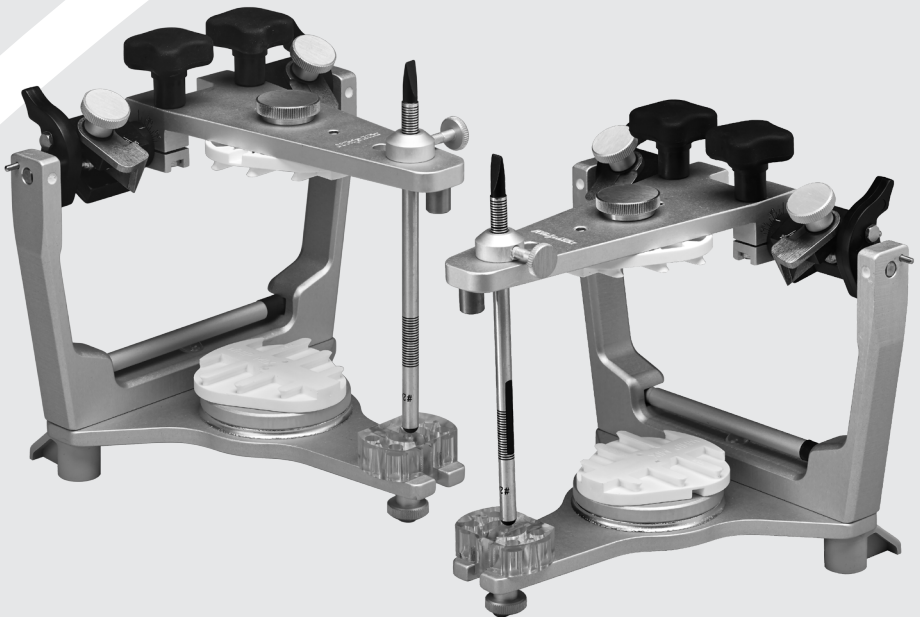




# **4000 Series Articulator System**



## **Models 4640 and 4641 Instruction Manual**

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Parts List available at <a href="http://www.whipmix.com">www.whipmix.com</a>
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## Introduction

Whip Mix articulators 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.

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 member and the guidance on the upper member, Whip Mix semi-adjustable articulators have become the preferred choice of many teaching institutions.

As with all mechanical devices, the degree of perfection of the finished product depends to a great extent on the operator's comprehension of the results desired and on a complete understanding of the limitations of the instrument being used. The instructions that follow in this manual make no attempt to teach concepts of occlusion and articulation. They simply outline the details around setting and using the articulator.

These instructions will deliver the minimum amount of guidance that is considered necessary and do not exhaust the capabilities of the articulator.

## Features

### The 4000 Series Articulator System Features:

#### Protrusive Condylar Inclination:

**Model 4640**   **Model 4641** adjustable 0 – 70 degrees

#### Progressive Side Shift:

**Model 4640**   **Model 4641** adjustable 0 – 25 degrees

#### Immediate Side Shift:

**Model 4640**   **Model 4641** fixed 0 degrees

#### Fossa:

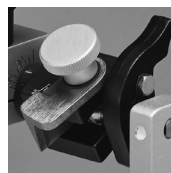
**Model 4640** Closed tracking fossa

**Model 4641** Modified tracking fossa

#### Fixed intercondylar distance:

110 mm (the same as the M setting found on other Whip Mix articulators)

**“Accumount” system** of interchangeability which allows accurate transfer of casts between articulators



**Closed tracking fossa**



**Modified tracking fossa**

Fully open access from the lingual position for easy access during denture setup; the crossbar between the uprights on the lower member has been eliminated

Easy to operate Locking Mechanism, which provides both a locked position to easily return to centric position and a mid-range position allowing the condyle to move freely down the track of the condylar guides during excursive movements

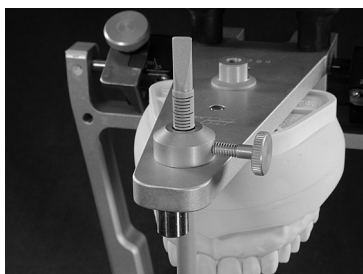
Support rod to support the upper member when the articulator is open; use built-in storage compartment when not in use



## 4000 Series Articulator System

### Articulator Manipulations

Loosen the incisal guide pin screw to attach or remove the incisal guide pin.



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.

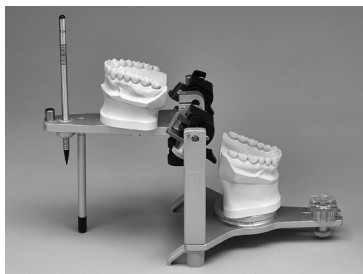


### Locking Mechanism

When the tabs are in the “UP” position, the condyles are locked in centric. In this locked position, the operator is assured that the articulator is locked in centric and ensures the stability of the articulator.

Moving the tabs back one position places the Locking Mechanism in the mid-range position. In the mid-range position the condyles can be moved down the tracking surface of the fossa element during excursive movements. The design of the Locking Mechanism prevents the user from accidentally overextending the lateral movements which could destroy work in progress.

The upper member of the articulator can be easily removed from the lower member if necessary for greater access during cleaning and servicing of the articulator. To accomplish this, push the spring loaded release button located on the outside of the fossa element while simultaneously rotating the locking mechanism back. To assemble the articulator, hold the upper member approximately parallel to the lower member and ensure the elastics are in front of the upright frame.



## Support Rod

The support rod slides into the hole on the upper member near the incisal guide pin. When not in use, store it in the space near the bottom of the uprights. Slide the support rod in from the back.

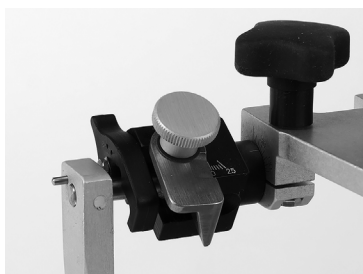


## Articulator Adjustments

**Protrusive Condylar Inclination:** the angle of the fossa in relation to the occlusal plane.

**Model 4640** **Model 4641** The inclination of the protrusive condylar path can be adjusted by loosening the large black clamp knob. The protrusive condylar path inclination scale is on the side of the upper member and is calibrated in increments of 5 degrees. The protrusive adjustment range is 0 – 70 degrees.

**Progressive Side Shift:** the path the orbiting condyle follows on the medial wall of the fossa as it orbits around the rotating condyle.

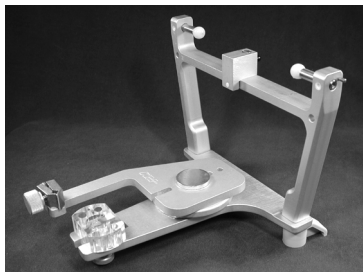


**Model 4640** **Model 4641** To set the progressive side shift, loosen the side shift guide locking screw and move the side shift guide until it touches the side of the condyle element. The scale for the progressive side shift adjustment is located on top of the fossa element and is calibrated in 5 degree increments. The progressive side shift range is 0 – 25 degrees.

## Mounting Casts on the 4000 Series Articulators

In addition to a facebow record, the only records needed for complete programming of the 4000 series are:

- Lateral bite records
- Protrusive bite record

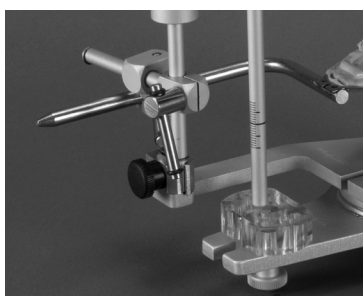


### Indirect Mounting the Maxillary Cast

Place the Transfer Base Assembly on the articulator. Secure the Transfer Base Assembly with the mounting plate screw, or metal disc if using magnetic mounting system.



**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.

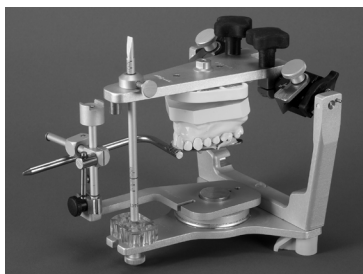


Place the vertical rod of the transfer assembly into the transfer base and lower it until the bottom of the vertical rod contacts the transfer base. Tighten with clamp screw.



Place the upper member of the articulator onto the lower member with the incisal guide pin set to keep the members parallel. Rotate the Locking Mechanism until the tab is in the “Up” position.

**Note:** Set each progressive side shift guide setting to the “0” mark.



Position the maxillary cast into the bite registration.

**Note:** A fork support may be used to steady the bite fork.



## Mounting the Mandibular Cast

Set the Locking Mechanism tabs in the “Up” position.

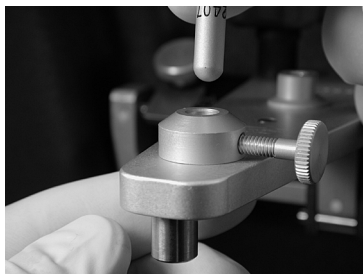
Set both progressive side shift guides to the “0” position.



Invert the articulator. Position the mandibular cast on the CR or MI bite registration.



Complete the mounting of the casts.



## **Direct Mounting the Maxillary Cast**

Set each progressive side shift guide setting to the “0” mark.

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 facebow.



Hold the facebow in one hand and the articulator in the other. Position the mounting pin located on the outer edge of the upright on the lower member into the hole on the medial side of each plastic earpiece of the facebow.



Make sure the articulator with attached facebow is stable. Bring the locking mechanism tabs to the “Up” position to lock the articulator in position. You may want to use a facebow fork support to stabilize the maxillary cast during mounting procedures.



Position the maxillary cast into the bite registration.

## **Mounting the Mandibular Cast**

Follow procedure on page 7.

## Accessories

### Whip Mix® Indirect Mounting Facebow



This facebow provides a convenient, quick and accurate method of securing an axis location without the use of expensive equipment and time-consuming techniques. Once the registration is obtained, the transfer assembly is removed for mounting, freeing the facebow for the next patient.

### Maxillary Fork Support



The adjustable “T” supports the bitefork and maxillary cast when mounting the facebow record on the articulator. Versions available for both magnetic and screw type mounting.

### Universal Occlusal Stand



Allows you to mount the working casts at Bonwill's Equilateral Triangle. Includes two interchangeable tables – flat and curved. The flat table accepts the Kois index tray.

### FlexiMount™ Universal Mounting Support



Quickly and easily provide dynamic stability when mounting the lower cast without glue, paper clips or accelerants.



### **Whip Mix® Verification Gage**

Verify and calibrate articulators in the field to factory settings. With articulators in calibration, transfer the casts between compatible articulators.



### **Adjustable Guide Table**

May be moved anteriorly or posteriorly which minimizes having to adjust for the “x” dimension. Incline may be adjusted and locked from 0 to 40 degrees protrusive. Adjustable lateral wings establish the degree of incisal freedom from 0 to 45 degrees.

## **Interchangeability**

All 4000 Series 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. This will reduce instrument damage caused by shipping the articulator.

## Care and Maintenance

Your Whip Mix articulator is a sturdily constructed instrument that will provide many years of service with reasonable care. Both the upper and lower members 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.

- The sealing compound placed over the Latch Block Mounting Screw and Set Screws should not be disturbed.
- Do not attempt to remove the 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 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.

Failure to follow these instructions will void your warranty.

## Warranty

Whip Mix Corporation warrants the articulator system to be free from defects in material and / or workmanship for a period of one year. In the event of a defect, please notify the factory in writing prior to returning the instrument. Whip Mix Corporation will, at its option, either repair, replace or issue credit for such defects.

Because Whip Mix Corporation is continually advancing the design and manufacturing method of its products, it reserves the right to improve, modify or discontinue products at any time, or to change specifications or prices without notice and without incurring obligations.



RESTORATIVE ORAL HEALTH

Whip Mix Corporation  
361 Farmington Avenue  
Louisville, KY USA 40209  
Toll-Free: 800-626-5651  
Phone: 502-637-1451  
Fax: 502-634-4512  
[www.whipmix.com](http://www.whipmix.com)