Great Lakes
Study Model Trimmer Jig

Ensures precision trimming for accurate study models

Call toll-free:
800-828-7626
Local: 716-871-1161
Fax: 716-871-0550
E-mail: info@greatlakesortho.com

Great Lakes
ORTHODONTICS, LTD.
An Employee Owned Company

Study Model Trimmer Jig Instructions

175-108
Great Lakes Study Model Trimmer Jig helps the technician:

- Trim study models more efficiently
- Maintain the bite relationship
- Achieve flawless, symmetrical models ideal for case presentation

17) Trimmed Heels Hold Bite Position
- Check heels of upper and lower model bases.
- Heels should maintain bite position.

18) Parallel Lower to Upper Base
- Place trimmed upper and lower model heels on trimmer table in proper bite position.
- Reference upper model base against push-plate of trimmer table.
- Stabilize both models against the push-plate, with teeth in proper bite position, and trim lower base parallel to the upper.

19) Check Parallel Height of Models
- Place models in occlusion on aligning jig.
- ABO base heights should be no less than 13mm at lowest carved area (see step 8).
- Total height of both upper and lower models articulated is approximately 70mm.

Note: Final base height is often accomplished after carving of sulcus areas is completed.
Once the model is poured, follow the instructions provided to use the Great Lakes Study Model Trimmer Jig.

1) Remove Impression Once Plaster Cures

- Once plaster sets (45 minutes), carefully remove the impressions so as not to break any teeth.
- Remove the preformed rubber base formers.

2) Prepare Models for Base Trim

- Remove plaster bubbles from the occlusal surface.
- Chisel or cut excess plaster from the back of the model parallel with the occlusal plane, allowing model articulation.
- For easier plaster removal, soak the models in water unless trimmed immediately after pouring.
- Determine if upper & lower models are to be trimmed together with:
  - Teeth articulation only.
  - Centric occlusion bite reference.
  - Centric relation registration.
11) Trim Heel 90° to Midline
- Place model on the table and hand guide the back to the trimming wheel.
- Keep the model base flat on the table and reference the midpalatal line perpendicular to the trimming wheel.
- Be sure to trim the heel to the reference mark.

12) Heel Trimmed 90° to Midline
- Place the upper model heel on the jig to verify the perpendicular midpalatal trim to the heel.

13) Lower Base Bite Trimming Jig
- Remove referencing panel from trimmer jig base.
- The referencing block slides along the vertical arms of the jig base, with the screws facing the back of the jig.

3) Wehmer Dual Wheel Model Trimmer
- The dual wheel model trimmer is the study model trimmer of choice in most commercial laboratories.
- This trimmer has two wheels, one for rough trimming and the second for smoothing and finishing the rough-cut bases.
- The orthodontic tables control base angle trim.
- The vertisquare is a padded plate that the occlusal surface of the dentition is referenced to when leveling the base’s bottom.
- The angle guide is used to trim the side, heel and front base angles by sliding the heel of the model along the guide.
- The orthodontic table should be perpendicular to the trimming wheel’s surface.

4) Rough Trim Heel of Upper Model
- Minimally trim the upper base heel approximately 90° to the midpalatal line until the entire arch can be referenced against the vertisquare push-plate (see photo in step 6).

5) Upper Model on Jig Base with Referencing Panel
- Place upper model on base referencing jig with teeth resting on platform.
- Identify amount of base requiring trimming to meet 35mm line or 13mm sulcus base depth (see step 8).
6) Parallel Upper Base to Occlusion
- Reference the model against the vertisquare.
- Slide the vertisquare into the ortho-table slot, holding the maxillary occlusal surface tightly against the pad.
- Slide vertisquare and model toward the trimming wheel.
- Once the base’s bottom has been completely leveled relative to the occlusion, remove the model from the trimmer.

7) Check Upper Base Trim to Jig
- Place model on jig to verify parallel base trim to occlusal surface.
- Base height is approximately 35mm from the occlusal surface or no less than 13mm at the lowest carved area (see step 8).
- The maxillary model, with teeth on a level surface, may be checked with a small level from side-to-side and front-to-back.
6) Parallel Upper Base to Occlusion
- Reference the model against the vertisquare.
- Slide the vertisquare into the ortho-table slot, holding the maxillary occlusal surface tightly against the pad.
- Once the base’s bottom has been completely leveled relative to the occlusion, remove the model from the trimmer.

7) Check Upper Base Trim to Jig
- Place model on jig to verify parallel base trim to occlusal surface.
- Base height is approximately 35mm from the occlusal surface or no less than 13mm at the lowest carved area (see step 8).
- The maxillary model, with teeth on a level surface, may be checked with a small level from side-to-side and front-to-back.

8) Model Base Trimming Height
- Model bases are trimmed parallel to each other.
- ABO base heights should be no less than 13mm at the lowest carved area.
- Total height of both upper and lower models articulated should be approximately 70mm (35mm each).

9) Model Base Heel Trim Reference
- Identify most distal tooth on each side of the upper arch.
- Articulate models to verify that lower posterior teeth are anterior to reference line (potential problem with Class II malocclusions).
- Measure 3/8” - 1/4” behind most distal tooth reference on one side of the arch (first or second molar). If third molars are present, place reference mark 2-3mm behind tooth.

10) Reference Midline to Jig
- Place pretrimmed upper heel on jig to identify trim required.
11) Trim Heel 90° to Midline
- Place model on the table and hand guide the back to the trimming wheel.
- Keep the model base flat on the table and reference the midpalatal line perpendicular to the trimming wheel.
- Be sure to trim the heel to the reference mark.

12) Heel Trimmed 90° to Midline
- Place the upper model heel on the jig to verify the perpendicular midpalatal trim to the heel.

13) Lower Base Bite Trimming Jig
- Remove referencing panel from trimmer jig base.
- The referencing block slides along the vertical arms of the jig base, with the screws facing the back of the jig.
Once the model is poured, follow the instructions provided to use the Great Lakes Study Model Trimmer Jig.

1) Remove Impression Once Plaster Cures
- Once plaster sets (45 minutes), carefully remove the impressions so as not to break any teeth.
- Remove the preformed rubber base formers.

2) Prepare Models for Base Trim
- Remove plaster bubbles from the occlusal surface.
- Chisel or cut excess plaster from the back of the model parallel with the occlusal plane, allowing model articulation.
- For easier plaster removal, soak the models in water unless trimmed immediately after pouring.
- Determine if upper & lower models are to be trimmed together with:
  - Teeth articulation only.
  - Centric occlusion bite reference.
  - Centric relation registration.

14) Align Models to Trimmer Jig Base
- Place upper model on jig.
- Reference the upper heel flush against the back of jig.
- Articulate lower model to upper. Heel of lower model should extend though back arms of jig base.

15) Draw Line On Lower Base
- Slide referencing block against base of lower model with the screws facing the back of jig.
- Draw a line along the lower model base.
- Remove reference block and models from trimmer jig.

16) Trim Lower Base to Line
- Place articulated models on table of trimmer.
- Reference upper model base on trimmer table.
- Carefully push articulated models against trimming wheel, keeping line parallel to wheel.
- Trim heels to line drawn from jig.
17) **Trimmed Heels Hold Bite Position**
- Check heels of upper and lower model bases.
- Heels should maintain bite position.

18) **Parallel Lower to Upper Base**
- Place trimmed upper and lower model heels on trimmer table in proper bite position.
- Reference upper model base against push-plate of trimmer table.
- Stabilize both models against the push-plate, with teeth in proper bite position, and trim lower base parallel to the upper.

19) **Check Parallel Height of Models**
- Place models in occlusion on aligning jig.
- ABO base heights should be no less than 13mm at lowest carved area (see step 8).
- Total height of both upper and lower models articulated is approximately 70mm.

Note: Final base height is often accomplished after carving of sulcus areas is completed.
Call toll-free:

800-828-7626
Local: 716-871-1161
Fax: 716-871-0550
E-mail: info@greatlakesortho.com