

Verification Gage

for Denar® and
Hanau™ Articulators



Instruction Manual
Item No. 20011650



RESTORATIVE ORAL HEALTH

Table of Contents

Introduction	3
Hanau Articulators	
Step 1: Cleaning Surfaces	4
Step 2: Mounting the Gage	4
Step 3: Verification Process	
Verifying Top to Bottom for Flat Plane	4
Verifying Side to Side Alignment	5
Step 4: Calibration Process	
Side to Side Calibration	5
Step 5: Removing the Gage.	6
Denar Articulators	
Step 1: Cleaning Surfaces	7
Step 2: Mounting the Gage	7
Step 3: Verification & Calibration Process	
Verifying Top to Bottom for Flat Plane	7
Calibrating Top to Bottom for Flat Plane	8
Verifying Side to Side and Front to Back Alignment.	8
Calibrating Side to Side and Front to Back Alignment	8
Step 4: Removing the Gage.	9

Introduction

The purpose of this verification gage is to check the calibration of your instrument in your office or lab. It is also possible to do some calibration on specific models with this gage.

Components:

- Upper Verification Gage
 - Lower Verification Gage
 - 2 Dowel Pins
 - Verification Pin
 - 3 Gage Block Thumbscrews (Longer Gage Block Thumb-screw for Hanau™ Wide-View® Articulator)
- (Figure 1)



Figure 1

Important Note:

Each Verification Gage pair is marked with a serial number. It is vital that the upper and lower gages match, otherwise the results may not be accurate. (Figure 2)



Figure 2

Hanau Articulators*

Step 1: Cleaning Surfaces

Loosen the incisal pin and raise it up to around -5, with the goal being just to move the pin out of the way. (Figure 3)

Using a q-tip and alcohol, clean the mounting surfaces of the upper and lower members of your articulator, and both mounting surfaces of your gage. If you have an air nozzle, use it to blow dry all surfaces, make sure the air nozzle is not blowing particles on to the just cleaned surfaces.



Figure 3

The fossae may be causing the articulator to be out of calibration due to wear of the medial inserts or dirt particles. Check to see if there are dirt particles on either fossa and clean if necessary. (Figure 4)

Step 2: Mounting the Gage

Remove the mounting plate thumbscrews from the upper and lower members of your articulator. Mount the upper and lower gage block to the articulator locating on the mounting plate locator pins. The flat side of the gage block sits to the back of the articulator. Using the gage block thumbscrews, attach the gage blocks. (Figure 5)

Note: For Wide-Vue instruments only, use the longer gage block thumbscrew for attachment to the upper member.

Lock articulator in centric position.



Figure 4

Step 3: Verification Process Verifying Top to Bottom for Flat Plane

To ensure that the gage is sitting flat, check for gap around the 3" diameter of your gage. Using .002" shim, slide it between the upper and lower gage and close the gage. Pulling on the shim, you should feel a slight to tight drag. Check this four times at 1 o'clock, 5 o'clock, 7 o'clock, and 11 o'clock positions. If you feel the drag in all four positions, move to verifying side to side alignment. (Figure 6) If the shim pulls right out in any position, this instrument is out of calibration and needs to be sent to the factory for repair.



Figure 5



Figure 6

Verifying Side to Side Alignment

The verification pin will be used to slide through the holes on each side of the gage. Set the pin on one of the holes. (Figure 7) The pin will slide all the way through the hole on its own if the articulator is in calibration. If the pin doesn't fall immediately, it may be caught on the lip of the gage. (Figure 8) Wiggle the pin side to side slightly to see if the pin will fall. **Do not push down on the pin.** If you have to force the pin through the hole on either side of the gage, the articulator is out of calibration.

If the articulator is in calibration, move to Step 5 on removing the verification gage.

If the articulator is out of calibration, move to Step 4 for calibration instructions.



Figure 7

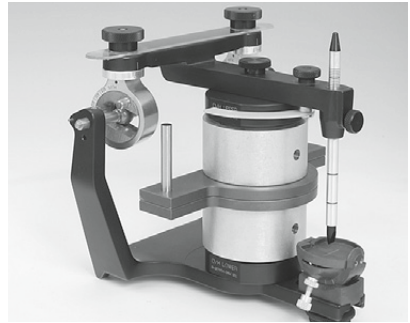


Figure 8

Step 4: Calibration Process Side to Side Calibration

Loosen the condyle lock set screws. Gently move the condyle shaft from side to side until the gage appears to be visually lined up. (Figure 9)

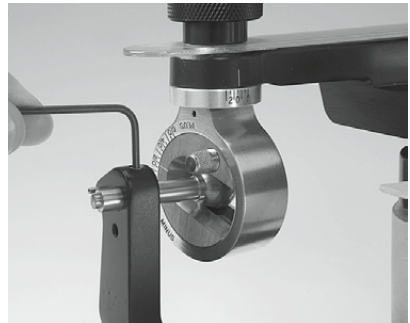


Figure 9

Using the dowel pins provided, place one in the hole on each side. The fit will be snug and the pin will not fall through. (Figure 10)

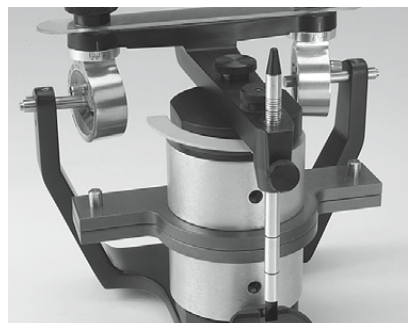


Figure 10

Apply light pressure to the condyle shaft pushing inward until they are seated (stop). Lock the condyle lock screws tightly. (Figure 11)

Remove the dowel pins from both sides. Recheck with the verification pins as listed in verifying side to side alignment above.

If the verification pins do not fall through easily after calibrating, send the instrument to the factory for repair.

Step 5: Removing the Gage

To remove the verification gage, loosen the thumbscrew enough to create a gap between the articulator member and the base of the gage. (Figure 12)

Tap on the top of the thumbscrew or rock the verification gage to slightly separate the gage from the member. This should create a small gap between the base of the gage and the articulator member. Once the gap is visible, push the gage back up flush against the articulator member (removing the gap you just created). This will release the collets from the locator pins.

Finish removing the thumbscrew and then, with a side to side rocking movement, remove the verification gage. Screw the original articulator thumbscrews back on to your upper and lower members of the articulator.

* This verification gage does not fit the Hanau 96H2, Hanau-Mate, or Ulti-Mate. These instruments must be sent to the factory for verification and calibration.

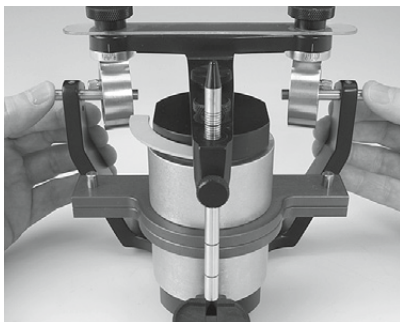


Figure 11

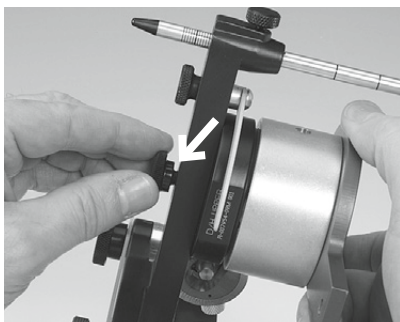


Figure 12

Denar Articulators

Step 1: Cleaning Surfaces

Loosen the incisal pin and raise it up to around -5, with the goal being just to move the pin out of the way. (Figure 13)

Using a q-tip and alcohol, clean the mounting surfaces of the upper and lower members of your articulator, and both mounting surfaces of your gage. If you have an air nozzle, use it to blow dry all surfaces. Do make sure the air nozzle is not blowing particles on to your surfaces.



Figure 13

The fossae may be causing the articulator to be out of calibration due to wear of the medial inserts or dirt particles. Check to see if there are dirt particles on either fossa and clean if necessary. (Figure 14)

Step 2: Mounting the Gage

Remove the mounting plate thumbscrews from the upper and lower members of your articulator. Mount the upper and lower gage block to the articulator locating on the mounting plate locator pins. (Figure 15) The flat side of the gage block sits to the back of the articulator. Using the gage block thumbscrews, attach the gage blocks.

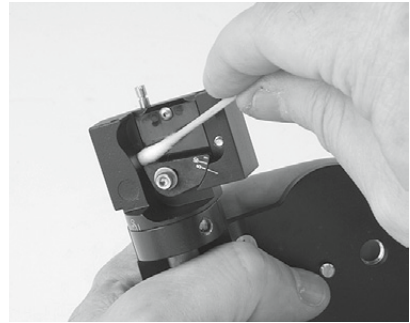


Figure 14

Lock articulator in centric position.

Step 3: Verification & Calibration Process

Verifying Top to Bottom for Flat Plane

To ensure that the gage is sitting flat, check for gap around the 3" diameter of your gage. Using .002" shim, slide it between the upper and lower gage and close the gage. Pulling on the shim, you should feel a slight to tight drag. Check this four times at 1 o'clock, 5 o'clock, 7 o'clock, and 11 o'clock positions. If you feel the drag in all four positions, move to verifying side to side and front to back alignment. If the shim pulls right out in any position, this instrument is out of calibration. (Figure 16)



Figure 15

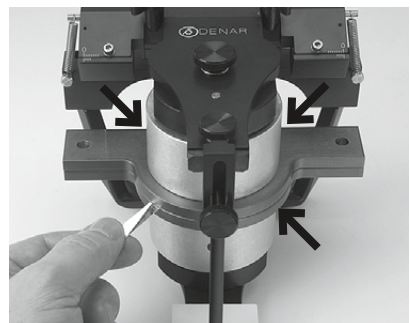


Figure 16

Calibrating Top to Bottom for Flat Plane

Loosen the condyle lock screws on each side. (Figure 17) To raise or lower the condyle ball, adjust the jack screw. (Figure 18)

Start by turning the jack screws so that the condyles drop down until the back of the gage is flat on both sides (positions 1 o'clock and 11 o'clock should be tight.) If the condyles drop too far, the centric latch will unlock. Raise condyle back up to lock in centric before proceeding.

Place the shim in the position that now has the slightest drag (5 o'clock or 7 o'clock). Raise the condyles slightly by adjusting the jack screws, first on one side and then the other. As you slowly walk through raising the condyles, check for drag in the front positions. Once you are satisfied with the tightness of the drag in all four positions, tighten the condyle lock screws on each side. Then verify one more time that you have a slight to tight drag in all four positions. Once complete, move to verification and calibration for side to side and front to back alignment.

Verifying Side to Side and Front to Back Alignment

The verification pin will be used to slide through the holes on each side of the gage. Set the pin on one of the holes. (Figure 19) The pin will slide all the way through the hole on its own if the articulator is in calibration. If the pin doesn't fall immediately, it may be caught on the lip of the gage. Wiggle the pin side to side slightly to see if the pin will fall. **Do not push down on the pin.** If you have to force the pin through the hole on either side of the gage, the articulator is out of calibration. If the pin falls freely, your articulator is in calibration and you can move to Step 4 on removing the verification gage.



Figure 17

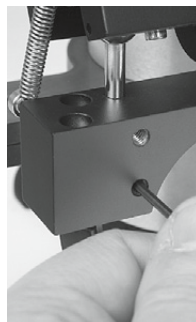


Figure 18



Figure 19

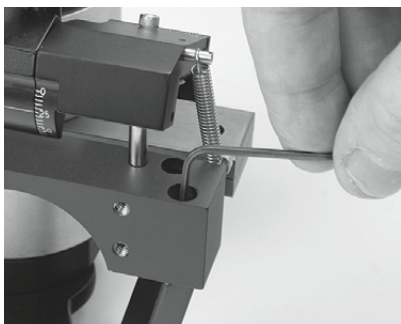


Figure 20

Calibrating Side to Side and Front to Back Alignment

Loosen all four crossbar screws on the lower bow. (Figure 20)

Using the dowel pins, set one in each hole. These pins will stay in the hole, not drop through freely. (Figure 21)

Using a crossing pattern, lightly tighten each of the crossbar screws. Continue to follow this pattern to tighten the crossbar screws until firmly tightened. Once tight, you may choose to use an allen wrench for one final round of tightening. (Figures 22 & 23)

Remove the dowel pins, and use the verification pins to see if they will now drop freely on each side. If the pins drop freely, your instrument is now in calibration and you can move to Step 4 on removing the verification gage. If the pins still do not drop freely, loosen all four crossbar screws again and repeat the procedure with the dowel pins.

Hints: You may feel some stickiness when slightly moving the crossbar that needs to be worked out, and you may choose to use one dowel pin and visually look through the other hole while tightening the crossbar screws using the crossing pattern to make sure the gage is not moving.

Once the crossbar screws are securely tightened, use the verification pins to see if they will now drop freely on each side.

If not, remove the verification gage and send the instrument in for factory repair.

Step 4: Removing the Gage

To remove the verification gage, loosen the thumbscrew enough to create a gap between the articulator member and the base of the gage. (Figure 24)

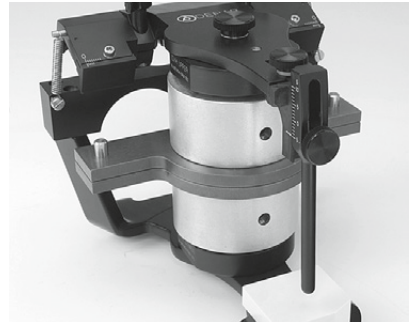


Figure 21

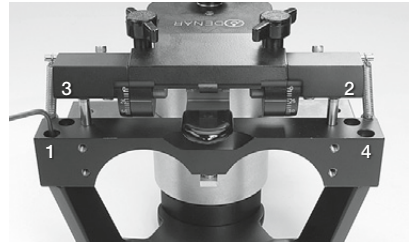


Figure 22

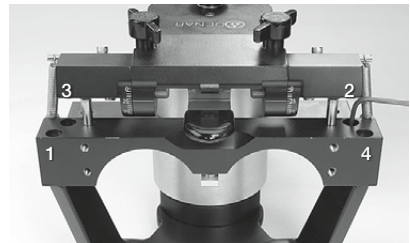


Figure 23

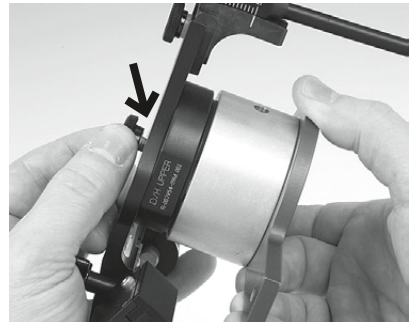


Figure 24

Tap on the top of the thumbscrew or rock the verification gage to slightly separate the gage from the member. This should create a small gap between the base of the gage and the articulator member. Once the gap is visible, push the gage back up flush against the articulator member (removing the gap you just created). This will release the collets from the locator pins.

Finish removing the thumbscrew and then, with a side to side rocking movement, remove the verification gage. Screw the original articulator thumbscrews back on to your upper and lower members of the articulator.

To return for repair, call (800) 626-5651

Once you have an RMA number, return to:

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