between any Series 3000 Articulator without loss of accuracy.

## Features And Advantages

1. When clinicians and dental students use a dental laboratory that has a Series 3000 Articulator, casts need no longer be mounted on an articulator when shipped to such laboratory.
2. Clinicians can purchase fewer instruments while maintaining the same level of care for their patients.
3. Instrument damage caused by shipping the articulator to and from the dental lab is eliminated.
4. Precise alignment of the upper and lower frames is checked at the factory prior to shipping.

## REMINDERS AND SUGGESTIONS

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1. When securing interocclusal records to be used in mounting casts and setting the articulator, never allow the teeth to penetrate the recording material (impression compound, wax, gypsum, impression paste, etc.) too deeply. They should never contact the opposing teeth, the metal face-bow fork, or any firm material that may be used as a carrying tray or handle. Any record showing evidence of penetration should be discarded and remade.
2. The more stable a recording material is, the more it will resist distortion during its later use. Any such material should be in a very soft state, however, during the initial recording procedure.
3. The following technique may be used to secure interocclusal records of partially edentulous patients.

If natural dentition opposes the edentulous space, the partial occlusion rim is built up to nearly touch the opposing teeth. Zinc oxide and eugenol impression paste is then added to the surface of the occlusion rim of sufficient depth to register the tips of the opposing teeth when brought into the desired relationship.

When the opposing spaces are both edentulous, one occlusion rim is built up in the customary manner to near the occlusal plane, while the opposing rim is built to near this plane with small cones of hard wax (or plastic) to indicate the registration in the impression paste.

When absence of teeth makes it necessary to obtain interocclusal records on partial occlusion rims, these records must be made with the supporting soft tissue in as near a static condition as is possible; some combination of these ideas can be planned to accomplish this with acceptable accuracy.

4. With casts of unusually thin vertical dimensions, which would necessitate the use of a great bulk of MOUNTING STONE, it is suggested the mounting plate be built up to near the correct thickness with a mix of MOUNTING STONE. This mix should be allowed to set for 20 minutes or longer before the actual mounting procedure is performed.
5. For each Series 3000 Articulator, make a split cast mounting on the articulator before mounting the first case. This will be used for reference purposes should the articulator ever be dropped or mishandled. If the split cast mounting ever shows any discrepancy, return the articulator to the dealer for factory recalibration at a nominal charge.

## MAINTENANCE

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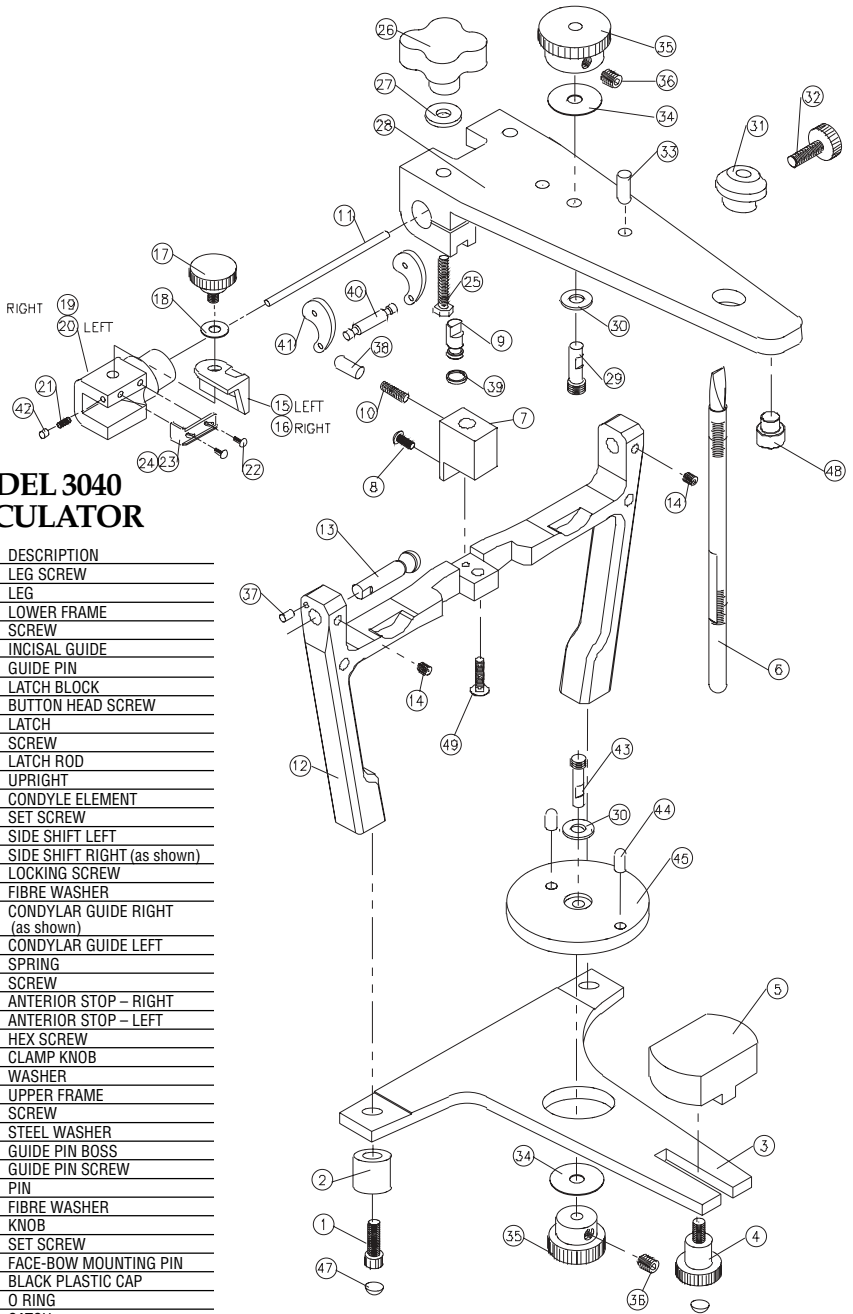
The Whip Mix Model 3040 Articulator is a sturdily constructed instrument that will provide many years of service with reasonable care. Both the upper and lower frames are made of cast aluminum. All aluminum parts are anodized to prevent corrosion or staining. Each condyle element consists of a stainless steel shaft and a durable plastic condyle ball. The condylar guide assemblies are made of anodized aluminum.

- Do not attempt to dislodge or remove the condyle ball from the condyle element shaft.
- The sealing compound placed over the #2414 Latch Block Mounting Screw, #4415 Set Screws, #8548 Set Screws, and #8507 Screw should not be disturbed.
- Do not attempt to remove the #2428 Screws holding each condyle release mechanism.
- Avoid getting wax or stone in the screw holes which may damage the threads.
- Tighten screws snugly, but not too tightly. Overtightening the retaining screws can strip the threads.
- It is a good idea to use a carrying case when the articulator is transported. Dropping the articulator may result in bent or broken parts which may affect the articulator's ability to accurately reproduce a patient's mandibular movements.
- **A thin film of lubricant (Whip Mix LUBRIPLATE) or silicone spray applied to the surfaces upon which the condylar elements move will provide a smooth action of these parts.**
- Failing to remove excess stone, or not keeping the articulator clean may result in corrosion of articulator surfaces.
- Apply silicone spray to articulator frame to prevent plaster or stone from sticking to surfaces.

# SERIES 3000 ARTICULATOR PARTS LIST

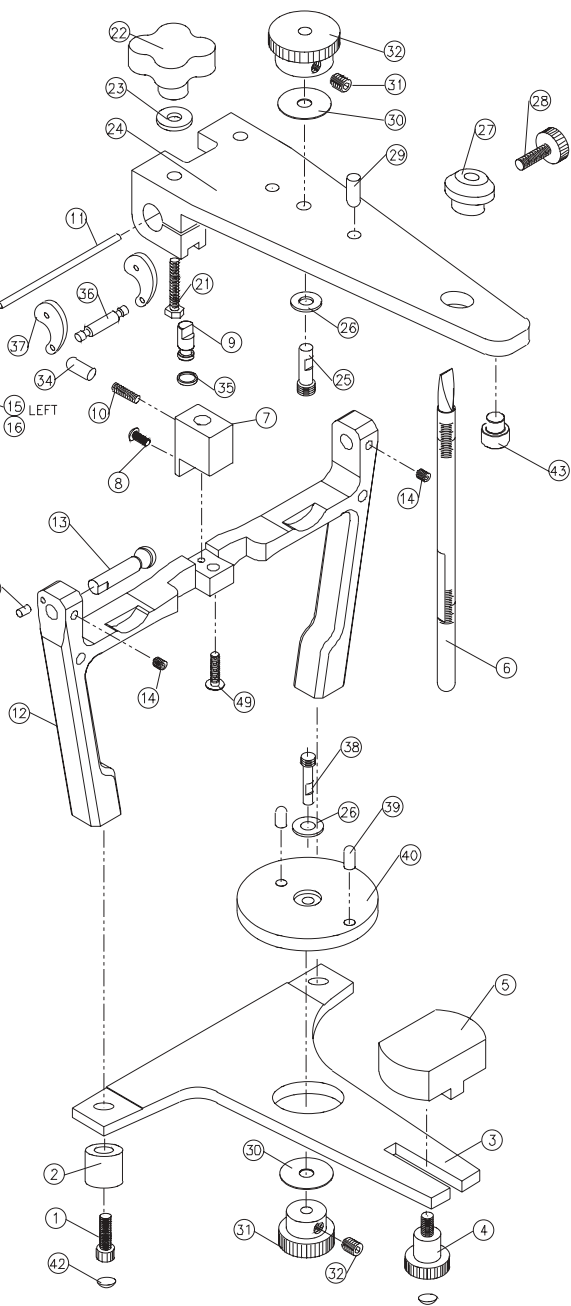
## MODEL 3040 ARTICULATOR

#	PART#	QTY.	DESCRIPTION
1	MA8506	2	LEG SCREW
2	MA8505	2	LEG
3	MA8343	1	LOWER FRAME
4	MA8527	1	SCREW
5	MA8526F	1	INCISAL GUIDE
6	MA2407	1	GUIDE PIN
7	MA2423	1	LATCH BLOCK
8	MA2414	1	BUTTON HEAD SCREW
9	MA2415	1	LATCH
10	MA2437	1	SCREW
11	MA2416	1	LATCH ROD
12	MA2421	1	UPRIGHT
13	MA2408	2	CONDYLAR ELEMENT
14	MA2438	2	SET SCREW
15	MA2406	1	SIDE SHIFT LEFT
16	MA2405	1	SIDE SHIFT RIGHT (as shown)
17	MA8520A	2	LOCKING SCREW
18	MA8547	2	FIBRE WASHER
19	MA2451	1	CONDYLAR GUIDE RIGHT (as shown)
20	MA2452	1	CONDYLAR GUIDE LEFT
21	MA2418	2	SPRING
22	MA2428	4	SCREW
23	MA2453	1	ANTERIOR STOP - RIGHT
24	MA2454	1	ANTERIOR STOP - LEFT
25	MA2422	2	HEX SCREW
26	MA2432	2	CLAMP KNOB
27	MA2424	2	WASHER
28	MA2401	1	UPPER FRAME
29	MA8507	1	SCREW
30	MA8545	2	STEEL WASHER
31	MA2410	1	GUIDE PIN BOSS
32	MA8511	1	GUIDE PIN SCREW
33	MA8810	2	PIN
34	MA8546	2	FIBRE WASHER
35	MA8508	2	KNOB
36	MA8548	2	SET SCREW
37	MA8519	2	FACE-BOW MOUNTING PIN
38	MA2419	1	BLACK PLASTIC CAP
39	MA2409	1	O RING
40	MA2425	1	CATCH
41	MA2426	2	ELASTIC
42	MA2427	2	SPRING SHIELD
43	MA8345	1	MOUNTING PLATE SCREW
44	MA8509	2	MOUNTING PLATE PIN
45	MA8344	1	MOUNTING TABLE
47	MA8543	3	FOOT BUMPER
48	MA2444	1	BOSS
49	MA2435	1	SCREW

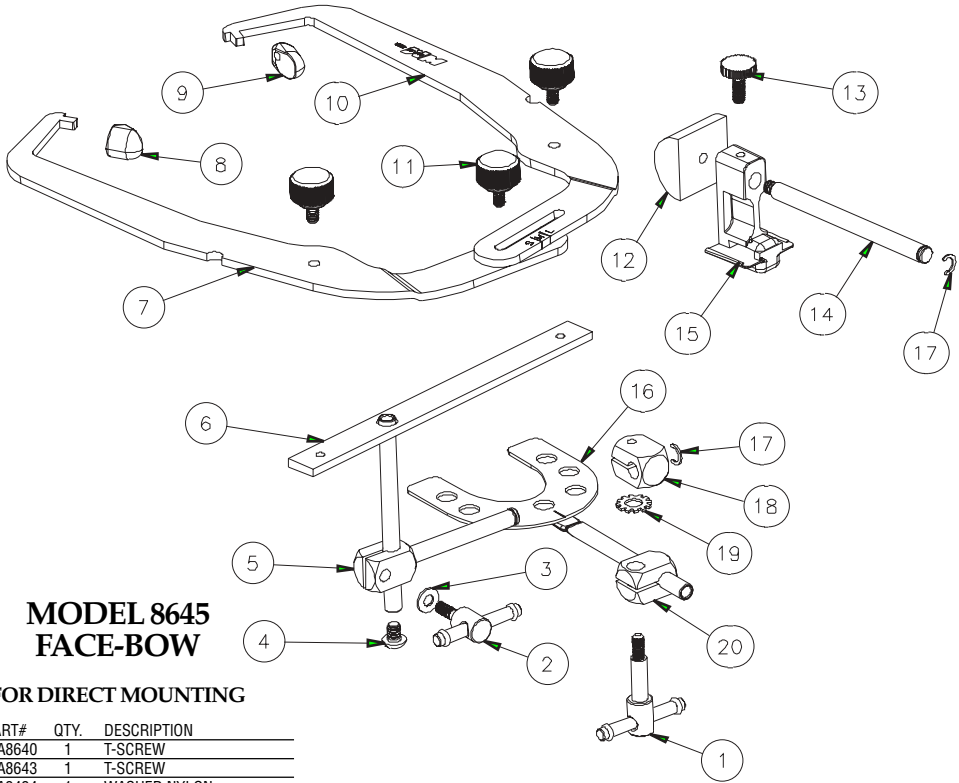


## MODEL 3140 ARTICULATOR

#	PART#	QTY.	DESCRIPTION
1	MA8506	2	LEG SCREW
2	MA8505	2	LEG
3	MA8343	1	LOWER FRAME
4	MA8527	1	SCREW
5	MA8526F	1	INCISAL GUIDE
6	MA2407	1	GUIDE PIN
7	MA2423	1	LATCH BLOCK
8	MA2414	1	BUTTON HEAD SCREW
9	MA2415	1	LATCH
10	MA2437	1	SCREW
11	MA2416	1	LATCH ROD
12	MA2421	1	UPRIGHT
13	MA2408	2	CONDYLE ELEMENT
14	MA2438	2	SET SCREW
15	MA2406	1	SIDE SHIFT LEFT
16	MA2405	1	SIDE SHIFT RIGHT (as shown)
17	MA8520A	2	LOCKING SCREW
18	MA8547	2	FIBRE WASHER
19	MA2448	1	CONDYLAR GUIDE RIGHT (as shown)
20	MA2449	1	CONDYLAR GUIDE LEFT
21	MA2422	2	HEX SCREW
22	MA2432	2	CLAMP KNOB
23	MA2424	2	WASHER
24	MA2401	1	UPPER FRAME
25	MA8507	1	SCREW
26	MA8545	2	STEEL WASHER
27	MA2410	1	GUIDE PIN BOSS
28	MA8511	1	GUIDE PIN SCREW
29	MA8810	2	PIN
30	MA8546	2	FIBRE WASHER
31	MA8508	2	KNOB
32	MA8548	2	SET SCREW
33	MA8519	2	FACE-BOW MOUNTING PIN
34	MA2419	1	BLACK PLASTIC CAP
35	MA2409	1	O RING
36	MA2425	1	CATCH
37	MA2426	2	ELASTIC
38	MA8345	1	MOUNTING PLATE SCREW
39	MA8509	2	MOUNTING PLATE PIN
40	MA8344	1	MOUNTING TABLE
42	MA8543	3	FOOT BUMPER
43	MA2444	1	BOSS
49	MA2435	1	SCREW



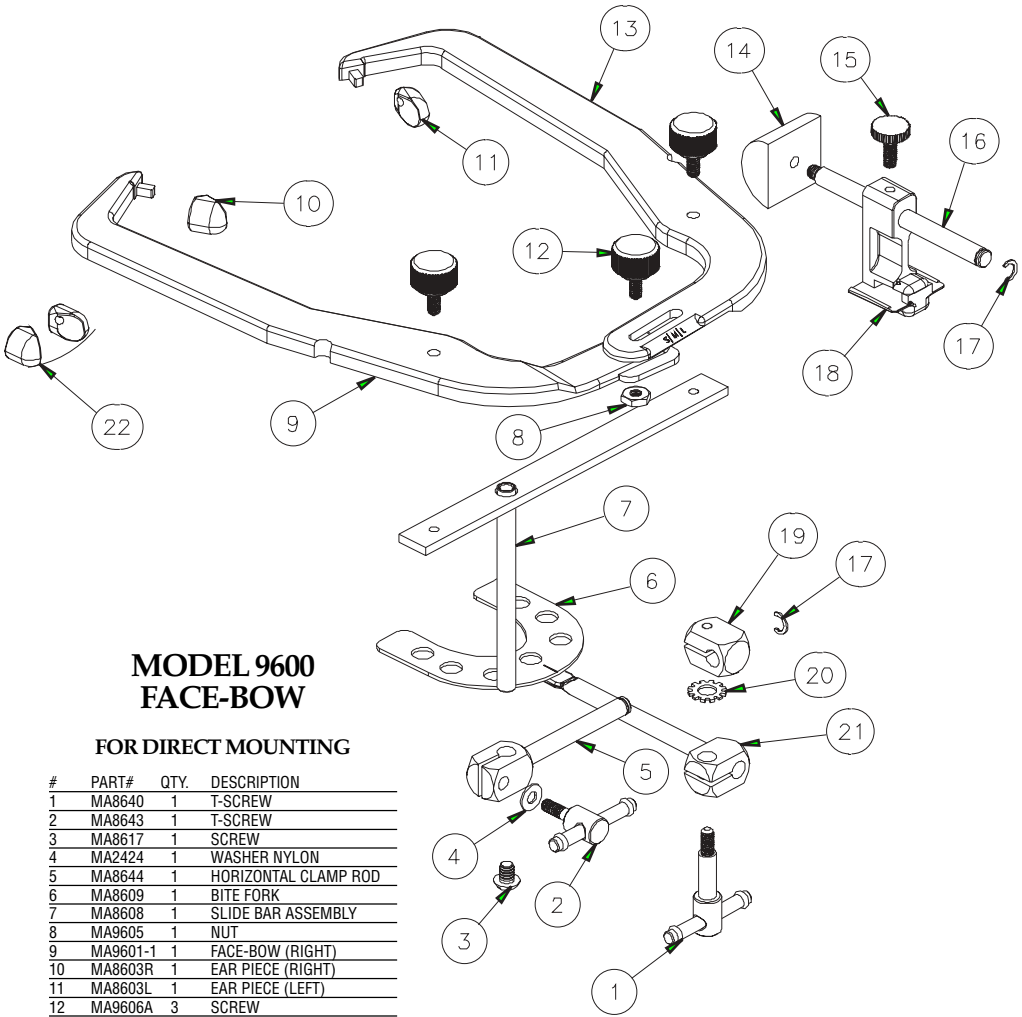
# WHIP MIX FACE-BOWS PARTS LISTS



## MODEL 8645 FACE-BOW

### FOR DIRECT MOUNTING

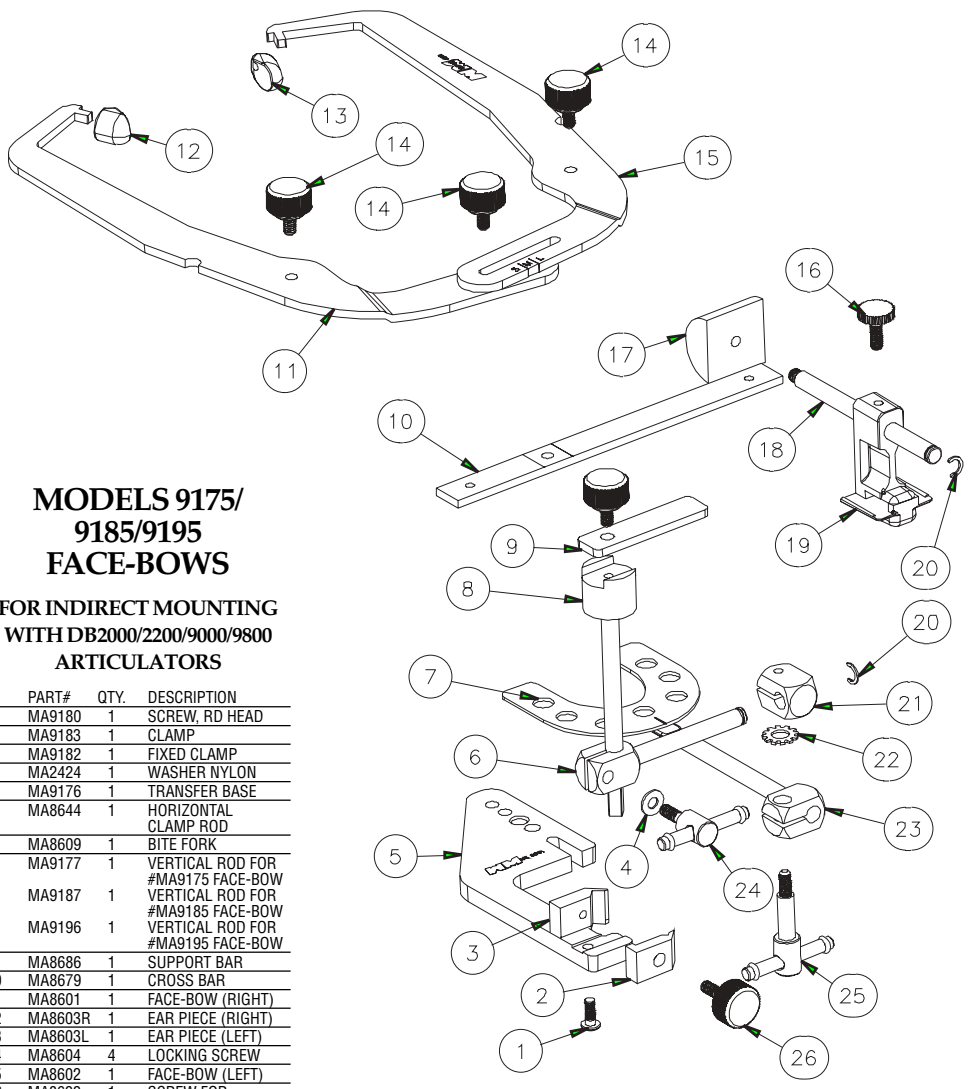
#	PART#	QTY.	DESCRIPTION
1	MA8640	1	T-SCREW
2	MA8643	1	T-SCREW
3	MA2424	1	WASHER NYLON
4	MA8617	1	SCREW
5	MA8644	1	HORIZONTAL CLAMP ROD
6	MA8608	1	SLIDE BAR ASSEMBLY
7	MA8601	1	FACE-BOW (RIGHT)
8	MA8603R	1	EAR PIECE (RIGHT)
9	MA8603L	1	EAR PIECE (LEFT)
10	MA8602	1	FACE-BOW (LEFT)
11	MA8604	3	LOCKING SCREW
12	MA8607	1	NOSE BLOCK
13	MA8622	1	SCREW FOR UPRIGHT POST
14	MA8606	1	NOSE PIECE SHAFT
15	MA8605	1	UPRIGHT POST
16	MA8609	1	BITE FORK
17	MA8619	2	RETAINING RING
18	MA8641	1	TOGGLE
19	MA8616	1	LOCK WASHER
20	MA8642	1	TOGGLE
NOT SHOWN	MA8549		PKG. OF 6 RUBBER BANDS



## MODEL 9600 FACE-BOW

### FOR DIRECT MOUNTING

#	PART#	QTY.	DESCRIPTION
1	MA8640	1	T-SCREW
2	MA8643	1	T-SCREW
3	MA8617	1	SCREW
4	MA2424	1	WASHER NYLON
5	MA8644	1	HORIZONTAL CLAMP ROD
6	MA8609	1	BITE FORK
7	MA8608	1	SLIDE BAR ASSEMBLY
8	MA9605	1	NUT
9	MA9601-1	1	FACE-BOW (RIGHT)
10	MA8603R	1	EAR PIECE (RIGHT)
11	MA8603L	1	EAR PIECE (LEFT)
12	MA9606A	3	SCREW
13	MA9602-1	1	FACE-BOW (LEFT)
14	MA8607	1	NOSE BLOCK
15	MA8622	1	SCREW FOR UPRIGHT POST
16	MA8606	1	NOSE PIECE SHAFT
17	MA8619	2	RETAINING RING
18	MA8605	1	UPRIGHT POST
19	MA8641	1	TOGGLE
20	MA8616	1	LOCK WASHER
21	MA8642	1	TOGGLE
22	MA8603A	1	EAR PIECE SOFT SET
NOT SHOWN			MA8549 PKG. OF 6 RUBBER BANDS



## MODELS 9175/ 9185/9195 FACE-BOWS

FOR INDIRECT MOUNTING  
WITH DB2000/2200/9000/9800  
ARTICULATORS

#	PART#	QTY.	DESCRIPTION
1	MA9180	1	SCREW, RD HEAD
2	MA9183	1	CLAMP
3	MA9182	1	FIXED CLAMP
4	MA2424	1	WASHER NYLON
5	MA9176	1	TRANSFER BASE
6	MA8644	1	HORIZONTAL CLAMP ROD
7	MA8609	1	BITE FORK
8	MA9177	1	VERTICAL ROD FOR #MA9175 FACE-BOW
	MA9187	1	VERTICAL ROD FOR #MA9185 FACE-BOW
	MA9196	1	VERTICAL ROD FOR #MA9195 FACE-BOW
9	MA8686	1	SUPPORT BAR
10	MA8679	1	CROSS BAR
11	MA8601	1	FACE-BOW (RIGHT)
12	MA8603R	1	EAR PIECE (RIGHT)
13	MA8603L	1	EAR PIECE (LEFT)
14	MA8604	4	LOCKING SCREW
15	MA8602	1	FACE-BOW (LEFT)
16	MA8622	1	SCREW FOR UPRIGHT POST
17	MA8607	1	NOSE BLOCK
18	MA8606	1	NOSE PIECE SHAFT
19	MA8605	1	UPRIGHT POST
20	MA8619	3	RETAINING RING
21	MA8641	1	TOGGLE CLAMP
22	MA8616	1	LOCK WASHER
23	MA8642	1	TOGGLE CLAMP
24	MA8643	1	T-SCREW
25	MA8640	1	T-SCREW
26	MA9184	1	CLAMP SCREW
NOT SHOWN	MA8549		PKG. OF 6 RUBBER BANDS



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