



TP Orthodontics, Inc.

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CUSTOM ORTHODONTIC APPLIANCES

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tportho.com/custom

Precision. Convenience. Confidence.

Expert workmanship and quality have characterized our orthodontic laboratory services since 1942. Every appliance ordered receives the careful attention of a skilled technician and only the finest materials and latest processes are used in its construction.

Most appliances permit a wide variety of design possibilities. Due to this extensive variety, only the more commonly requested types are illustrated in this catalog. Please contact us if you do not see your desired appliance listed.



LIFETIME WARRANTY

All TPO custom appliances are fully guaranteed for the entire prescribed wearing time. If the appliance becomes damaged for any reason other than patient neglect, TPO will repair or replace it at no charge.

Please return the damaged appliance along with the file, model or set-up from which the original appliance was fabricated.

Laboratory Services Order Information

U.S. Mail and Shipping Address

TP Orthodontics, Inc.
100 Center Plaza
La Porte, Indiana 46350-9672 USA

Phone: 219-785-2591
Toll Free: 800-348-8856
Fax: 219-324-3029
Email: info@tportho.com

Digital submission information can be found in this catalog or at tportho.com/custom

Options for Submitting a Prescription



Direct Digital Workflow

1. Submit scan directly (inquire with scanner mfg. to add TP Orthodontics) and include patient information
2. Scan Rx form to **digitalrx@tportho.com**. Forms can be downloaded at <https://www.tportho.com/custom-lab-services/downloads/>

For the option to view and approve the case, a TPRX (Box) account is required; to open an account <https://www.tportho.com/custom-lab-services/tprx-signup/>

tportho.com (TPRX) Submission

Rx forms can be directly filled out and submitted online through TPRX at <https://www.tportho.com/custom-lab-services/submit-a-prescription/> (use paperclip icon to attach scans)

For the option to view and approve the case, a TPRX (Box) account is required; to open an account <https://www.tportho.com/custom-lab-services/tprx-signup/>



Mail-in Models or Impressions

Request mailing materials and forms from the Lab for submission. Forms can also be downloaded at <https://www.tportho.com/custom-lab-services/downloads/>

For the option to view and approve the case, a TPRX (Box) account is required; to open an account <https://www.tportho.com/custom-lab-services/tprx-signup/> (The Lab will digitize the model or impressions.)

Filling Out Prescription Forms

To obtain prescription forms, call TPO at 800-348-8856 or go to [tportho.com/custom](https://www.tportho.com/custom).

It is very important that you fill out your prescription form as completely as possible.

If you have special instructions that are to be used routinely in all of your appliances, we note these in your file. Of course, there are times when you may have variations of a specific appliance design; these can be noted or drawn on the special instructions area provided on the prescription form.

Submit

Digital file submission eliminates shipping time and is statistically proven to reduce prescription error.

Manage

Simple, instant access to your files improves efficiencies and saves time and eliminates plaster model storage.

Archive

Secure and private, your files are available when and where you need them. (HIPAA-compliant)

Refine® Complete Aligner System

The Refine Complete Aligner System incorporates a finishing appliance for efficiency. A choice of a semi-custom (Pre-Finisher®) or custom finishing appliance (Refine Custom Finishing Appliance) is included in the cost of the system.

The Refine Complete Aligner System is for minor to moderate tooth movement and is ideal for orthodontic relapse. The system is available in easy-to-order options. View and approve cases and expected results through TPRX™.



670-310 “BASIC 5” option provides up to 5 steps of movement (10 total trays and can be used for single or dual arch treatment)

670-320 “TOTAL 10” option provides up to 10 steps of movement (20 total trays and can be used for single or dual arch treatment)

Supplemental ordering options are as follows:

670-349 “Diagnostic” — submit a case without ordering a specific number of trays until the case is viewed to determine steps required (does not include cost of trays)

670-330 “Mid-treatment Revision” — patients that mis-track plus cost of trays

670-311 “UNLIMITED” — prescribe additional trays beyond the TOTAL 10 option at a set price per tray



refine®
Complete Aligner System

Indirect Bonding

Brackets

Detailed impressions or a model poured in high quality stone should be sent along with the digital files and any special instructions indicated on the prescription form.

TPO offers all our bracket systems with our indirect bonding system.

Brackets will be positioned at recommended heights unless indicated otherwise.

Bondable molar tubes can also be included with indirect bonding cases, as it makes placement in this difficult area more accurate.



Splints and Retainers

Indirect Bonding is provided for Lingual Bond-A-Splint® Retainers, Bondable Lingual Retainers and Lingual Periodontal Splints (Bond-A-Bars).

Send a model of the patient along with a completed Indirect Bonding prescription form. When possible, TPO will select a preformed appliance to fit the model.

If the patient's requirements dictate that a standard appliance cannot be used due to missing or irregular size teeth, a custom appliance will be fabricated.

You will receive your original model and the prescribed appliance in a transfer tray to cover the lingual surface of the appliance, including the incisolingual surfaces of the teeth. Please mark the appropriate tray type on the Rx sheet — clear tray for light curing.



TPO is not responsible for bond failures when using indirect bonding.



Maxillary Custom Lingual Retainer



Bond-A-Splint Retainer



Bond-A-Bar



Bondable Lingual Retainer

Finishing Appliances

TP Orthodontics offers the most extensive array of finishing appliances available. Use this information to choose the right one for you, your practice and your patient. Each uniquely different in size and fit – all designed to achieve the best possible finish with aligner treatment or fixed appliance therapy.

Original Tooth Positioner

The Tooth Positioner is a custom-made resilient mouthpiece that is constructed over a setup and fabricated in normal hinge-axis relationship. The original tooth positioner's extended size promotes massaging of the gingival which may be inflamed after orthodontic treatment. Precision seating springs are optional for placement assistance and when additional retention is desired. Sufficient airways for breathing comfort and increased acceptance.

- Offers the ability to remove fixed appliances three to six months early
- Closes slight spaces (2-3mm) and corrects minor rotations and buccolingual discrepancies
- Corrects and relates teeth in both arches simultaneously
- Suited for aligner treatment by promoting ideal occlusion without the need for additional aligner trays

Use when: Maximum gingival stimulation is required, or an appliance is needed as a mouthguard.



Mini-Positioner

Made in the same manner as the Original Tooth Positioner, but trimmed to be approximately 50% less bulky. Due to increased flexibility, the Mini-Positioner adapts to greater discrepancies, is easier to place and more comfortable for the patient. Precision seating springs are optional for placement assistance and when additional retention is desired. Sufficient airways for breathing comfort and increased acceptance.

- Offers the ability to remove fixed appliances three to six months early
- Closes slight spaces (2-3mm) and corrects minor rotations and buccolingual discrepancies
- Corrects and relates teeth in both arches simultaneously
- Suited for aligner treatment by promoting ideal occlusion without the need for additional aligner trays

Use when: There is more than 2mm of space to close in one arch, or for cases that do not require the Original Tooth Positioner for gingival stimulation or mouthguard use.



Finishing Appliances

Refine Orthodontic Finishing Appliance

The smallest of the finishing appliances, provides for the same finishing as the Tooth Positioner and Mini-Positioner. Easy online ordering; multiple color options for patient acceptance.

- **Ideally suited for aligner treatment, the appliance can be used to replace multiple aligner trays when refinement is required**
- Closes slight spaces and corrects minor rotations and buccolingual discrepancies
- Corrects and relates teeth in both arches simultaneously, promoting ideal occlusion

Use when: The patient is at the refinement stage of aligner treatment, and does not wish to continue with additional aligners. Allows you to transition the patient from full-time to part-time appliance wear. Send in impressions or conveniently submit final STL files online.



Pre-Finisher® Semi-Custom Pre-Formed Finishing Appliance

An appliance that can be fitted immediately, with no impressions required. A quick cuspid-to-cuspid measurement assures selection of the correct size – an economical choice when a custom appliance is not required. Sized in one-millimeter increments for precise fitting, and available in extraction and non-extraction versions.

- Offers the ability to remove fixed appliances early and can be used as a retainer
- Closes slight spaces and corrects minor rotations
- Corrects and relates teeth in both arches simultaneously
- Suited for aligner treatment by promoting ideal occlusion without the need for additional aligner trays

Use when: Desire to begin finishing when teeth are primed for movement, immediately following bracket removal. Used as an interim appliance when a custom retainer is being fabricated.



The Pre-Finisher Appliance is included here as a possible finishing option. Additional information can be found in Section 9.

Tooth Positioning Appliances

Set-Up (digital or traditional) and Articulation Methods

Depending on your case and prescription submission type, our technicians will set the teeth in new positions using a traditional pour-up method and plaster models, or advanced 3-D digital technology.

Either way, the teeth will be carefully reset according to the directions you provide on the prescription form which you can submit digitally or by mail. Teeth chipped or broken in transit will be accurately repaired. If necessary, air holes are filled and full-sized teeth are substituted for those just erupting.

Digital files will be examined for distortions or other errors and corrected if possible. If basic treatment has been properly accomplished, each tooth will have sufficient space in the arch and can be placed in its best position in the wax set-up or digital model.

If the submission is completely digital, doctors may request to view the set-up models as three-dimensional graphics before fabrication of the appliance.

1. Full Set-Up – Digital

A set-up is made from a model or recent digital file submission where all the teeth have been adjusted into a new position according to the directions you provide when you wish to have a tooth positioning appliance ready to place the day brackets are removed. A recent progress model which usually includes the brackets can be sent or scanned to TPO and our technicians will carve/remove the brackets/bands from the teeth on the model before constructing the set-up and tooth positioning appliance.



Remove archwires before taking the impression for the progress model.

2. Partial Set-Up

A Partial Set-Up can be made when it is unnecessary to reset all teeth. Simply indicate on the prescription sheet which teeth are to be repositioned.

3. Diagnostic Set-Up

The Diagnostic Set-Up is an excellent aid for orthodontic treatment planning. Rearrangement of the teeth on the models or digital file can replace speculation on the possibilities and limitations of treatment.

Indicate which teeth you wish extracted (if any), and the desired location of the lower anterior teeth at the end of treatment.

Vertical lines are scribed from the buccal surfaces of the mandibular first permanent molars onto the alveolar ridges beneath them. The amount of displacement of these lines on either side of the completed diagnostic set-up will be an indication of the amount the first molars must be moved mesially during treatment to achieve the desired position of the lower anterior teeth.

A Diagnostic Set-Up can aid in making decisions regarding the advisability of extracting teeth. It will also disclose tooth mass discrepancies, as well as give advance notice of anchorage problems.

Tooth Positioning Appliances Available in Your Choice of Materials

crystal-Flex®

TPO crystal-Flex is a transparent material preferred by patients because of its aesthetic appeal and mild spearmint scent. Positioners can be fabricated from soft or medium crystal-Flex material. Resiliency of both materials offers superb memory qualities to precisely finish treatment. Transparency readily permits visual examination of proper positioner placement. Pastel Palates® motivation colors can be incorporated into crystal-Flex material.

Natural Rubber

Our special formula of black or white natural rubber provides excellent resiliency for rapid tooth movement and patient comfort.

Silicone

TPO specially formulated silicone offers excellent resiliency for rapid and effective tooth movement. The frosty appearance is aesthetically appealing to patients and permits visual examination of proper placement. Heat resistant and tear resistant silicone is tasteless, soft and smooth. Available in clear.

Tooth Positioning Appliances

Precision Seating Springs

Precision Seating Springs are retentive clasp arms of stainless steel that are molded into the tooth positioning appliance when it is fabricated. They ensure proper placement and retention of tooth positioning appliances. The term “precision” refers to the exact seating and precise application of forces that are possible with their use.

When a Tooth Positioner or Mini Positioner is placed with Seating Springs, it is held firmly in place and exerts desired tooth-moving forces even while the patient relaxes or sleeps. The ends of the Seating Springs have smooth ball-shaped ends to facilitate their slipping around the contact points and to increase retention.

When used, Seating Springs are usually placed in the upper arch mesial to the maxillary first molars. In selected cases, Seating Springs can also be placed in the lower arch. The location of these springs is determined by the orthodontist, and is varied according to the original malocclusion and/or the teeth that may have been extracted.



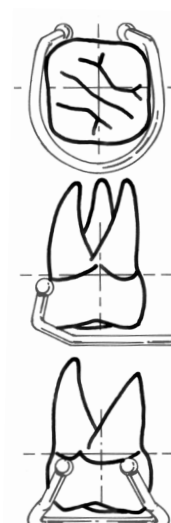
Locations for Seating Springs

If the patient is a first bicuspid or non-extraction case, Seating Springs are placed mesial to the upper first molars.

The use of springs mesial to first molars in both arches is recommended for maximum retention or when lower space closure is desired in first bicuspid extraction or non-extraction cases.

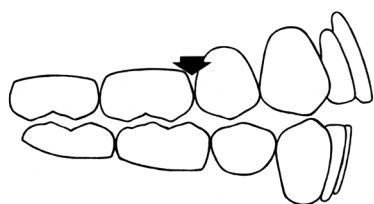
When the second bicuspids have been extracted, Seating Springs are placed distal to the upper and lower first molars to keep the extraction spaces closed.

First molar extraction cases would have Seating Springs distal to upper and lower second molars to maintain extraction space closure.

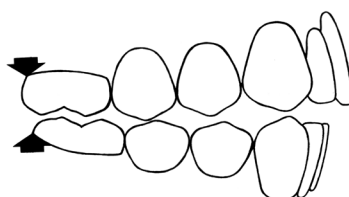


Precision Seating Springs have comfortable rounded ends to facilitate slipping around the contact points. They cannot harm the enamel, do not irritate the gingiva and do not cause separation of the teeth.

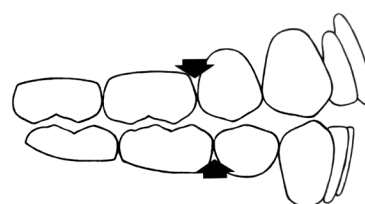
Suggested Locations for Precision Seating Springs



First bicuspid extraction or non-extraction cases.



When second bicuspids or first molar have been extracted.



When maximum retention or lower space closure is desired for first bicuspid extraction or non-extraction cases.

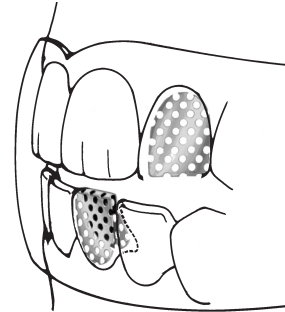
Tooth Positioning Appliances

Socket Liners

Socket Liners are stainless steel inserts that stiffen the socket walls of selected anterior teeth. They cannot fall out and do not alter the shapes or sizes of sockets.

Socket Liners are most effective to:

- Prevent rotations of upper and lower incisors
- Achieve anterior corrections more rapidly
- Influence arch form and improve tooth alignment
- Help prevent anterior relapse
- Restrict “bite-through”



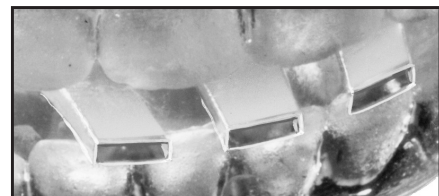
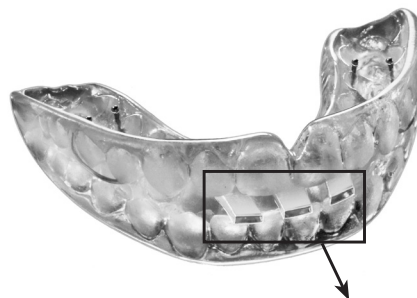
Socket Liners are indicated when the original malocclusion exhibited severe anterior crowding. Can be used on any or all of the central or lateral incisors.

Socket Liners become an integral part of the appliance. They are molded in place, cannot be accidentally displaced and do not alter the inside dimensions of the sockets.

Molded Airways

Positioning appliances with Molded Airways greatly improve patient acceptance and cooperation.

Three large, rectangular anterior airways increase breathing capacity. Patients with nasal blockages due to allergy, cold or injury can breathe more normally through Molded Airways. Smooth interior walls can easily be cleaned.



Tooth Positioning Appliances

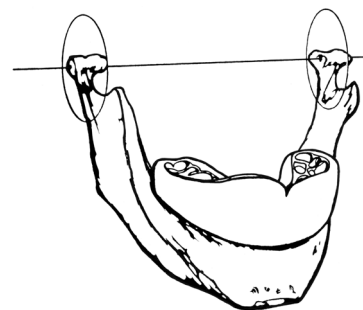
Custom Hinge-Axis

Eliminate problems caused by an incorrect hinge-axis opening by requesting that all your positioning appliances are fabricated on a Custom Hinge-Axis. This hinge-axis registration is determined from a recent lateral head x-ray.

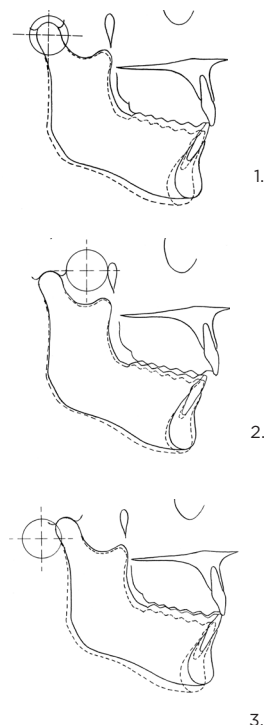
To help you appreciate the importance of constructing a Tooth Positioner or Mini Positioner on the proper hinge-axis, merely trace the mandibles of a few of your patients. Superimpose them all on the lower anterior teeth and occlusal planes and note the various relationships of the condyles.

The importance of using the patient's own hinge-axis is demonstrated by these examples:

1. When the patient wears a properly constructed tooth positioning appliance (made on his/her own hinge-axis) and desired tooth movements take place, the jaws will establish themselves in the proper anteroposterior relationship as shown by the dotted lines. When the appliance is removed and the patient closes about the same hinge-axis, an ideal occlusion (solid lines) will be created.
2. If the mandible is held in an improper relationship to the maxilla due to an incorrect hinge-axis (as indicated by the dotted lines), the jaws will assume this relationship as a result of wearing the appliance. Intra-arch tooth corrections will still take place as indicated on the set-up; however, when the patient closes about his/her own hinge-axis, a Class II tendency is evident (solid lines). This change, due to a faulty appliance, is often interpreted as relapse and/or a lack of proper wearing.
3. If the "Normal" Hinge-Axis relationship is used and it misses the patient's actual axis, as shown, the mandible will be held in the appliance (as represented by the dotted lines). Appliance wear will result in the patient's lower dental arch assuming this relationship to the upper. Removal of the appliance and closure into "centric" will reveal the creation of a Class III tendency.



Use the patient's custom hinge-axis for comfort and accurate tooth movement.



Prescribing a Custom Hinge-Axis Appliance

First, indicate on the prescription sheet that the Custom Hinge-Axis is to be used. Second, include either a recent lateral head x-ray, or preferably, a "Hinge-Axis Analysis Sheet" with the following points traced: the center of the condylar head (this represents the hinge-axis), the occlusal plane and the incisal edge of the lower central incisors.

To eliminate any chance of lost headplates, and to expedite construction of appliances, we recommend that you send tracings rather than x-rays.

If you prefer TPO to trace your lateral headplate, please be sure the condylar head area shows clearly. The appropriate tracing will be made and your unaltered headplate returned with the appliance.

HINGE-AXIS ANALYSIS

For Patient _____

Doctor _____

Date _____

INSTRUCTIONS:
First, place the center of "Hinge-Axis Circle" printed on the sheet directly over the patient's hinge-axis as shown. For the correct mandible position, trace the occlusal plane. Patient's hinge-axis is represented by a point in the center of the condylar head (see illustration below).

Example:

Then, keeping the center of the Hinge-Axis Circle over the patient's hinge-axis, rotate the sheet until the patient's occlusal plane is parallel with the guide line. Marking the line relationship from the incisal edge or complete outline of the most anterior lower incisor. Cut incisors off accurately transfer the registration to the articulator and set-up when constructing this patient's Positioner.

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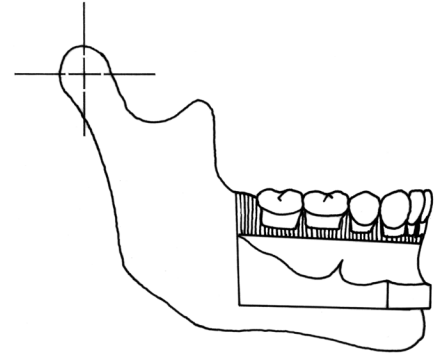
Hinge-Axis Analysis Sheet

Tooth Positioning Appliances

Normal Hinge-Axis

Fabrication of a Tooth Positioner must be done with the arches of the set-up oriented in rest position. Since the early 1940's, TP Orthodontics has opened each set-up to rest position in a special articulator flask, using an average (or "Normal") Hinge-Axis mounting. This results in the lower half of the set-up dropping downward and backward, with a greater freeway space in the anterior than in the posterior.

Tooth Positioners not made in this manner are unsatisfactory. If, for instance, the arches were opened in a parallel fashion, there would be too much freeway space material between the posterior teeth, and the anterior teeth would not properly seat in their sockets. Wearing such an appliance could result in depression of posterior teeth and even TMJ discomfort.



Normal, or "average," hinge-axis relationship is used whenever patient's lateral head x-ray, hinge-axis tracing or gnathological specifications are not included with prescription sheet.

Tooth Positioning Appliances

Exercise Wear

Exercise wear involves the patient tensing the masseter muscles and forcing his/her teeth into the sockets. This biting force is held as long as possible. When the patient relaxes, his or her mouth should remain closed, with the teeth seated in the positioner.

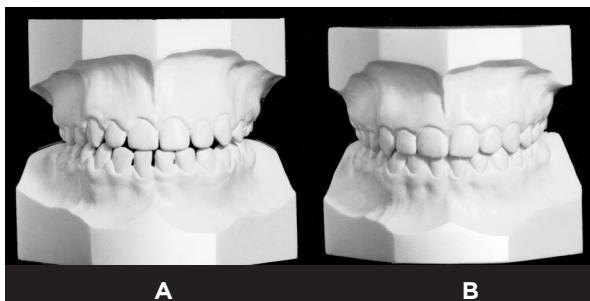
This is repeated over and over during the hours of daytime wearing. Initially the patient will experience discomfort, and will be able to exert pressure for only a short time. Gradually, the muscles will become developed and biting pressures can be increased and maintained for longer periods of time.

Patients and their appliances should be checked at the end of each time period. Most corrections are achieved in two weeks. After six months, most patients are placed on a nighttime wearing schedule.

Suggested Wearing Schedule

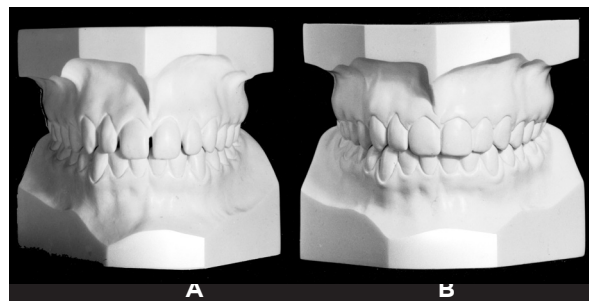
Time Period	Wearing Schedule
First 2 weeks	3 to 4 hours of exercise during the day, plus while sleeping
Next 4 weeks	2 to 3 hours of exercise during the day, plus while sleeping
Next 6 weeks	2 hours of exercise during the day, plus while sleeping
Next 2 to 3 months	1 hour of exercise during the day, plus while sleeping
After 6 months	Can be worn while sleeping to act as a retainer

Results Achieved



1. Midline Correction

- A. Appliances removed
- B. After 8 weeks of Positioner wear



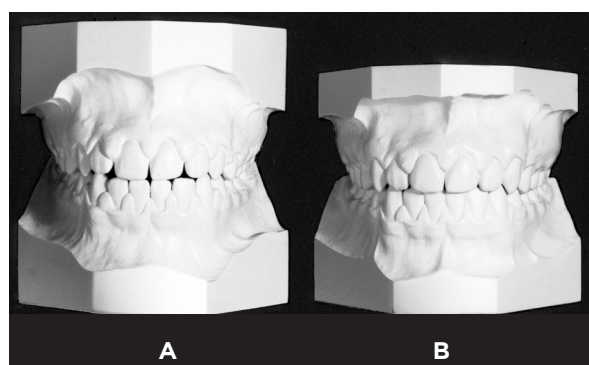
2. Space Closure

- A. Generalized spacing—no prior orthodontic treatment
- B. After 6 months of Positioner wear—2 hours each day and while sleeping



3. Molar Crossbite Correction

- A. Appliances removed
- B. Result of 3 months of Positioner wear—4 hours each day and while sleeping



4. Detailed Finishing

- A. Appliances removed
- B. Settling and gingival improvement after just 8 weeks with a Positioner

Perfector® Appliance

Multi-function Finishing Appliance

The custom Perfector is a means of perfecting final treatment results without fixed appliances. It combines the proven qualities of a tooth positioner, retainer and functional appliance into one finishing appliance. Perfectors are custom-made for each patient over an individualized set-up. When the Perfector is worn properly, teeth can be brought into ideal occlusion and arch form.



TPO Custom Perfector can:

- Settle teeth in desired cuspal relationships
- Align anterior teeth
- Close interproximal spaces – 2mm to 3mm (.079" to .118") total in each arch
- Correct anterior and posterior crossbites
- Improve and coordinate dental arch forms
- Maintain or correct anteroposterior interarch relationships
- Level the Curve of Spee to help open deep anterior overbites
- Help close anterior or lateral open bites by preventing tongue thrusts
- Achieve minor overjet correction

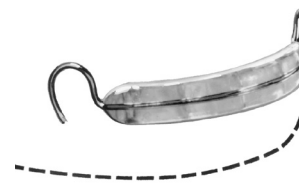


Before

After

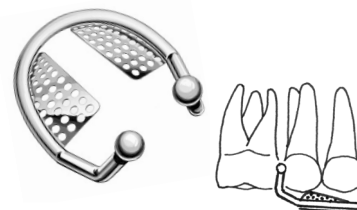
Labial Acrylic

Extending into the gingival embrasure areas and/or above the heights of contours and working in conjunction with posterior seating springs, the labial acrylic provides retention and control. The acrylic is molded around the labial bow and the teeth in their ideal relationships as determined by the set-up. It is powered by the labial wire and loops which also provide an easy means of activation.



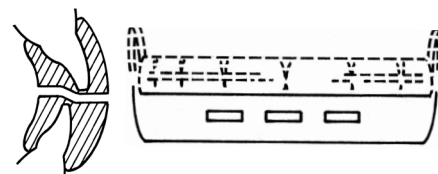
Seating Springs

Seating Springs are retentive clasps of stainless steel that are molded into the Perfector at fabrication. They aid initial seating of the Perfector and help with retention. They are most often positioned mesial to the first molars, and feature smooth, protective, ball-shaped ends to facilitate slipping around the contact points of posterior teeth without harming enamel. Seating Springs exert desired tooth moving forces even while the patient relaxes or sleeps. Bending the springs mesially or distally can increase or decrease space closing forces in the Perfector.



Molded Airways

If necessary, three rectangular anterior airways can be built into the Perfector to accommodate patients with nasal blockages. When airways are built into the appliance, the freeway space must be at least 2 to 3mm (.079" to .118").



Spring Aligners

Spring aligners correct and retain minor incisor irregularities such as simple crowding and rotations if relapse occurs after treatment. Originally developed for lower anterior relapse, the appliance has evolved to include upper designs as well. To create the appliance, labial and lingual acrylic is formed over .026" stainless steel wire that has been activated to align the anterior teeth. Available in Pastel Palates.

Procedure

Teeth are first repositioned on a partial set-up. The appliance is then constructed over the set-up. Mesial-distal stripping of the teeth is usually required before placing the Spring Aligner to facilitate movement and prevent further relapse. More severe anterior corrections may require two Spring Aligners in sequence. The first is made on a partially corrected set-up, the second on the set-up after the teeth have been reset into ideal relationships. Both appliances can be made initially or the set-up returned after the patient's teeth have been partially corrected.

Prescribing the Set-Up

Send a recent model along with our special prescription form indicating which teeth are to be reset. (Normally all anterior teeth except the canines are included in the wax set-up). If mesial-distal tooth reduction is not done before model is made, indicate the amount teeth are to be reduced. The set-up will be returned with the appliance to aid in presentation and patient education. If desired, the impression can be double-poured or a duplicate model can be made to provide a control model for future reference.



Standard Spring Aligner

The smallest Spring Aligner design for patient acceptance and comfort. Used for limited correction, it is the least retentive Spring Aligner. Available for upper and lower arches.



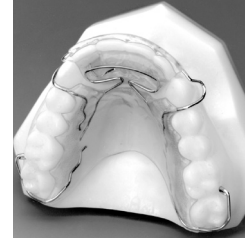
Spring Aligner with Wire Extensions

Lingual wires extend distal to second bicusps or first molars for added retention. Works well for minor anterior crowding correction. Available for upper and lower arches.



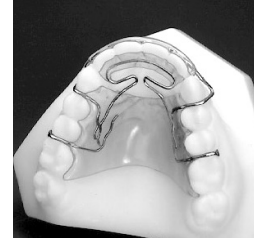
Spring Aligner with Acrylic Extensions

Acrylic extends distal to second bicusps for total adaptation to lingual surfaces. Extensions may vary to accommodate need. Provides only limited crowding correction. Available for upper or lower arches, with or without Ball Clasps.



Upper Spring Aligner — Plus 1 Original

Advanced design for additional anterior control and improved retention. Lingual anterior spring adds subtle forces. "L" clasps extend into molar interproximal areas.



Upper Spring Aligner — Plus 2 Mini

The difference between Spring Aligner Plus 1 and 2 is the retention clasp. Anchor clasps are standard on Spring Aligner Plus 2 appliances. Other clasps may be requested.



Spring Aligner/Hawley

Labial acrylic with lingual acrylic helps maintain rotation corrections.

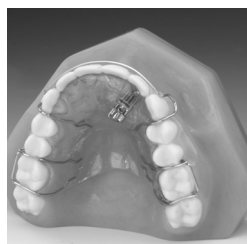
Hawley Retainers

Basic Hawley retainer designs most often include a labial bow, an acrylic plate and a set of clasps on the upper first molars for retention (lingual acrylic on the lower arch is generally accompanied by occlusal rests or some type of clasp). The number of accessories that can be added to a Hawley are endless.



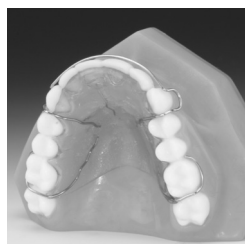
Hawley with Soldered "C" Clasps

"C" Clasps provide positive retention.



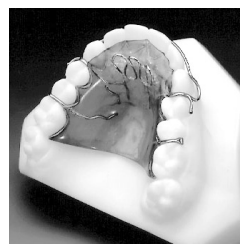
Hawley with Adams Clasp and Expansion Screw

Activate screw to move tooth labially.



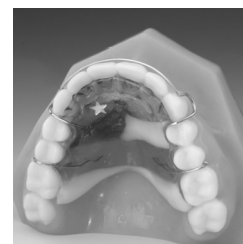
Hawley with "C" Clasp and Finger Spring

Clasp used on well erupted molars when heavy occlusal interference is a concern. For minor correction.



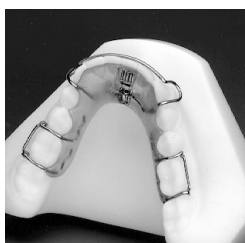
Hawley with Tongue Thrust Guard, Anchor Clasps and Soldered "C" Clasps

Discourages tongue thrust habit.



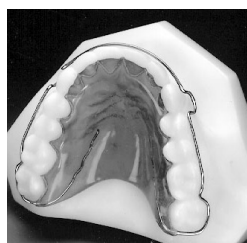
Hawley with Ball Clasps

Most basic of Hawley retainers. Ball clasps require adjustments to maintain retention.



Hawley with Anterior Expansion Screw, Lingual Acrylic and Adams Clasps

Screw expands lower arch.



Hawley Wrap Around

Labial wire extends around distal of last molar for maximum space closing. No occlusal interference with this design, however fully erupted second molars are important.

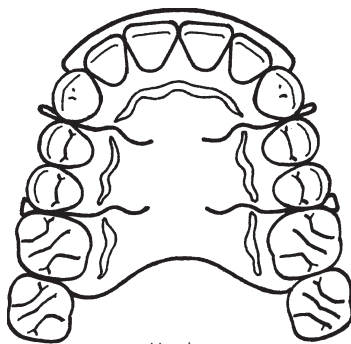
Removable Appliances

Removable appliances are typically used to retain final tooth position after fixed orthodontic appliances have been removed. A retaining appliance should securely retain each tooth in its new position to prevent relapse. Removable appliances also permit the use of a wide variety of labial bow designs, clasps, acrylic designs and other components too numerous to mention.

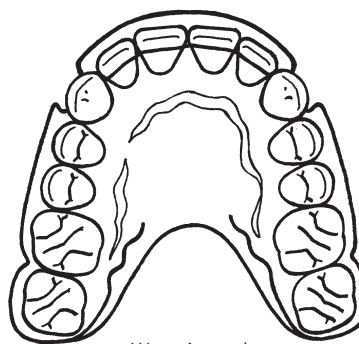
If you have a special treatment goal to accomplish, feel free to discuss your thoughts with one of our experienced technicians. They will assist you with a retainer design to achieve your objectives.

Labial Bows

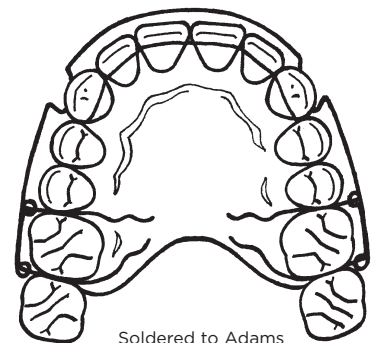
Labial bows are a customary design element of the removable retainer. Upper and lower retainers usually have a labial bow constructed from .028" or .030" wire. Labial bows are most often used for retention, although they can also provide minor tooth alignment or improve anterior protrusion. A few designs are shown below.



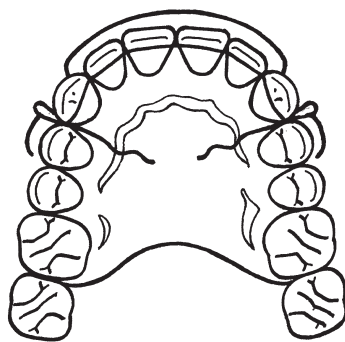
Hawley



Wrap Around



Soldered to Adams

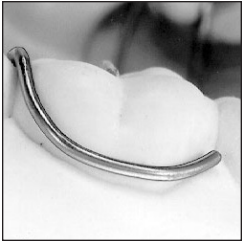


With Soldered "C" Clasps

Clasps

Adequate retention is of great importance to the effectiveness of a removable appliance. When selecting clasps, it is important to consider occlusal interference, the degree of tooth eruption and the shape and inclination of the teeth.

Clasps and Accessories



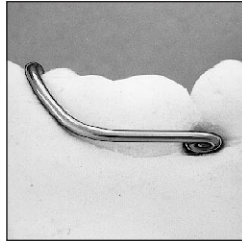
"C" Clasp

Often used on well-erupted molars and bicusps when heavy occlusal interference is a concern. Requires adjustments to maintain proper retention.



Ball Clasp

Normally placed between posterior teeth for excellent retention. Requires adjustments to maintain proper retention.



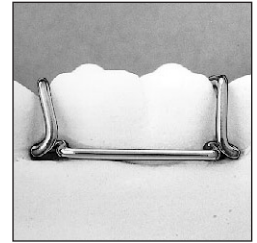
"L" Clasp

Often used in tight occlusal contact cases. Usually contours around distal of last molar and locks in the interproximal. Eye design at contact points provides good stability.



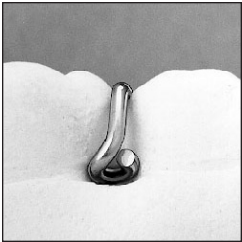
Adams Clasp

Excellent clasp for most appliances when tooth is erupted enough to expose the buccal undercuts. Cross-over wires must fit tightly in interproximals to prevent occlusal contact. Not recommended for tight occlusal contact cases.



Modified Adams Clasp

Feet are designed to fit snugly at buccal interproximal contacts for added retention.



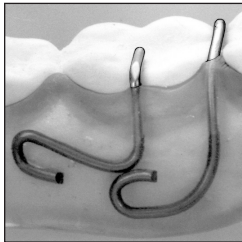
Eye Clasp

A stable interproximal clasp with a broader eye than the Anchor Clasp to provide greater contact on crowns. Slightly adjustable.



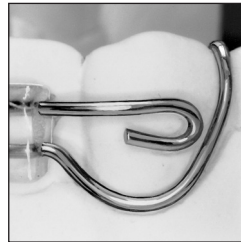
Anchor Clasp

A stable, snug fitting, adjustable clasp placed at the interproximals of first and second bicusps or bicusps and molars.



Occlusal Rest

Provides posterior stability and keeps the appliance from overseating or impinging on gingival tissue.



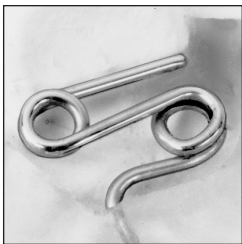
Cuspid Stop

Maintains space and prevents crowding by prohibiting cuspids from moving mesially.



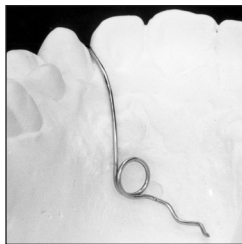
Elastic Hook

Small hooks soldered to mesial of Hawley loop provide attachment for elastic to be stretched across labial surfaces of anteriors for space closure or lingual movement.



Finger Spring

Can move a tooth labially or buccally. With proper positioning and adjustment, can correct minor rotations of central or lateral incisors.



Coil Spring

Design varies to accommodate uprighting teeth, opening or closing space or distalizing individual teeth.

Fixed Space Maintainers / Regainers



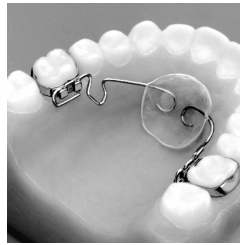
Fixed 6-to-6 Lingual Arch

Maintains and rounds out anterior arch form. May also be contoured to lingual surfaces. Also available with loops.



Fixed Transpalatal Arch

Excellent appliance to maintain acquired expansion. Stable yet comfortable. Does not interfere with normal speech. May also be designed with an omega loop instead of a solid transpalatal bar.



Nance Appliance

Prevents mesial molar drift while the large acrylic button in the palate provides additional stability. Facilitates rotation or expansion of molars. May be designed as a fixed or removable appliance with or without loops.



Band and Loop Space Maintainer

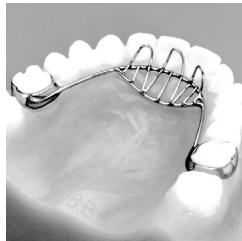
Often used in mixed dentition cases to maintain space to allow for eruption of a permanent tooth. May be designed for unilateral or bilateral treatment.

Habit Appliances



Bluegrass Appliance

Corrects thumb sucking when patient is directed to turn roller with tongue rather than sucking thumb. Should be worn for about six months to ensure the habit has been broken. This appliance is particularly useful for mixed dentition cases. Roller available in ceramic or teflon. Appliance may be direct bonded. Designed by Dr. Bruce Haskell and Dr. John Mink.



Thumb Crib

The wire cage serves as a reminder to discourage thumb sucking. Also may be used as a tongue thrust appliance by extending the wires incisally to prevent habit.



Tongue Rake

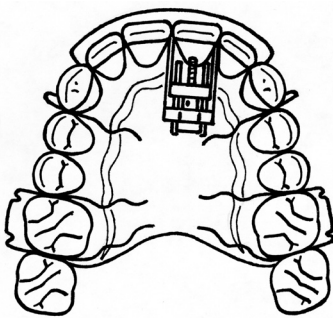
More aggressively designed habit appliance, sometimes termed a "Severe" Tongue Rake. Used to discourage tongue thrust by making it as uncomfortable as possible. The number and size of tongue rake wires may vary as requested. Not to be used for mentally challenged patients. Available with grill and ball tips.

Expansion/Arch Development Appliances

Arch development appliances are used to gain both arch length and width. Properly designed expansion appliances can move teeth on either side of the arch unilaterally or bilaterally. They may be used to develop immature premaxillas or relieve posterior and anterior crowding. Most lateral expansion appliances are used to treat crossbites, crowding or excessive overjet in patients with Class I or mild Class II skeletal patterns.

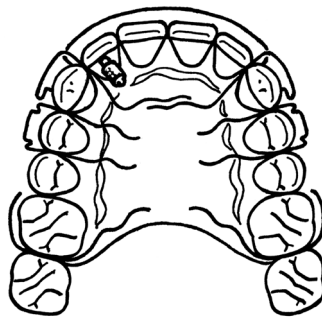
Expansion Screws

The following expansion screws are used for various types of tooth movement and arch development.



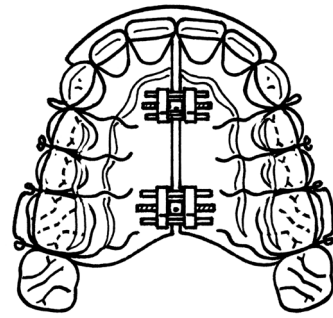
Single Tooth

For movement of one tooth.



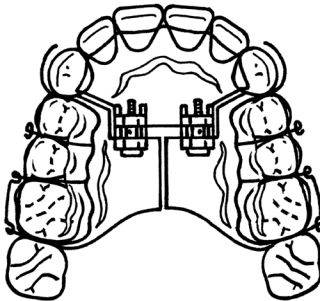
Micro Screw

Has a spring-loaded tip to move one tooth.



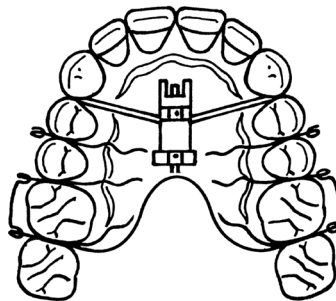
Transverse

Expands anteriors and posteriors laterally.



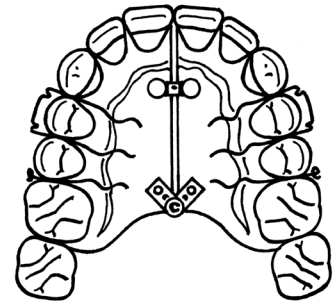
Sagittal

Produces anterior/posterior movement. Can add midline screw to expand arch width. Screws may be placed in various positions and acrylic cuts may vary according to application.



3-Way

Expands anteriors labially and posteriors transversely.



Fan Type

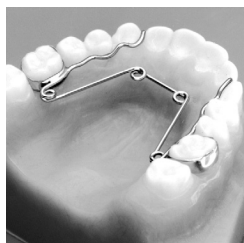
Used when only anteriors need to be expanded. Can be reversed to only expand posterior segments.

Expansion/Arch Development Appliances



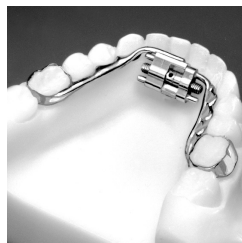
W Arch

Used to correct unilateral or bilateral crossbites, expand posterior segments and align crowded teeth. Can also be designed with coils or as a Porter (removable) appliance.



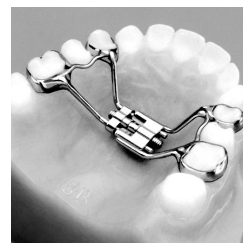
Upper Fixed Quad Helix

Expands unilateral or bilateral crossbites and aligns crowded teeth. Must be activated intraorally with a three-prong plier.



Hyrax Appliance

Design may vary to include contoured lingual acrylic or solid lingual wire. In certain applications, contoured lingual acrylic is desired to apply force at the root base as opposed to the lingual crown areas.



Hygienic Rapid Palatal Expander

Precision screw provides maximum expansion for sutural separation. Palatal support wires are soldered to bands. May also be designed with bands on molars and a soldered lingual loop to the mesial in the event the first bicuspid are not fully erupted.



Bonded Rapid Palatal Expander

May serve as a dual purpose appliance by holding the bite open while accomplishing expansion of the maxillary arch. Sometimes used as a removable expansion appliance when applicable. Often used on mixed dentition cases when bicuspid are not present.



Haas Rapid Palatal Expander

Popular appliance for placing force on the root base as well as the teeth to aid in splitting the suture.



Three-Way Sagittal

Very functional appliance which enables the clinician to split the suture and advance the maxillary anteriors with one combined appliance. The acrylic aids in placing a force at the root base and not solely on the lingual of the crowns.



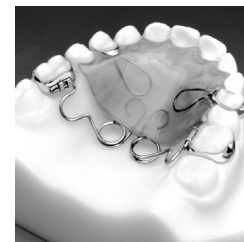
Two-Way Sagittal

Gain needed arch length by activating the expansion screws placed on both sides of the arch. May be used for molar distalization by moving the screws distally. Solid clasping is important with this appliance.



Three-Way Sagittal

Popular appliance for placing force on the root base as well as the teeth to aid in splitting the suture.



Pendulum Appliance

Employs the use of a large Nance button for anchorage and .032\"/>



"E" Appliance

Also referred to as a continual force control (CFC) appliance. A compressed open coil spring forms the basis of this appliance, with tubing and ET wire soldered to the lingual of opposing molar bands. Design may vary by clinician request. Developed by Dr. James McAndrew.



Three-Way Expander

Gives both sagittal and transverse expansion. Posterior segments operate individually to give independent segment expansion.



Two-Screw Schwarz

Popular for expanding the cuspid area to relieve anterior crowding. Claspings as illustrated is recommended for stability. Available for upper and lower arches.



Jackson Appliance

Develops the arch transversely. Contains a heavy body wire to provide a steady spring action against the lingual of the posteriors. Auxiliary wires are placed to provide cuspid expansion and labialize the anteriors. Also available for the upper arch.

Splints



Gelb Splint

Lower splint used to reposition the mandible for TMJ disorders. Splint provides occlusal coverage of the lower teeth. An imprint of the upper posterior teeth is established with the aid of a protrusive wax bite. Ball clasps are generally placed distal to the bicuspsids.



Clear Splint with Flat Occlusal Plane

May be used as a bruxism splint or TMJ splint, depending upon design. May include ball clasps or imprint of the opposing arch if desired. Also available for the upper arch.



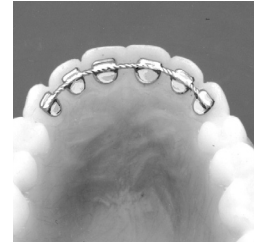
Soft or Hard Splint

Can be used as a TMJ splint, night guard, bruxism splint or for sleep apnea when the lower arch is included and mounted in a protrusive position.



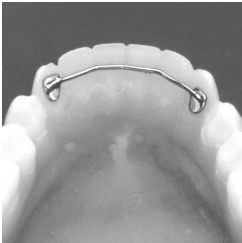
Night Guard

May be used for bruxism or as a TMJ splint, with or without AP lock (a minor imprint of the opposing arch in the acrylic). Available in various materials and designs.



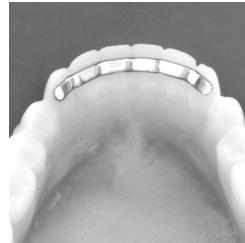
Braided Wire Splint

Provides continuous forces for an extended period of time. Aesthetic and low profile. Promotes good oral hygiene.



Bonded 3-to-3 Lingual Arch

Aids in maintaining anterior arch form. Aesthetic and hygienic. May be indirect bonded. Available for upper and lower arches.



Bond-A-Bar

Used to stabilize anteriors when mobility is present due to loss of alveolar bone or in the case of injury suffered in an accident. Smooth, low profile for patient comfort.



Invisible Retainer

An aesthetic means of retention. Used as a retainer; sometimes applied to make minor anterior correction when teeth are reset on the set-up prior to appliance construction.

Functional Appliances

There are a number of patients whose malocclusions entail more than the position of teeth alone. Often, there are orthopedic discrepancies and muscular dysfunctions as well. Functional appliances are most often used in the treatment of growing individuals to affect the development of muscle, bone and dentition simultaneously. They promote the interruption of abnormal internal or external influences and facilitate the normal expression of harmonious functional patterns. Inhibiting factors are removed and structural harmony can be achieved.

Functional appliances do not act on teeth like conventional appliances through the use of springs, wires and elastics; rather, they transmit, eliminate or guide natural forces such as tooth eruption, growth and muscle activity from the tongue, lips and cheek.

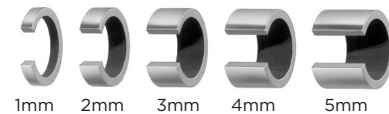
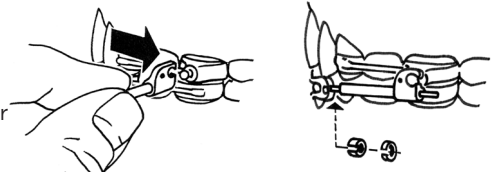
Flip-Lock® HERBST® Appliance

At TP Orthodontics, we eliminated pins, screws and springs to create the Flip-Lock HERBST.

Simple in design, our Flip-Lock HERBST provides easy activation, extensive range of motion and free lateral mandibular movement for increased patient comfort. Its unique design ensures normal chewing, swallowing, speech and breathing — which, in turn, lead to better treatment compliance.

Easy to fit, the Flip-Lock HERBST activates in seconds because of its locking mechanism. Mandibular growth is facilitated by the use of crimpable spacers. Regular office visits are shorter because you no longer need to remove tubes and pistons with each modification.

- No screws or pins
- Easy activation in seconds
- Wide range of lateral mandibular movement
- Quick appliance adjustments
- Significantly reduced breakage
- Single patient and inventory kits available
- Average treatment time is twelve months

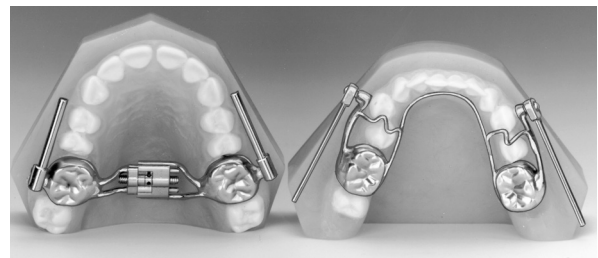


Type I HERBST

Crown first molars, mandibular cantilever.

Indications for use:

1. Retrognathic mandible in the mixed dentition.
2. Young, non-cooperative patient.
3. High angle, Class II, open bite malocclusion.



Type II HERBST

Crown maxillary first molars and mandibular first bicuspid. Band mandibular first molars.

Indications for use:

1. Complete permanent dentition.
2. Improved patient comfort with less cheek irritation.
3. Low angle, Class II, deep bite malocclusion.



Varsity Guard®

A Custom-Made Mouthpiece— the Best Protection Possible for Athletes

Concerned coaches and dental clinicians recommend custom-made mouthguards for protection and comfort. Varsity Guards can dramatically reduce injuries to the mouth and mandible and prevent traumatic shock to the head and neck.

To obtain a Varsity Guard, take upper and lower impressions. Pour the impressions in dental stone and mark the models to identify correct centric occlusion. Or, if you prefer, send us impressions and a wax bite. We'll pour the models for a small additional charge.



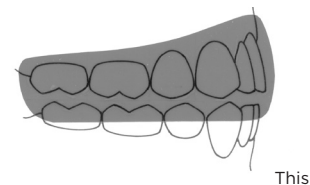
Unmatched Protection and Comfort

Because the Varsity Guard is custom-made, all cusps are in full contact with the guard. The impact of any blow is evenly distributed over all teeth in both arches. The flange height on the upper arch, along with individual tooth sockets, offer full protection for maxillary teeth. The mandible cannot be forced laterally when biting into the cusp indents of the lower arch.

Jaws are oriented in proper rest position for maximum comfort.

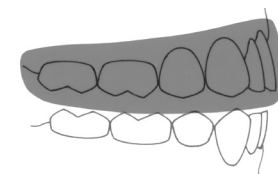
Optimum Retention

The upper flange height extends gingivally 2-2.5mm (.079" - .098") for positive retention. Precision Seating Springs (see page 139) are also available in Varsity Guards, at additional cost, for added retention.



Durability

The Varsity Guard is made of the same quality material used in making TP Orthodontic Positioners. It resists bite-through and normal deterioration.



Convenience

A convenient, sturdy safety strap for fastening to a football face guard is attached to the Varsity Guard. Athletes who do not need this safety feature can simply cut the strap. Each athlete is also furnished with a personal carrying case for their appliance.

Model Sculpture Service

TP Orthodontics is completely equipped to do the finest study model work available. We offer several study model services to meet your requirements.

- American Board of Orthodontics (ABO)
- Presentation or demonstration
- Study group
- Table clinic
- Parent / patient consultation



Prescription submission can be done by sending impressions, plaster models or STL files. Unless otherwise indicated, we will employ Tweed Foundation specifications in trimming your models. You may request special trimming instructions or additional services. Send impressions or models and wax bite packaged according to the instructions on page 157.

Digital Models

With your digital model STL files, we can print precision study or work models. You have flexibility over fabrication options. We can print a full set of work or study models, with or without a base. The model base style and height can also be specified.

American Board of Orthodontics (ABO) Study Models

We specialize in highly detailed ABO quality study models. We keep up-to-date with ABO criteria and standards for study model fabrication for the clinical exam. Your models will be trimmed to exact bite relationships, then hand sculpted. This sculpting will carefully blend the anatomical tissue to the model base. We will remove any unwanted blemishes caused by voids or air pockets in the impression while taking care not to damage any soft tissue detail.

Service A

Finished Model from Impressions

The model is trimmed to exacting standards, sculptured, filed, finished, soaped and polished. The patient's name is imprinted on the back.

Service B

Duplication of poured anatomy to create new model with bases

If a bite is not available, please mark pencil lines on the midline and molars to assure proper articulation. Bases are not required and may be omitted to reduce weight and save postage costs.

TPO will duplicate the arches, add bases, finish, file, soap, polish and imprint the patient's name on the back. The original arches and the new model will be returned.

Model Sculpture Service

Finished Model from Impressions

Service G

Similar to Service A except bases are not trimmed to exacting ABO or Tweed Foundation standards. Minimal sculpturing. Economical while still providing a quality finished and soaped model. Patient's name may be imprinted on back of model if requested.

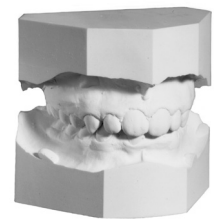


Unfinished Model from Impressions

Service F

This economical model service permits fast return of models when time is an important factor. This is also an inexpensive way to create progress models.

Send TPO an alginate impression and wax bite to receive an unfinished model with fine trimmed bases. Patient's name may be imprinted on back of model if requested.



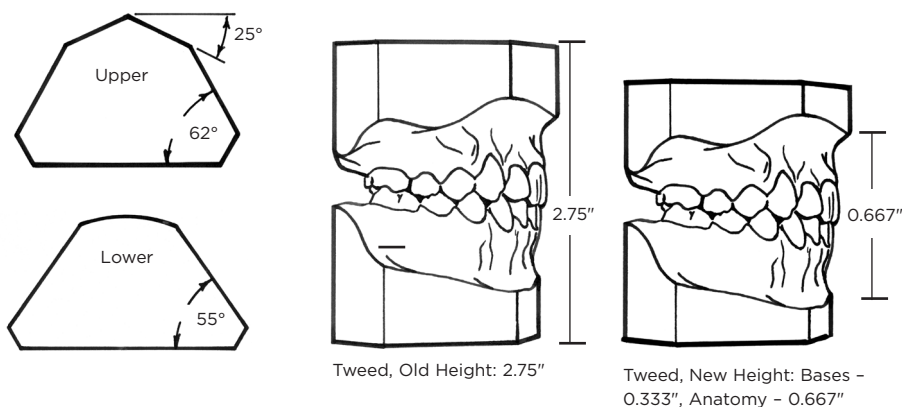
Tweed Foundation Standards

Unless otherwise indicated, TPO will employ the following Tweed specifications in trimming your models: Model height - 69.85mm (2.75"); upper model angles, 62° and 25°; lower model angle, 55°.

Models trimmed to the alternate Tweed specifications are also available. These specifications provide a model with the bases approximately one-third the height of the anatomical portion of the model. The angles employed remain the same as indicated above.

Please specify which Tweed standard and any other pertinent details you require. Thorough instructions ensure that your models will be processed quickly without delays.

To identify the correct occlusion, please include a wax bite with impressions or mark the buccal surfaces of the models with a pencil.



Preparing Impressions and Models

Whether you send models or impressions, check them for distortions or missing structures. If we feel a model or impression is distorted, we will call you to ask for new materials to be forwarded.

When it is necessary for brackets to be carved off the models before making the appliance, remove archwires before taking the impression to ensure precise tooth size. When carving is necessary, send plaster models rather than stone. For your convenience, TPO furnishes on request and with every shipment:

- Prescription sheets
- Heavy corrugated shipping box
- Polyurethane packing squares
- Mailing envelope for box
- Mailing label

Impressions

1. Use an impression tray that is deep enough for good anatomical detail, such as TPO's Extend-O® Trays.
2. Mix alginate impression material according to manufacturer's exact specifications.
3. Include a wax bite.

Models

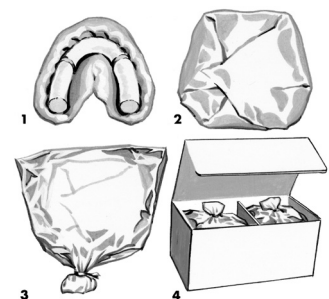
1. Use stone or white plaster, follow the recommended mixing ratios and mix with a mechanical spatulator.
2. Vibrate the plaster into both the impressions and base formers to eliminate air bubbles.
3. Pour bases and anatomical portions from the same mix of plaster to eliminate cracks and two-tone effects.

Packaging Instructions

Impressions

1. Place moistened cotton rolls inside each impression without forcing.
2. Wrap each impression in several moistened paper towels.
3. Place wrapped impressions in separate plastic bags to retain moisture, ensuring the stability of impressions in transit.
4. Place each half in special divided shipping carton with completed prescription form and ship to TPO.

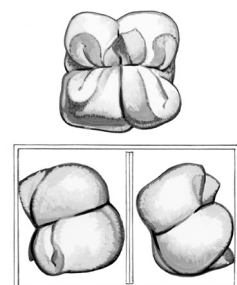
Caution: During winter months, use a small amount of alcohol mixed with water to dampen the packaging material to inhibit freezing and mail from a post office rather than a drop box.



Models

1. Wrap each half of the model in the special polyurethane square TPO provides and secure with a rubber band.
2. Place each half in the special divided shipping carton with prescription form and ship to TPO.

Caution: Place only one set of models in each shipping carton. Be sure that divider separates each half.



Appliance Design

Pastel Palates® Custom-Colored Appliances

Pastel Palates custom appliances let your patients express themselves with their favorite colors or by adding glittering decorations to their acrylic appliances.

Patient cooperation is crucial to treatment success. Self-expressive Pastel Palates custom appliances from TPO make it easy to motivate your patients to wear their acrylic appliances.

Offer your patients exciting new color choices and let them express themselves. It's a great way to boost motivation.

Pastel Palates appliance colors are available for all acrylic designs.

See TPO's online Pastel Palates color selector guide at tportho.com/PastelPalates.

