



The Hanau™ Spring-Bow

Instruction Manual



The Hanau Spring-Bow

The HANAU™ SPRING-BOW is an Earpiece type, used to capture the record of a patient's maxillary arch and its relation to the external auditory meatus. It is capable of preserving this clinically acceptable relation and to transfer it onto a HANAU™ Articulator.

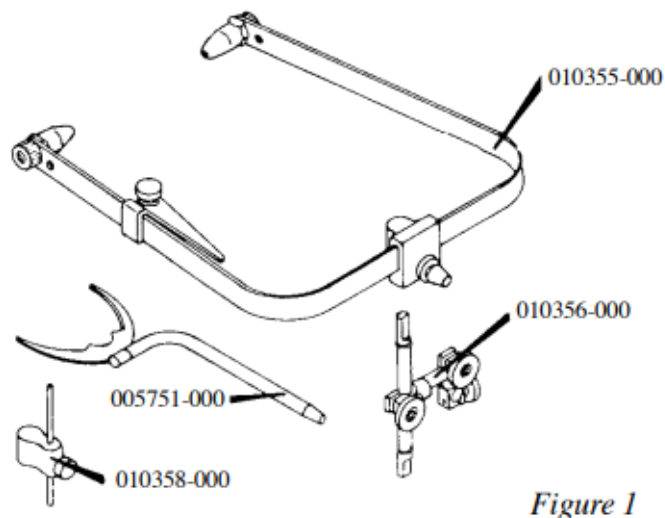
AUTOCLAVABLE...
SELF-CENTERING...
COMFORTABLE...
RAPID

Uses the Anterior Patient Reference of the Infra-Orbital Notch and the Posterior Patient Reference at the Porion, the superior border of the External Auditory Meatus. Both references form the anatomical Frankfort Horizontal Plane; the plane upon which this HANAU Spring-Bow is based.

The patient related Spring-Bow suspends directly from the Articulator for attaching the maxillary cast or—the Spring-Bow may remain in the operatory and the maxillary cast attached indirectly by using an accessory Mounting Platform No. 010356-000.

The Item No. 010328-0 HANAU™ Spring-Bow, *Figure 1*, includes:

- (1) Bow, Part No. 010355-000
- (1) Transfer Clamp Assembly, Part No. 01356-000
- (1) Anterior Elevator, Part No. 010358-000
- (1) Bitefork, Part No. 005751-000



Bitefork Preparation

DENTULOUS - The bitefork is covered with a material suitable for obtaining an occlusal imprint of the maxillary cuspids. (*Figure 2*)



Figure 2

The impression material on the bitefork is seated against the maxillary occlusal surface to create a distinct cuspal imprint without metal contact. (*Figure 3*)



Figure 3

NOTE: the stem of the bitefork must extend approximately parallel to the sagittal plane and be at the left side of the patient.

Once the material has set, check it against the maxillary cast for accurate seating. Relieve any tissue bearing surface which may interfere.



Perforated bitefork (item #005753-000)

EDENTULOUS - Attach the bitefork to the maxillary occlusal rim by heating the tines and piercing them fully into the wax rim. (*Figures 4a and 4b*)

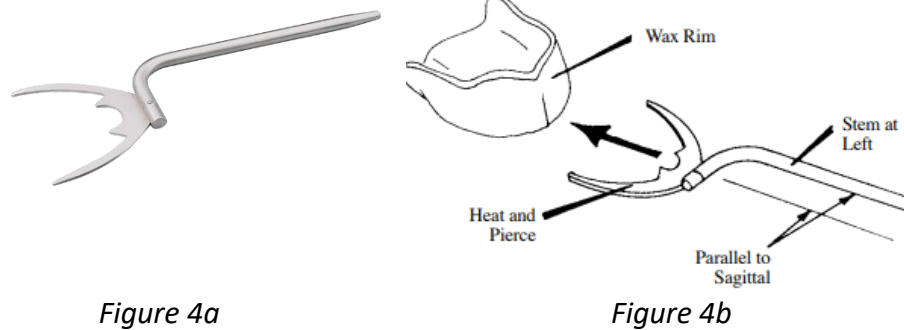


Figure 4a

Figure 4b

The "tines" shall be parallel to the occlusal plane, perhaps 3 mm from the occlusal surface and shall not distort the occlusal surface. The stem of the bitefork shall be on the patient's left and be approximately parallel to the sagittal plane. The assembly shall form a rigid occlusal rim/bitefork stem assembly, as though in one piece. (*Figure 5*)

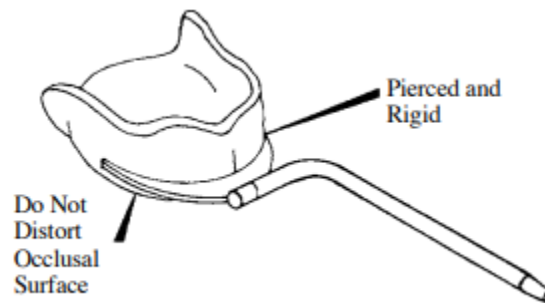
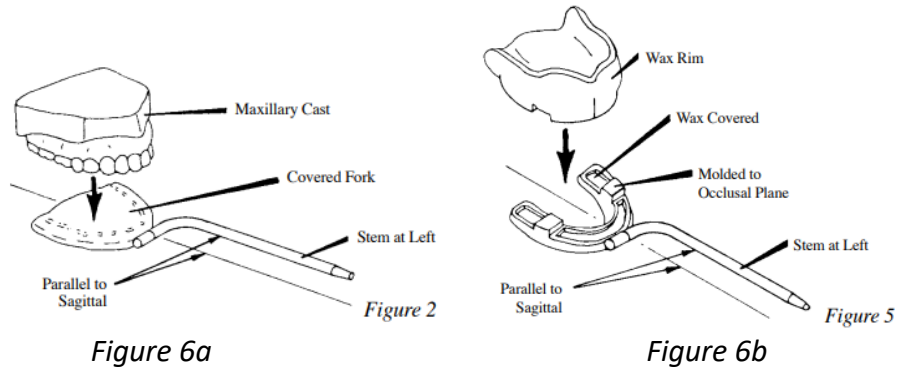


Figure 5

An alternative to piercing the wax rim is to fabricate an occlusal index on the bitefork. *Figure 6a* illustrates the bitefork stem at the patient's left, covered with a triple layer of hard baseplate wax or whatever your selection. Heatseal the periphery and soften throughout in a water bath. Seat and hand mold the wax around the rim and chill to assure removal and accurate replacement of the wax rim in its indexed bite. (*Figure 6b*)



Bow Preparation

1. No wrenches are necessary with the HANAU™ Spring-Bow.
2. **NOTE:** the thumbscrew is finger-tightened to retain the Anterior Patient Reference in the nonhazardous position illustrated. (*Figure 7*)



Figure 7

3. Insert the transfer rod into the bow socket. Align the “flatted” side toward the front and insert to the rubber ring “stop.” Finger-tighten the tapered thumbscrew against the “flatted” side of the transfer rod. Note the position of clamps. (*Figure 8*)



Figure 8

4. Loosen the thumbscrews at No. 3 and No. 2 on the bitefork clamp and then thumbscrew No. 1 on the transverse clamp. (*Figure 9*)



Figure 9

A light application of petroleum jelly on the transfer rod and transverse rod will assist clamp positioning during patient application.

Patient Application

5. Accurately seat the prepared bitefork to the patient, perhaps placing two cotton rolls between the mandibular occlusal surface and the underside of the bitefork. (*Figure 10*)



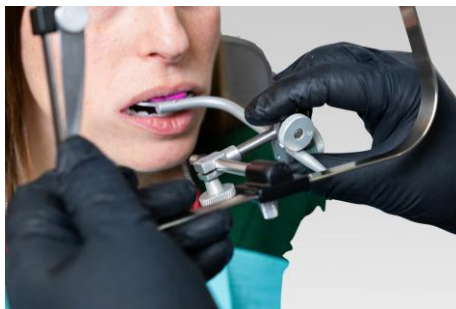
Figure 10

Apply a “touch” of petroleum jelly on the stem end of the bitefork.

Instruct the patient to gently close and firmly support the bitefork in this accurate and immobile maxillary occlusal registration.

The imprint or the registration of the maxillary shall be used for orienting the upper cast to the articulator. No concern is to be given to the mandible as its function in this instance is ONLY to hold the bitefork securely against the maxillary arch.

6. Insert the stem of the bitefork into the loose bitefork clamp. (*Figures 11a and 11b*)



Figures 11a



Figures 11b

7. Slide this clamp onto the stem perhaps 4 centimeters and then “*Spring open*” the Bow and swing it downward as to allow the earpieces to enter the external auditory meatus. Note the raised angle of the earbow away from the patient’s face as you slide the clamp down the stem of the bitefork. (*Figure 12*)



Figure 12

8. Slightly loosen the spring-loaded thumbscrew that secures the Anterior Patient Reference. Carefully rotate this Reference Orbitale Pointer to a proximity with the patient’s infraorbitale notch. (*Figure 13*)



Figure 13

9. Elevate the bow at the transfer rod to align the top of this reference with the patient's orbitale. This patient landmark is the lowest point on the infraorbitale rim and is the anterior reference of the Frankfort Horizontal Plane. (*Figure 14*)



Figure 14

The top of the Earpiece relates against the porion which is said to be the posterior reference of the Frankfort. The superior surface of the temple portion of the bow now visually represents the true Frankfort Horizontal Plane.

10. Tighten the clamp thumbscrews in the suggested order, (#1, #2, then #3), grasping the bow to offset torquing and patient discomfort. A trial run of these clamps is suggested before the patient application to recognize the amount of tightening necessary. (*Figure 15*)



Figure 15

A. Thumbscrew No. 1 - hold the right side of bow while securing the transverse clamp to the transfer rod. (*Figure 16*)



Figure 16

B. Carefully rotate the Anterior Patient Reference away from the patient. Store this reference by swinging it forward to the right temple of the bow and lightly engage the thumbscrew.

C. Thumbscrew No. 2 - hold the right side of bow while tightening the bitefork clamp to the transverse rod. (*Figure 17*)



Figure 17

D. Thumbscrew No. 3 - continue to hold the right corner of the bow and tighten the bitefork clamp to the stem of the bitefork. (*Figures 18a and 18b*)



Figure 18a



Figure 18b

11. Instruct the patient to “open,” releasing the bitefork registration from the maxillary dental arch. Grasp the posterior ends of the bow and release the earpieces from the meatus. Withdraw the complete assembly from the patient with the bitefork index rigidly attached to the bow.

12. During patient recording or immediately upon removal of the bow assembly from the patient, the thumbscrews may be additionally secured by tightening the thumbscrews in the absolute order of No.1, No.2, and No. 3.

Direct-Mounting HANAU™ Spring-Bow

Laboratory Procedure: The patient related HANAU™ Spring-Bow is consigned to the laboratory and is to be used for anatomically mounting the maxillary cast onto a HANAU™ Articulator.

Spring-Bow Suspension

13. The earpieces represent the external auditory meatus, and they have small vent holes in their ends. These earpieces suspend the bow directly over the auditory pins on the HANAU™ Wide-Vue. A 5/32" diameter hole, 12 mm anterior to the earpiece center, represents the condyle center of the patient. The HANAU™ Wide-Vue Articulator will specify removing the earpieces and suspending the 5/32" dia. holes in the bow over the condylar shaft ends on the articulator. (Figure 19)



Figure 19

Anterior Elevator

14. The Anterior Elevator, 010358-000, slides onto the transfer rod, *Figures 20a and 20b*. Place the larger hole first and twist the elevator over and onto the rubber ring, the elevating pin and thumbscrew toward the front. Slide the elevating pin to its uppermost position and secure it with thumbscrew.

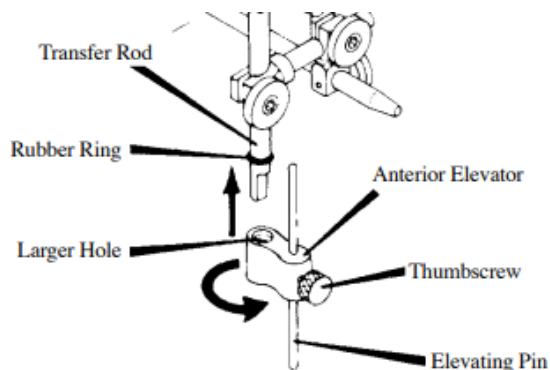


Figure 20a



Figure 20b

Vertical Landmarks

15. The Hanau Wide-Vue Articulator has an orbitale indicator as an anatomical simulation of the patient's infraorbitale notch. The top of the anterior patient reference (orbitale pointer) on the Springbow shall be aligned to the underside of this orbitale indicator. *(Figure 21)*



Figure 21

Should the articulator not be equipped with an orbitale indicator, the top of the anterior patient reference will be aligned to an acceptable substitute—the bottom of the mounting plate.

Mounting the Maxillary Cast

16. Rotate the anterior patient reference to its storage position at the side of the bow.

17. The bitefork index must be adequately supported before placement of the maxillary cast and stone or plaster mounting to the articulator. An accessory Hanau™ Cast Support, Item No. 003401-000 is offered to support the bitefork and maintain its position when adding the cast weight and stone mix. *(Figure 22)*



Figure 22

18. Attach a mounting plate to the upper member of the articulator.

19. Seat the maxillary cast in the occlusal index of the bitefork.

20. The upper member of the articulator is swung open, and the mixture of stone is placed on the maxillary cast. The upper member is immediately closed to embed the mounting plate and to bring the incisal pin into contact with the incisal table. Complete the mounting, removing excess material to assure convenient removal and accurate reattachment of the cast to the articulator.

21. Upon complete set of the mounting, disengage the cast from the bitefork index and remove the Springbow and supporting means.

The maxillary mounting has been completed.

Accessories:

Mounting Platform/Cast Support, Item No. 010342-000 is available for Indirect Mounting of the maxillary cast.



The Indirect method allows the Spring-Bow to remain in the dental operator. The transfer rod/biteplane assembly with casts or impressions and interocclusal records are sent to the laboratory for mounting. The maxillary cast is accurately related by the transfer rod placement in the mounting platform 010342-000.



Consider an additional Transfer Clamp Assembly, Item No. 010356-000 and Bitefork 005726-000.

A biteplane (perforated for index material adhesion), Item No. 005753-000 is recommended for occlusal cusp prints of the maxillary teeth. These additional adjuncts in effect become an additional Spring-Bow—doubling or tripling bow use while the bitefork index awaits later laboratory mounting.



Perforated bitefork (item #005753-000)

Cleaning Procedure:

If there is any debris on the device, be sure to remove debris before the cleaning process. Use a soft bristle brush and cold running water to remove any debris. After debris removal follow the guidelines below.

- Clean the face-bow apparatus before each use.
- A fingercot can be placed over each earpiece or use an alcohol wipe to clean earpieces and nasion support (if included).
- Use lint-free cloth to dry

Sterilization of Bitefork and Shaft:

Sterilization of equipment, methods, and parameters vary greatly from facility to facility therefore Whip Mix Corporation cannot guarantee sterility of our dental devices, but using the below guidelines should provide sterility for the bite fork and shaft.

If there is any debris on the bite fork, be sure to remove debris before the sterilization process using the cleaning guidelines described above.

- The bite fork and shaft should be sterilized before each use.
- Do not autoclave the Face-bow or Transfer Jig.

Sterilize the Metal bite fork and shaft using the following parameters and following the autoclave manufacturer's instructions.

Bite fork and shaft Sterilization parameters

Type of Sterilizer	Load Configuration	Exposure time at 132°C (269°F)	Exposure time at 134°C (270°F)	Drying Time
Vacuum or Gravity Displacement	Nonporous items only	≥ 4 Minutes	≥ 3 Minutes	15- 30 minutes

Warranty:

Refer to the website: www.whipmix.com

Please check online at
www.whipmix.com
 for the most current
 instructions and parts list.

Symbols and Their Descriptions:

SYMBOL	DESCRIPTION
	Manufacture by
	CE marking
	Medical Device
	Importer
	EU Authorized Representative
	Lot number
	Item Number or Model Number
	eIFU- Electronic Instruction For Use
	Unique Device Identifier



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