



Custom Laboratory Services

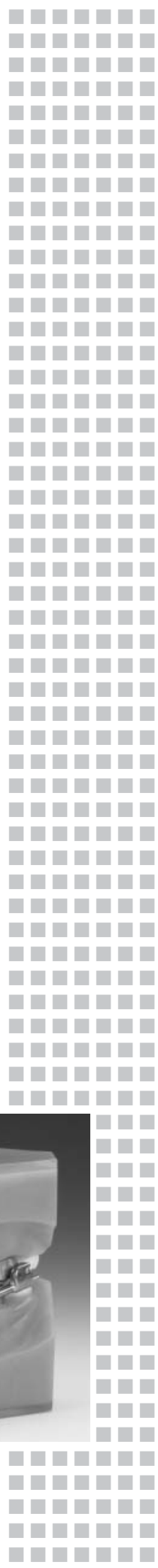


TP Orthodontics, Inc.
www.tportho.com

Custom Laboratory Services



Introduction	2
Appliance Design	3
• Pastel Palates®	3
• Custom Decals	3
• Clasps and Accessories	4
Spring Aligners	6
SAL® Retainer System	7
Hawley Retainers	8
Memory Retainers	9
Removable Appliances	10
Space Maintainers/Regainers	11
Expansion/Arch Development	12
Habit Appliances	15
Splints	16
Functional Appliances	18
Flip-Lock® HERBST®	21
Perfector® Appliance	22
Positioner/Position-ette®	24
Lip Bumpers	33
Varsity Guard®	34
Indirect Bonding Service	35
Model Sculpture	36
Packaging and Shipping	38





Laboratory Services Order Information

Headquarters

Provides lab services to the eastern half of the United States and Canada

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



Western United States

Provides lab services to the western half of the United States and Canada

U.S. Mail Address

TP Orthodontics, Inc.
P.O. Box 742
Lodi, California 95241-0742 USA

UPS Shipping Address

TP Orthodontics, Inc.
130 N. Houston Lane
Lodi, California 95240-2405 USA

Phone: 209-368-7545
Toll Free: 800-343-5997
Fax: 209-368-1233
Email: tplodi@tportho.com

England

Sheffield Ortho. Lab., Ltd.
550 Oxford St.
Sheffield S6 3FG, England

Phone: 44 114 266 2654
Fax: 44 114 281 2299

Korea

TP Orthodontics, Lab
132-14 Sam Jen Dong
Song Pa-Gu
Seoul, Korea

Phone: 82 2 41 77432
Fax: 82 2 20 21234

Laboratory services in England and Korea should be directed to addresses shown. These locations offer set-ups, tooth positioners, Perfector® appliances, gingival conditioners and varsity guards.

Precision. Convenience. Confidence.

Expert workmanship and quality have characterized our orthodontic laboratory services since 1943. Every appliance order receives the careful and intelligent attention of a skilled technician and only the finest materials 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.

Prescription forms make it easy to describe the type of appliance you require. If you already know exactly what appliance you need, simply send us a detailed prescription form specifying the appliance design in writing, using the diagrams to illustrate.

If you are not sure what type of appliance you need, feel free to have our laboratory assist you. Simply indicate your treatment objectives or give us an appliance name from this catalog and we will use our years of experience to determine the best appliance design to achieve your objectives.

Whichever approach you choose, you can be certain that we will call for clarification if any questions should arise. We work very hard to assure communications are as clear as possible so that each appliance receives the expert workmanship it deserves.



How to Order Laboratory Services

Requests for laboratory services in the United States and Canada should be sent to the nearest laboratory serving your area. TPO headquarters in La Porte serves the eastern half of the United States and Canada. Our Lodi laboratory serves the western half of the United States and Canada.

Call the laboratory serving your area to request information and obtain prescription forms or mailing supplies. It is extremely important to give complete details on the prescription forms.

Filling Out Your Prescription Forms

To obtain prescription forms, call TPO at 800-348-8856 or go to www.tportho.com and click on Lab Services.

Prescription forms are available for these appliances: Flip-Lock HERBST, Custom Perfector, Set-Up and Positioner, Model Sculpture and Appliance. The Appliance Prescription Form includes Hawleys, Spring Aligners, Active Appliances, Functionals, Fixed Appliances, Indirect Splints/Retainers and Indirect Brackets.

It is very important that you fill out your prescription form as completely as possible. This benefits both you and the laboratory technician. Please print or type your account number, doctor or group practice name, address, telephone number and patient's full name.

If you have special instructions that are to be used routinely in all of your appliances, we can note these in our computer. 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.



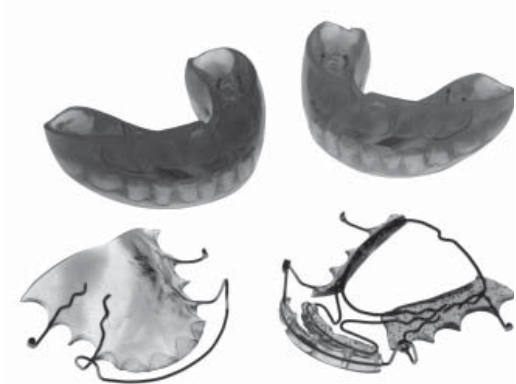
Pastel Palates® Custom-Colored Appliances

The Motivation Problem Solver

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. Call TPO to request the Pastel Palates color selector guide.

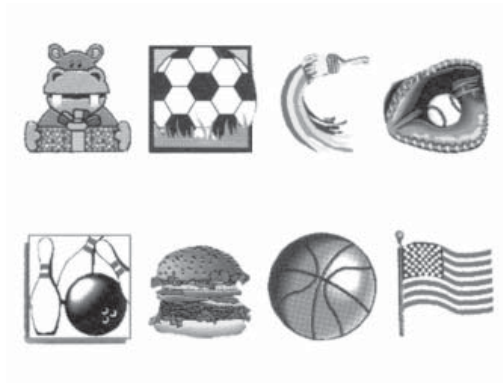
Custom Appliance Decals

In addition to Pastel Palates appliance colors, your patients may want to choose custom appliance decals to express themselves.

There are over a hundred themes to choose from, including sports, hobbies, holidays, animals and various others.

Self-expressive custom appliance decals from TPO make it easy to motivate your patients to wear their acrylic appliances.

Custom appliance decals are recommended for appliances with larger areas of acrylic such as full palatal coverage. Decals do not show well in small appliances and patients may be disappointed.



Call TPO to request a decal selector guide.

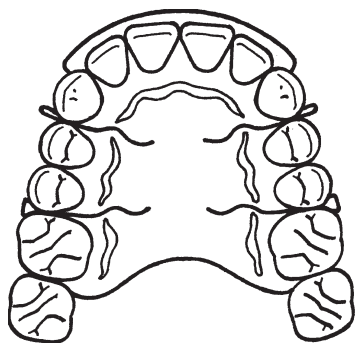
Removable Appliances

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.

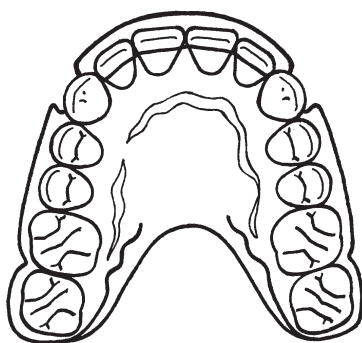
If you have a special treatment goal to accomplish, feel free to discuss your thoughts with one of our experienced technicians. They will assist you with a retainer design to achieve your objectives.

Labial Bows

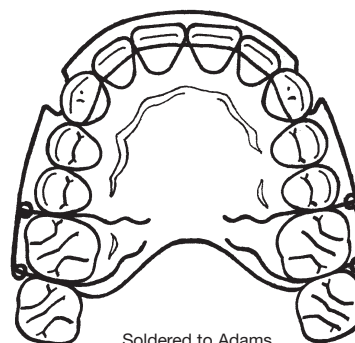
Labial bows are a customary design element of the removable retainer. Upper and lower retainers usually have a labial bow constructed from .028" or .030" wire. Labial bows are most often used for retention, although they can also provide minor tooth alignment or improve anterior protrusion. A few designs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



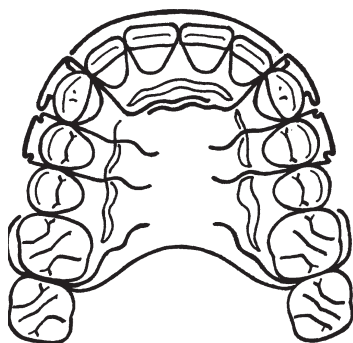
Hawley



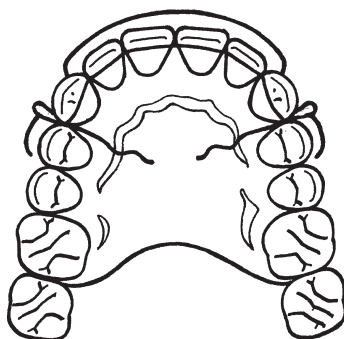
Wrap Around



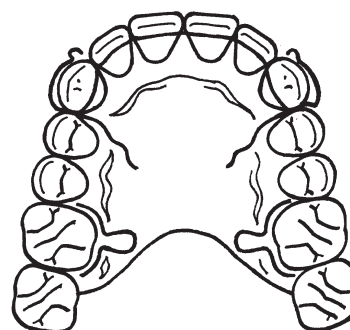
Soldered to Adams



Ricketts[®]



With Soldered "C" Clasps



Elastic Hooks

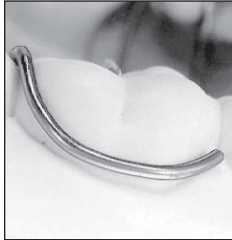
Clasps

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.

§ Ricketts is a registered trademark of RMO. TP Orthodontics, Inc. does not imply authorization nor endorsement by RMO.

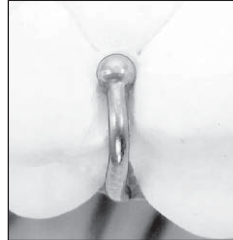


Clasps and Accessories



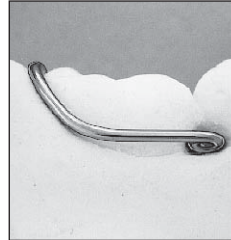
“C” Clasp

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



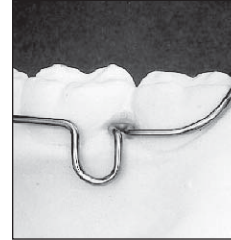
Ball Clasp

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.



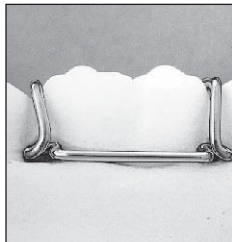
Modified “L” Clasp

Provides greater retention when molars are not fully erupted. Generally placed between bicuspid and molars. Eliminates need for cross-over wire.



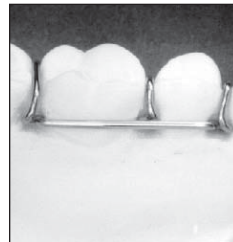
Adams Clasp

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.



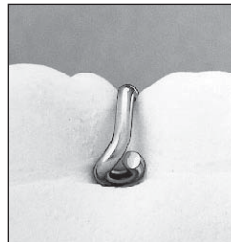
Modified Adams Clasp

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



Long Modified Adams Clasp

Encompasses two teeth (such as a second bicuspid and first molar) for additional retention.



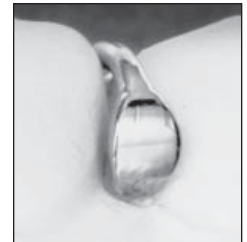
Eye Clasp

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



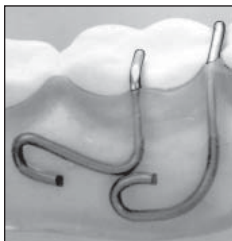
Lingual Clasp

An adjustable clasp formed snugly to lingual of bicuspid or molar crown at the gingival contour. Provides excellent retention even on primary teeth or on short clinical crowns.



Anchor Clasp

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



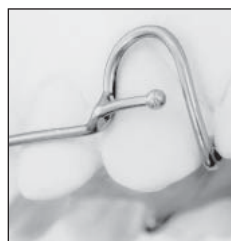
Occlusal Rest

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.



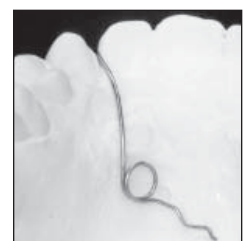
Elastic Hook

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.

Spring Aligners

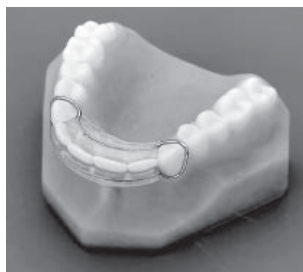
Spring aligners correct and retain minor incisor irregularities such as simple crowding and rotations if relapse occurs after treatment. Originally developed for lower anterior relapse, the appliance has evolved to include upper designs as well. To create the appliance, labial and lingual acrylic is 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.



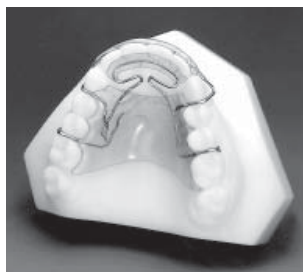
Spring Aligner with Wire Extensions
Lingual wires extend distal to second bicusps or first molars for added retention. Works well for minor anterior crowding correction. Available for upper and lower arches.



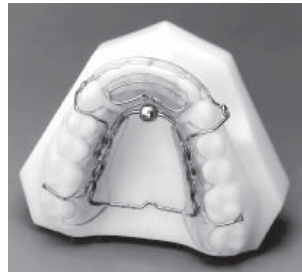
Spring Aligner with Acrylic Extensions
Acrylic extends distal to second bicusps for total adaptation to lingual surfaces. Extensions may vary to accommodate need. Provides only limited crowding correction. Available for upper or lower arches, with or without Ball Clasps.



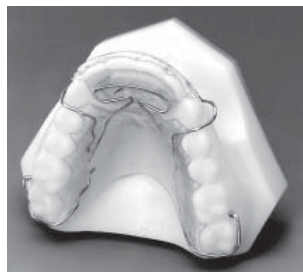
Upper Spring Aligner – Plus 1
Advanced design for additional anterior control and improved retention. Lingual anterior spring adds subtle forces. "L" clasps extend into molar interproximal areas.



Upper Spring Aligner – Plus 2
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.



Upper Spring Aligner – Plus 3
Helix in "V" loop for greater flexibility. Open palate helps discourage tongue thrust. May also be designed with a habit roller ball as shown for correction of severe tongue thrusts.



Lower Spring Aligner – Plus 3
Helix in "V" loop for greater flexibility. Optional reverse "V" loop in labial wire is very effective for closing anterior space. Occlusal rests may be included if desired.



SAL[®] Retainer System

Self-Activating Loop

Never reactivate retainers or Spring Aligners again.

- Continuous activation
- Minimize relapse
- Improve long-term stability
- Capable of re-aligning anteriors
- Decrease chairtime: no adjustments needed; fewer retention checks; earlier dismissal

The SAL Retainer System is a patented combination of shape memory nickel titanium wire and easily adaptable stainless steel wire. Nickel titanium loops provide shape memory and maintain long term activation of the labial bows, while long, straight segments are made of easy-to-bend stainless steel.

Ordinary Hawley retainers and Spring Aligners have labial bows formed from stainless steel wire that require periodic tightening. If not reactivated on a regular basis, the decrease in force frequently results in anterior relapse.

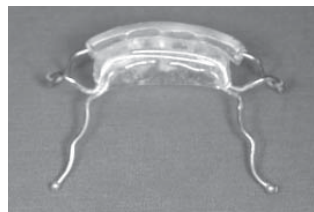
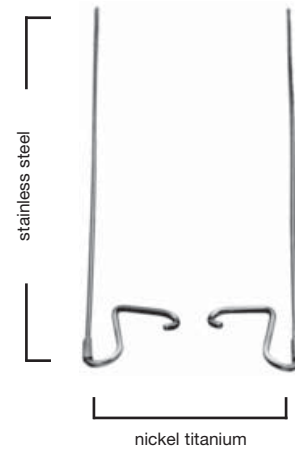
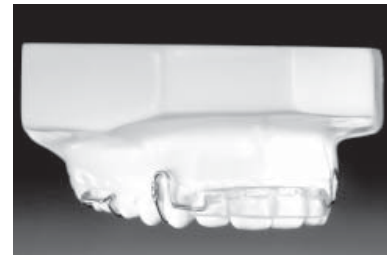
The SAL Retainer System, on the other hand, guarantees indefinite activation, resulting in less relapse and longer intervals between retainer checks. The SAL Retainer System makes it possible to dismiss patients earlier because long-term stability can be established sooner and maintained longer.

More than a retainer, the SAL Retainer System can generate minor tooth movement. By incorporating the SAL System into a Spring Aligner or Hawley retainer, it is possible to close slight spaces, correct anterior rotations and adjust buccolingual discrepancies.

To fabricate your own appliance, the SAL Retainer System is available in packages of 10 loops (5 right and 5 left).

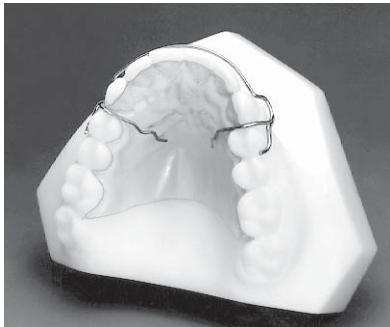
392-000 Long loop for long maxillary clinical crowns

392-001 Short loop for standard applications



Hawley Retainers

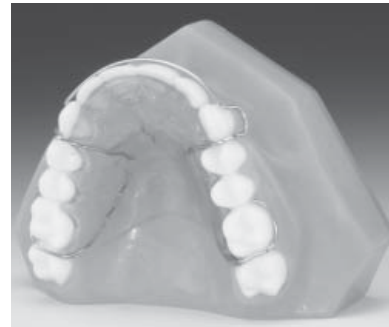
Basic Hawley retainer designs most often include a labial bow, an acrylic plate and a set of clasps on the upper first molars for retention (lingual acrylic on the lower arch is generally accompanied by occlusal rests or some type of clasp). The number of accessories that can be added to a Hawley are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



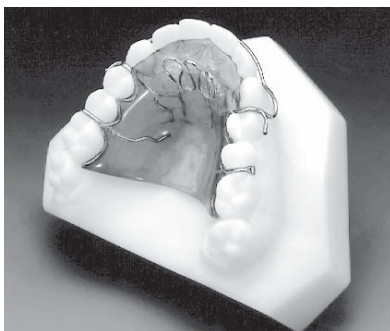
Hawley with Soldered "C" Clasps
"C" Clasps provide positive retention.



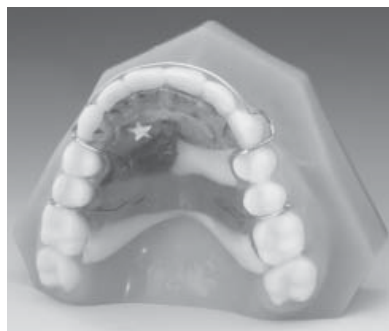
Hawley with Adams Clasp and Expansion Screw
Activate screw to move tooth labially.



Hawley with "C" Clasp and Finger Spring
Lingual clasp provides excellent retention on short clinical molar crown. For minor correction.



Hawley with Tongue Thrust Guard, Anchor Clasps and Soldered "C" Clasps
Discourages tongue thrust habit.



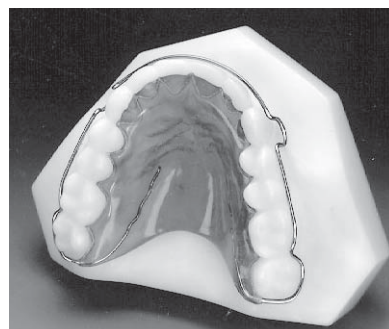
Hawley with Ball Clasps
Most basic of Hawley retainers. Ball clasps require adjustments to maintain retention.



Hawley with Anterior Expansion Screw, Lingual Acrylic and Adams Clasps
Screw expands lower arch.



Hawley with Ricketts® Bow, Occlusal Rests and Micro Screw
Micro screw moves left lateral labially. Finger spring could be used as well.



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.



Hawley with Labial Acrylic
Also called Spring Aligner/Hawley. Labial acrylic with lingual acrylic helps maintain rotation corrections.

§ Ricketts is a registered trademark of RMO. TP Orthodontics, Inc. does not imply authorization nor endorsement by RMO.



Memory Retainers (Memo-Rets)

Memory Retainers or “Memo-Rets” are passive retainers worn after orthodontic treatment. Their design gives them a “memory” that becomes active the moment relapse occurs. They can be activated in the anterior or posterior regions to return teeth to their posttreatment positions.

General Design Features

Flexibility in the anterior and posterior regions are the major features of these appliances. “V” loops on the labial wire have a helix for greater flexibility. Helixes may be requested in the lingual spring. During the fabrication of lower Memo-Rets, it is not necessary to block out undercuts. The unique flexibility of lower Memo-Rets allows the appliance to be squeezed together during placement. When released, it fits snugly against soft tissue.

To maximize patient comfort, upper appliances do not have full palatal acrylic. All appliances can be fabricated for the upper and lower arches with the exception of Memo-Ret 6, which is only effective on the upper. The letter “B” following the name on any appliance means there is no acrylic covering the lingual spring.

Options

Cuspid Guards may be requested to prevent cuspids from moving buccally and mesially. Cuspid Stops prevent cuspids from moving mesially to maintain space and prevent crowding.



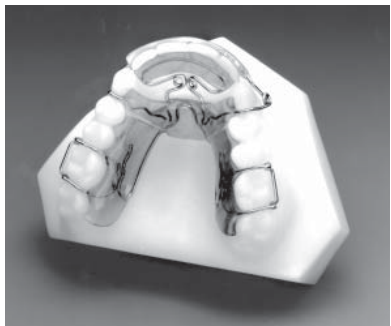
Memo-Ret 1
Corrects minor anterior and posterior relapse. Optional cuspid guards prevent cuspids from moving buccally or mesially. Can eliminate acrylic on lingual spring for deep bite cases. Available for upper and lower arches.



Memo-Ret 2
This design creates stiffer flexibility due to the heavy wire at the base. More comfortable to wear in the lower arch when a high tongue muscle is present due to the absence of the helix used in the Memo-Ret 1.



Memo-Ret 3
Wires do not cross the contact points. Labial section is soldered to the special “L” clasps. Occlusal rest on the first molar. Optional helixes on the lingual spring improve flexibility when cuspids are to be brought buccally. However, incorporation of the cuspids in set-ups for this retainer is not suggested.

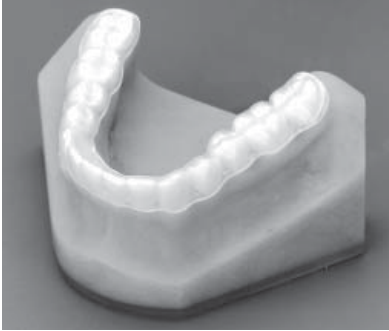


Memo-Ret 5
Designed for major relapse. Activate in the posterior region by cutting the acrylic distal to the cuspids. If relapse only occurs on one side, this side may be cut, leaving the opposing side solid. Horizontal wire is easily activated.



Memo-Ret 6
Recommended when relapse in the posterior area is already present and you wish to work with screws while using a lingual multi-purpose spring behind anteriors. After expansion, the appliance may be used as a retainer in its passive state.

Removable Appliances



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.



Clear Retainer

Lightweight retention appliance. Acrylic is contoured to teeth for additional stability and retention. Available for upper and lower arches.

Fixed Space Maintainers



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.



Fixed 3-to-3 Lingual Arch

Very stable appliance to maintain anterior arch form and cuspid width.



Fixed Bicuspid to Bicuspid Lingual Arch

Maintains anterior arch form and aids in controlling cuspid rotation. Designs are also available for direct and indirect bonding.



Fixed Space Maintainers / Regainers



Fixed 6-to-6 Lingual Arch
Maintains and rounds out anterior arch form. May also be contoured to lingual surfaces.



Fixed 6-to-6 Lingual Arch with U-Loops
Maintain anterior arch form or adjust U-Loops to labialize anterior arch form. May also be used as a fixed lingual retainer and stabilizing appliance.



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.



Pedo Partial
Maintains arch form and edentulous area size while aiding with speech. Restores function and prevents malocclusions. Anterior replacement teeth are attached to lingual arch.



Space Regainer
U-Loop design opens edentulous space when the bicuspid drifts distally. Will also stabilize and maintain space. Unilateral or bilateral design. May include an expansion screw in place of the U-Loop if desired.



Open Coil Spring Space Regainer
Activated by compressing open coil spring to regain desired space and/or close space mesial to a bicuspid that has drifted distally. Spring may be placed on the buccal and lingual. May be designed for unilateral or bilateral treatment.



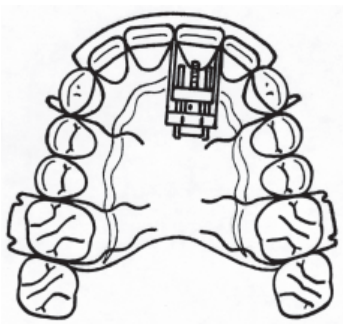
Band and Loop Space Maintainer
Often used in mixed dentition cases to maintain space to allow for eruption of a permanent tooth. May be designed for unilateral or bilateral treatment.

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.

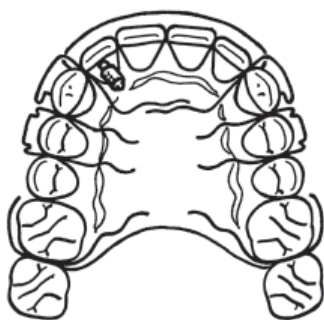
Expansion Screws

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



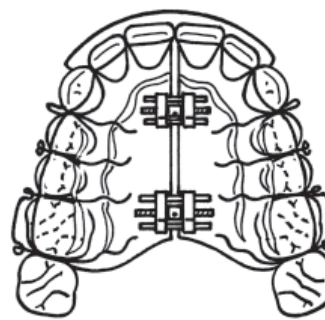
Single Tooth

For movement of one tooth.



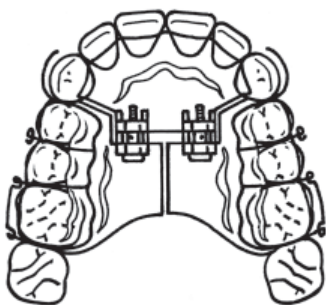
Micro Screw

Has a spring-loaded tip to move one tooth.



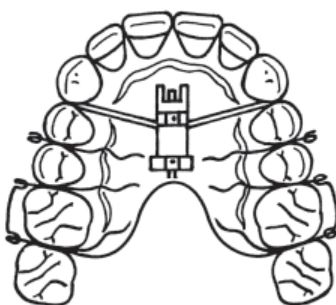
Transverse

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.

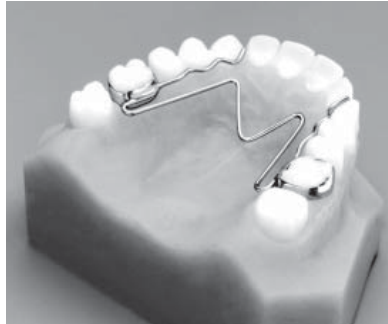


Fan Type

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

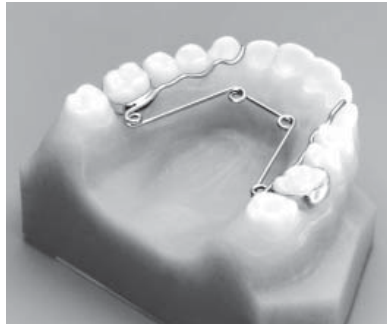


Expansion / Arch Development Appliances



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.



Upper Removable Quad Helix

Removable for extraoral adjustment. Vertical sleeves are welded on the lingual of the first molar bands. This dual-use appliance can expand unilaterally or bilaterally and align crowded teeth when activated with a three-prong plier.



Lower Removable Quad Helix

Multipurpose appliance that may be used to correct unilateral or bilateral crossbite, expand posterior and align crowded teeth by adjusting 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. All-metal framework is easy to keep clean.



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

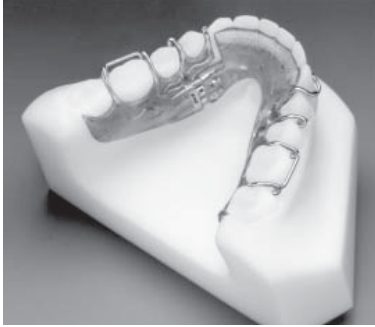
Popular appliance for placing force on the root base as well as the teeth to aid in splitting the suture.



Three-Way Haas

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.

Expansion / Arch Development Appliances



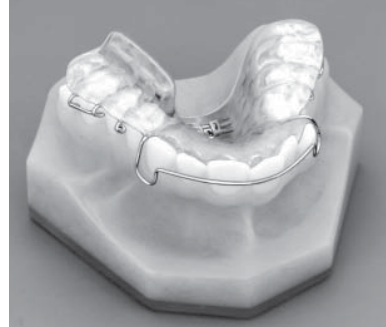
Two-Way Sagittal

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.



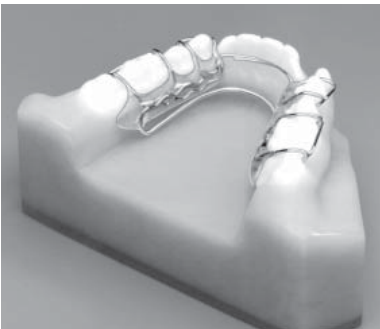
Three-Way Sagittal

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



Nord Appliance

Particularly useful for correction of a unilateral crossbite. Designed with smooth posterior bite plane on side to be expanded, and an acrylic lock with extended lingual shield on opposing side.



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.



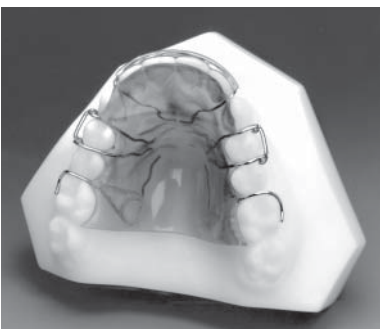
Crozat Appliance

A very aesthetic, lightweight appliance that allows a variety of designs for expansion and arch contouring. Offers good retention and is easily adjusted extraorally. Also available for the upper arch. Designs may vary significantly. A sketch on the prescription sheet is recommended when ordering.



Spring Loaded Posterior Intruder

A very stable appliance used to intrude posterior teeth and increase overbite.



Cetlin or ACCO Appliance

Designed to distalize molars while maintaining position of anteriors. Creates space to resolve crowding and reduce the need for extractions. The ACCO relies on extraoral force applied by the use of headgear. Cetlin does not include headgear loops.



Greenfield Molar Distalizer

Nickel titanium springs distalize molars. Stability is provided by the large Nance button. Patient compliance is assured due to bands. May be activated for additional distalization of molars by placing 2 mm Crimpable Spacers.

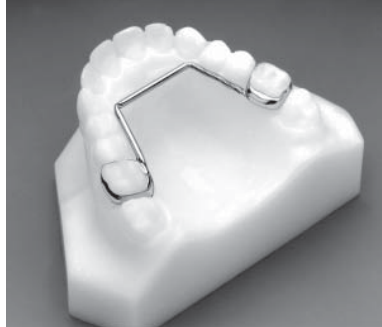


Pendulum Appliance

Employs the use of a large Nance button for anchorage and .032" TMA wire. Springs provide light continuous force on the first molars. For additional selections of single arch molar distalizing appliances, refer to the Cetlin or GMD appliances.



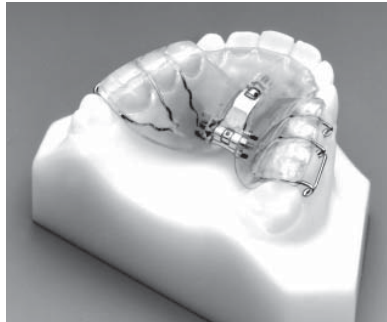
Expansion / Habit Appliances



"E" Appliance

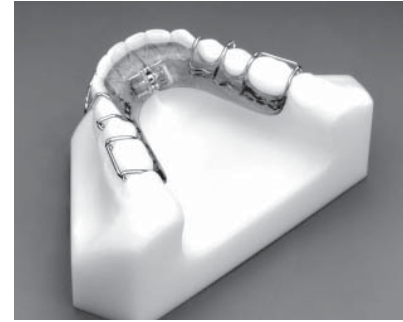
Also referred to as a continual force control (CFC) appliance. A compressed open coil spring forms the basis of this appliance, with tubing and ET wire soldered to the lingual of opposing molar bands. Gentle forces minimize the discomfort of expansion screws. Design may vary by clinician request.

Developed by Dr. James McAndrew.



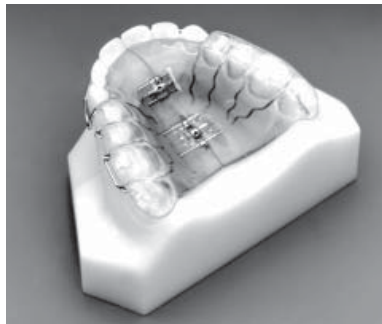
Three-Way Expander

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



One-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.



Two-Screw Schwarz

The upper Schwarz is available with a choice of one expansion screw (for small palate cases or minor expansion) or two expansion screws (for greater stability).

When two screws are used, maximum claspings is necessary to compensate for higher forces. Additional care in adjustment is required: both screws should be turned an equal amount to prevent binding. Also available with a posterior bite plane.



Bluegrass Appliance

Successfully 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.

Habit Appliances / Splints



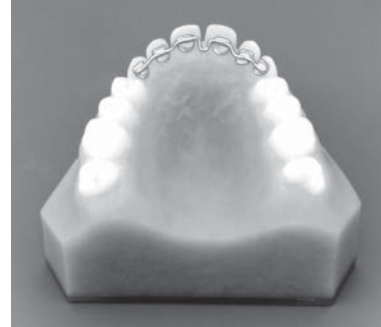
Tongue Rake

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.



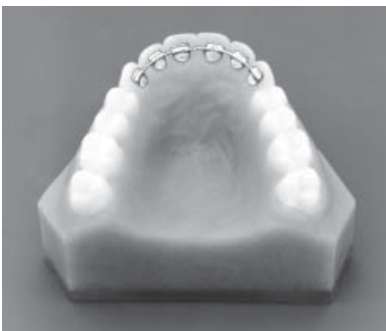
Tongue Rake with Grill and Ball Tips

Modified version of a "Severe" Tongue Rake used to restrict tongue thrusting and thumb sucking. The number and size of tongue rake wires may vary as requested. Often used for mentally challenged patients.



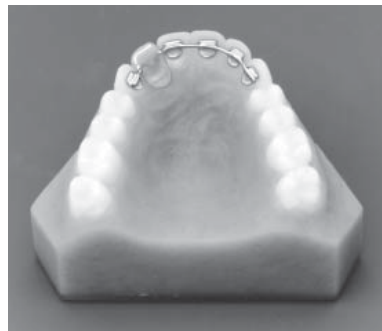
Custom Splint

Stable and aesthetic. Not designed to be used on a patient with minor overjet and a deep bite.



Braided Wire Splint

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



Bond-A-Splint® with Lateral Bridge

A stable appliance, ideal for maintaining the positions of a series of teeth. Not recommended for deep overbite cases with limited overjet. Low profile provides maximum patient comfort and promotes good oral hygiene.



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.



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 bicuspids.



Repositioning Splint

Designed with cuspid rise and anterior protrusive slide. Extra anterior acrylic is added to form a rise to provide incisal guidance and cuspid protection. Design may vary depending upon intended use. A smooth plane or imprint of the lower dentition is available upon request.



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.

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.



Rick-A-Nator

May act as a removable anterior bite plane, lingual anterior arch form appliance and as a removable Nance appliance when designed as such. It is virtually undetectable from an aesthetic point of view and may be worn 24 hours per day.



Orthopedic Corrector

Opens bite for Class II correction. Two side screws to gradually advance mandible anteriorly. One anterior expansion screw increases arch width. The Orthopedic Corrector I increases the vertical dimension in deep bite cases, while the Orthopedic Corrector II closes open bites.



Bionator I

Opens bite for Class II correction. Allows individual posterior teeth to be erupted independently. Midline expansion screw opens contact points between posterior teeth for easier posterior eruption.



Bionator II

Closes bite for Class II correction. Labial bar prevents anteriors from tipping labially. Includes midline expansion screw for arch development when necessary. Adams clasps can be used on the upper or lower.



Woodside Activator

A bionator modification commonly referred to as the Harvold/Woodside Activator. Best used in conjunction with growing patients; Class II correction is achieved by controlling the eruption of posterior teeth as they contact the acrylic. A protrusive wax bite is utilized in construction of the appliance.

A thorough explanation of this appliance may be found in the Graber & Neumann text as well as in articles published by Drs. Harvold & Woodside.

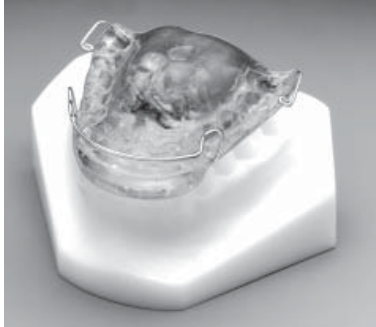


Teuscher Activator

Used in conjunction with headgear to maintain upper molar position. Upper torquing springs are also featured in this appliance. This activator may be worn with fixed appliances. Lower lip pads can be added if desired.

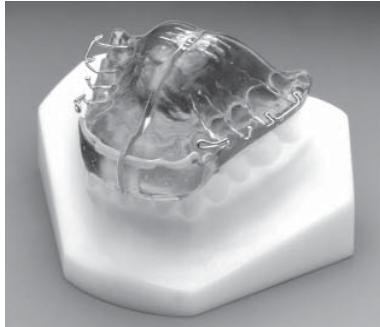


Functional Appliances



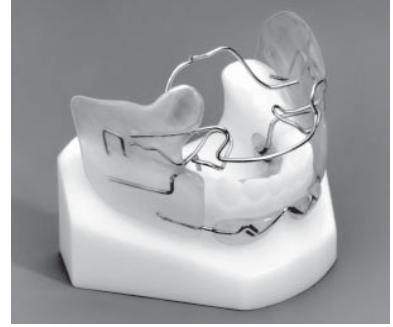
LSU Activator

Corrects Class II discrepancies. Posterior eruption is controlled by trimming the occlusal areas of the appliance. Lower anteriors have an incisal cap of acrylic. Maxillary first molars should have bands with headgear tubes to give the ball-end "C" clasp a positive lock around the tubes. A protrusive wax bite is used in constructing the appliance.



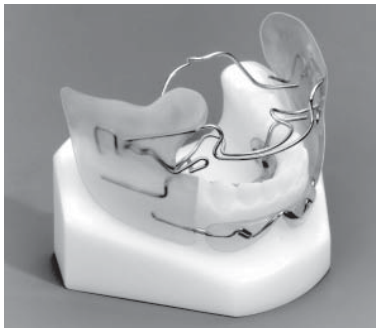
Hamilton Expansion Activator

A multi-purpose functional appliance used to correct a Class II malocclusion. The mandible is advanced and the maxillary arch is expanded by the use of expansion screws. The lower posterior area is void of acrylic to allow for eruption. The appliance is primarily used for nighttime wear in conjunction with the Hamilton holding appliance, which is worn in the daytime.



Fränkel I

Corrects overcrowding in Class I cases and reduces the overbite and overjet in Class II, Division 1 cases. External muscle pressure is eliminated by the vestibular shields. Promotes transverse arch development dentally and skeletally.



Fränkel II

Promotes transverse and vertical development of maxillary and mandibular arches. Corrects Class II, Division 2 cases and opens bite. Used after the maxillary incisors have been slightly proclinated by an upper removable appliance.



Fränkel III

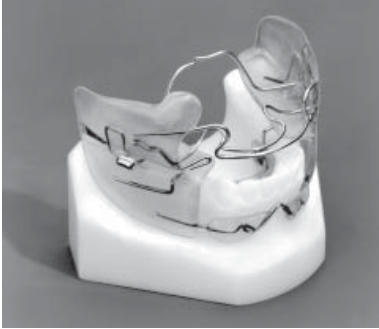
Corrects Class III malocclusions.



Fränkel IV

Used for open bites and bimaxillary protrusions.

Functional Appliances



Fränkel V

Resembles the Fränkel II design, with the addition of posterior acrylic bite blocks and headgear tubes. Often used in conjunction with occipital facebow.

Developed and named by Dr. Albert Owen.



Lehman II a

Full palatal coverage with expansion screw. Used in conjunction with fixed appliances to advance mandible. Includes headgear clasps for optimum retention around molar tubes. Screw or coffin spring are optional.



Lehman II b

Open palatal splint with independent anterior and posterior screws. Includes Adams clasps and headgear tubes. Removable lip bumper is optional.



Bruner Headgear Activator

Wire over upper incisors provides more open anterior space. Screw provides only upper expansion. Relief on lower occlusal plane allows eruption in lower posterior area.



Herman van Beek Headgear Activator

Effective in Class I, Division 1 open or deep bite cases. Upper anteriors are covered with acrylic for torque control. Lower anteriors are free to move lingually while acrylic prevents labial crown tipping.



Flip-Lock® HERBST® Appliance

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

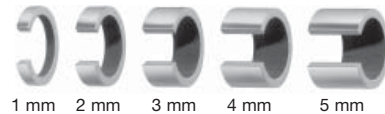
Simple in design, our Flip-Lock HERBST provides easy activation, extensive range of motion and free lateral mandibular movement for increased patient comfort. Its unique design ensures normal chewing, swallowing, speech and breathing — which, in turn, lead to better treatment compliance.



Easy to fit, the Flip-Lock HERBST activates in seconds because of its patented 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

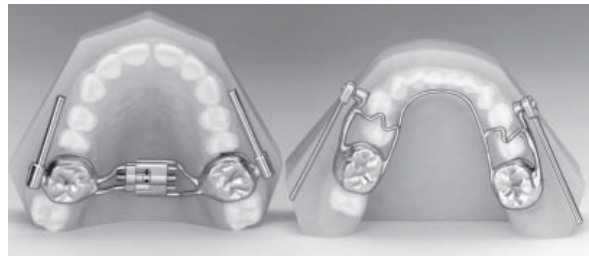


Type I HERBST

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.



CUSTOM LABORATORY SERVICES

Flip-Lock is a registered trademark of TP Orthodontics, Inc. and manufactured under U.S. Patent 5,620,321. All other patents pending. HERBST is a registered trademark of Dentaaurum, Inc.

Perfector® Appliance

The Perfect 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.

A Perfector is the best appliance to move all the teeth into their final, perfect positions while also properly relating the jaws one to the other.

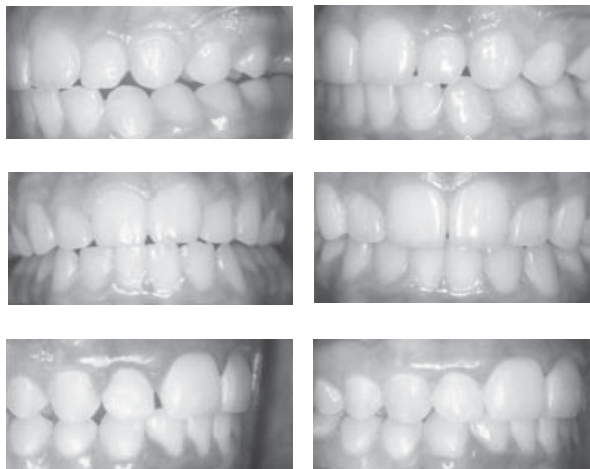
It is ideal for closing slight spaces, correcting anterior rotations and buccolingual discrepancies.

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.

The main body of the appliance features a soft silicone material. The Perfector is comfortable, pliable and taste-free.

The anterior labial acrylic and wire bow provide superior rotation and overjet control and help to retain the Perfector. The labial bow can be activated to increase control and retention. Seating Springs are molded into the Perfector for posterior retention and to assist with initial seating.

The Perfector also works well in combination with a mandibular cuspid-to-cuspid bondable retainer or a mandibular removable spring aligner.



Before

After

Only TPO's Custom Perfector Can:

- Settle teeth in desired cuspal relationships
- Align anterior teeth
- Close interproximal spaces – 2 mm to 3 mm (.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



Perfector® Appliance

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.



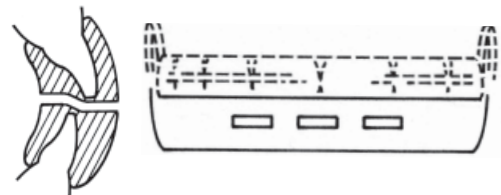
Seating Springs

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 3 mm (.079" to .118").



Set-Up

Custom Perfectors are fabricated over a set-up model created from your patient's recent plaster model or alginate impression. A regular (all teeth or reset) or partial set-up may be used.

Rotations and axial positions can be improved, arch forms may be modified and 2 or 3 mm (.079" to .118") of space closure can be accomplished. Overbites can be increased or decreased by 1 or 2 mm (.039" or .079") and anterior torque can be modified by 2 or 3 degrees.



Articulation Methods

TPO appreciates the importance of using the patient's own hinge-axis when constructing a Perfector. Many articulation methods can be built into a Perfector using either a custom hinge-axis or one of several gnathological articulation methods.

See page 30 for further information on articulation methods available at TPO.



CUSTOM LABORATORY SERVICES

Tooth Positioning Appliances

The Tooth Positioner

The Tooth Positioner is a custom-made, resilient mouthpiece with clearly defined impressions of the upper and lower teeth that is constructed over a set-up.

Tooth positioning appliances can facilitate the removal of fixed appliances from three to six months earlier. Both patients and orthodontists appreciate the shorter active treatment times.

There is no easier means of finishing a case. The results are far superior to any that can be obtained by leaving fixed appliances on and attempting to correct slight spaces, rotations and buccolingual discrepancies. Teeth are brought into ideal occlusion and arch form.



The Position-ette®

The Position-ette is made in the same manner as the Tooth Positioner, but is trimmed to be approximately 50% less bulky. This provides greater comfort for increased acceptability, increased flexibility (it adapts to greater discrepancies), easier placement and complete elimination of soft tissue irritation.

The low profile of the Position-ette permits the orthodontist and the patient to readily observe the relationships between the sockets, Precision Seating Springs and teeth. This is very important when the Position-ette is first placed.

It is recommended that Seating Springs be placed mesial to the maxillary first permanent molars in Position-ettes to increase retention and effectiveness. Springs may also be placed in the lower arch to further enhance the delivery of forces for ideal tooth movements and retention.



Only TPO Tooth Positioners and Position-ettes offer these features:

- Custom-made for each patient over their individualized set-up
- Precision Seating Springs move teeth without the patient exercising into the appliance even while sleeping
- Socket liners or bridges apply more positive pressure to central and lateral incisors
- Can be articulated gnathologically or by using the patient's own hinge-axis
- Molded airways for breathing comfort and increased acceptance
- Less discomfort for positive results
- Guaranteed for as long as you prescribe



Tooth Positioning Appliances

Positioner or Position-ette®?

How to decide which appliance is best for a given patient.

Positioner Indications

1. When maximum gingival stimulation is desired (as might be needed to control proliferation caused by dilantin sodium).
2. When considerable buccolingual corrections must be made, especially for second molars. (The higher flanges will pass over the problem teeth, applying the desired forces to bring them into position.)
3. When the appliance might also be used as a mouthguard.
4. When patients have a history of bruxism or tend to attempt lateral excursions when biting.
5. For increased retention and to help in placement if Precision Seating Springs are not utilized.



Positioner—front



Position-ette—front

Position-ette Indications

1. When patient comfort and initial acceptance are of utmost importance.
2. When there is considerable space to close — over 2 mm (.079") in one arch. (The slim sidewalls facilitate stretching for ease of placement).
3. Any case that does not fall under one of the indications for the need of the bulkier Tooth Positioner.

Both Appliances Can

1. Settle teeth into desired cuspal relationships.
2. Close slight spaces – 2 mm to 3 mm (.079" to .118") total in each arch.
3. Correct slight buccolingual discrepancies.
4. Produce a detailed, coordinated arch form.
5. Achieve moderate rotations of anterior teeth.
6. Influence teeth into improved axial inclinations.
7. Open or close the anterior bite.
8. Serve as an unbreakable retainer.



Positioner—side



Position-ette—side

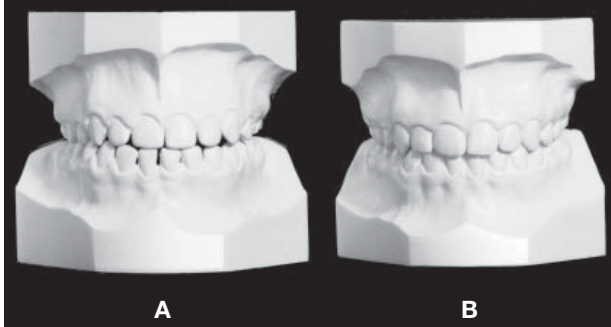
Limitations

Results will not be consistent when these appliances are given to:

1. Uncooperative patients.
2. Uninformed patients (and parents).
3. A patient whose orthodontic problems exceed the capabilities of a Tooth Positioner.

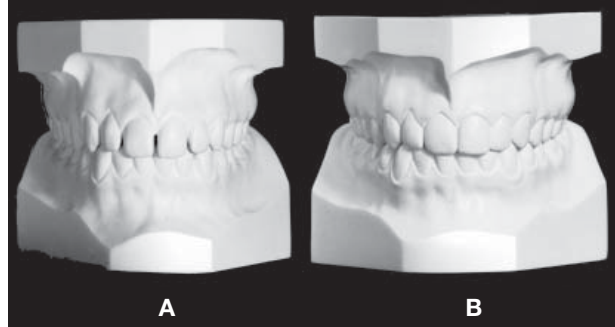
Tooth Positioning Appliances

Results Achieved



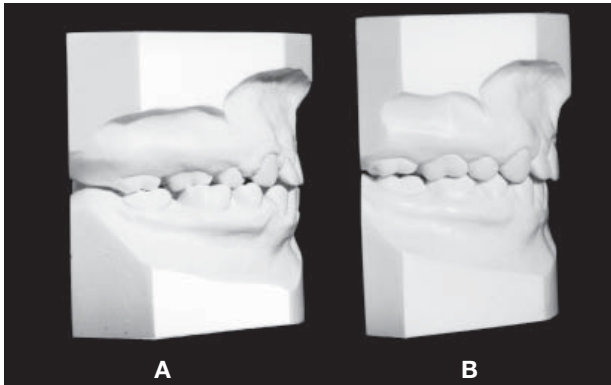
1. Midline Correction

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



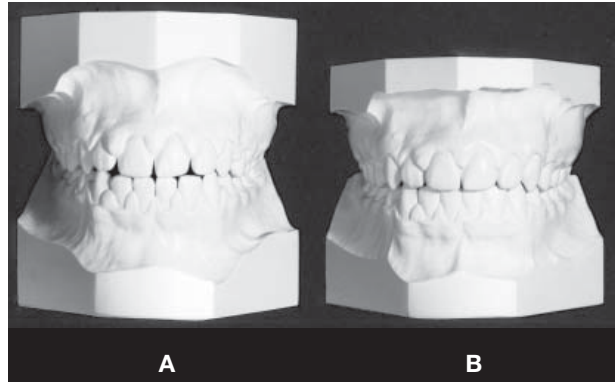
2. Space Closure

- 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

Consultation Set

The Consultation Set can help when presenting a tooth positioning appliance to prospective patients and/or parents. The set includes a non-extraction set-up with second molars, carefully reproduced in white plaster and pure beeswax, then hand-finished, trimmed, filed and soaped.

Other materials include maxillary Precision Seating Springs, anterior Socket Liners and Molded Airways. A crystal-Flex® appliance is furnished unless specified otherwise.

500-501 Consultation Set-Up and Tooth Positioner



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

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.

Impak

Impak is a clear methyl acrylate, elastic resin material that is only recommended when minor tooth movement is required. It has a hard texture until placed in hot water, after which it becomes very flexible. As the patient wears the appliance, its temperature reduces and the material hardens – returning to its original shape and moving the teeth with it. Body temperature prevents the material from becoming too hard. Impak cannot incorporate Precision Seating Springs, Socket Liners, Molded Airways or Pastel Palates colors. Air holes can be drilled if requested.

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 black, red, orange, yellow, blue, green, purple and pink.

Pastel Palates® Custom Colored Appliances

Pastel Palates allow patients to choose their favorite color for their Tooth Positioner or Position-ette®. Pastel Palates custom positioners are excellent for getting patients involved and motivated to wear their appliances, which is crucial to successful treatment.

Pastel Palates are only available in crystal-Flex material. Call TPO to request the Pastel Palates color selector guide.

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 Position-ette® 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

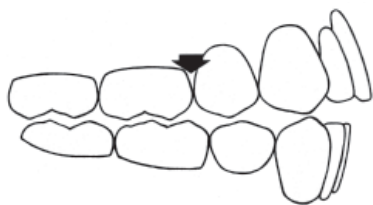
If the patient is a first bicuspid or non-extraction case, Seating Springs are placed mesial to the upper first molars.

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.

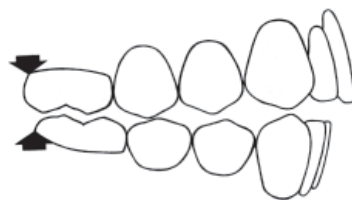
When the second bicuspids have been extracted, Seating Springs are placed distal to the upper and lower first molars to keep the extraction spaces closed.

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

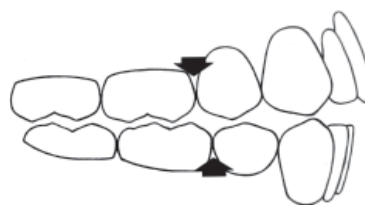
Suggested Locations for Precision Seating Springs



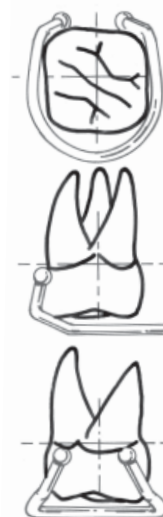
First bicuspid extraction or non-extraction cases.



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.



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.



Tooth Positioning Appliances

Socket Liners

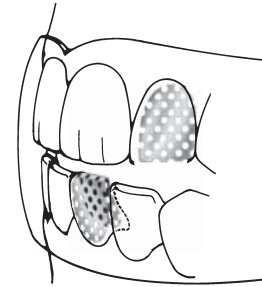
Socket Liners are stainless steel inserts that stiffen the socket walls of selected anterior teeth. They cannot fall out and do not alter the shapes or sizes of sockets.

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.

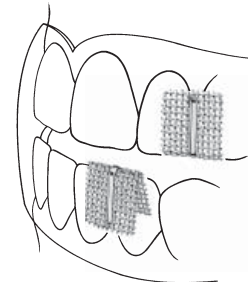


Socket Bridges

Socket Bridges are stainless steel anterior inserts that provide improved rotational control of upper and lower centrals, laterals and cuspids. They are indicated when the original malocclusion exhibits anterior crowding.

Although similar to Socket Liners, Socket Bridges are placed between the teeth rather than centering them directly on each tooth. Socket Bridges limit the potential for rotations by locking the proximal surfaces of adjacent teeth together. They are made from stiff, perforated stainless steel material that is more rigid than Socket Liner material.

Socket Bridges provide maximum rotational control without sacrificing the necessary flexibility of Tooth Positioners. They also prevent patients from chewing through the appliance.



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

Set-Ups and Articulation Methods

Each tooth positioning appliance must be created over a model of the patient's dental arches in which the teeth have been removed and set into new positions.

The teeth will be carefully reset according to the directions you provide on the special prescription sheet. 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.

The set-up is created with extreme care and foresight. 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.

1. Regular Set-Up

A set-up made from a "control" or "bands off" model is referred to as a Regular Set-Up. Over 95% of all set-ups are made from control models.

During the period of time between band removal and the placement of the Tooth Positioner or Position-ette® (7 to 10 days), the patient usually wears no appliances. To smooth the transition to a tooth positioner, a Pre-Finisher® preformed appliance can be selected and placed at the time fixed appliances are removed.



1.

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.



2.

3. Immediate Set-Up

An Immediate Set-Up is indicated when you wish to have a positioner ready to place the day appliances are removed. Most often reserved for patients who must travel longer distances to your office.

The set-up is made from a recent progress model which usually includes the appliances. Experienced technicians will carve the bands and/or brackets from the teeth on the model before constructing the set-up and Tooth Positioner.

Remove archwires before taking the impression for the progress model.



3.

4. Diagnostic Set-Up

The Diagnostic Set-Up is an excellent aid for orthodontic treatment planning. Intelligent rearrangement of the teeth on the models 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.



4.



Tooth Positioning Appliances

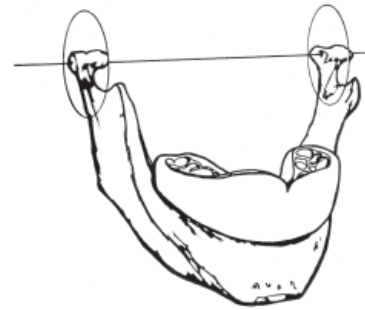
Custom Hinge-Axis

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 Position-ette® 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.



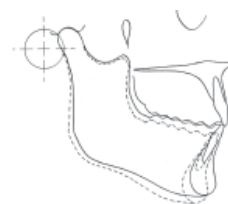
Use the patient's custom hinge-axis for comfort and accurate tooth movement.



1.



2.



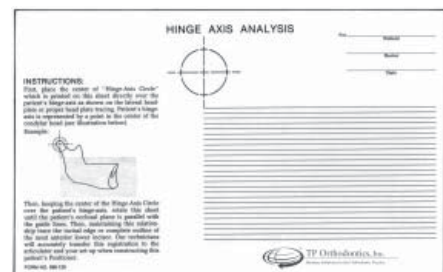
3.

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.



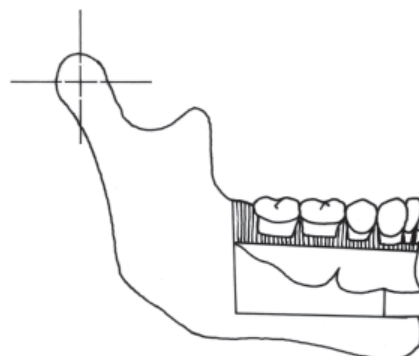
Hinge-Axis Analysis Sheet

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.

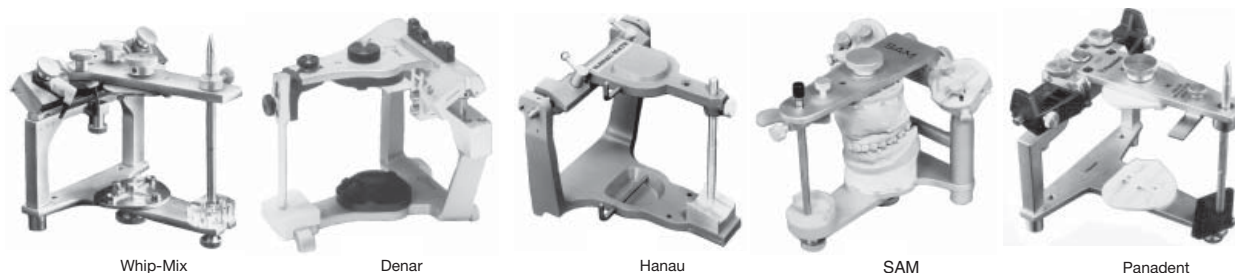
Gnathological

TP Orthodontics is equipped with Hanau, Whip-Mix, Denar, SAM and Panadent articulators. This enables our laboratories to comply with the varying requirements in providing Gnathological set-ups for fabrication of custom Tooth Positioners.

The orthodontist must furnish the laboratory with upper and lower casts and all information required for accurate transfer of bite registration from the orthodontist's articulator to the articulators maintained by TPO.

Set-ups made on articulators other than those mentioned above can also be provided by shipping the articulator to TPO.

It is suggested that you contact the Lodi, California laboratory before processing the Gnathological set-up and Tooth Positioner for complete instructions prior to sending either models or an articulator.



Whip-Mix

Denar

Hanau

SAM

Panadent



Lip Bumpers

Lip Bumper with Molar Loops

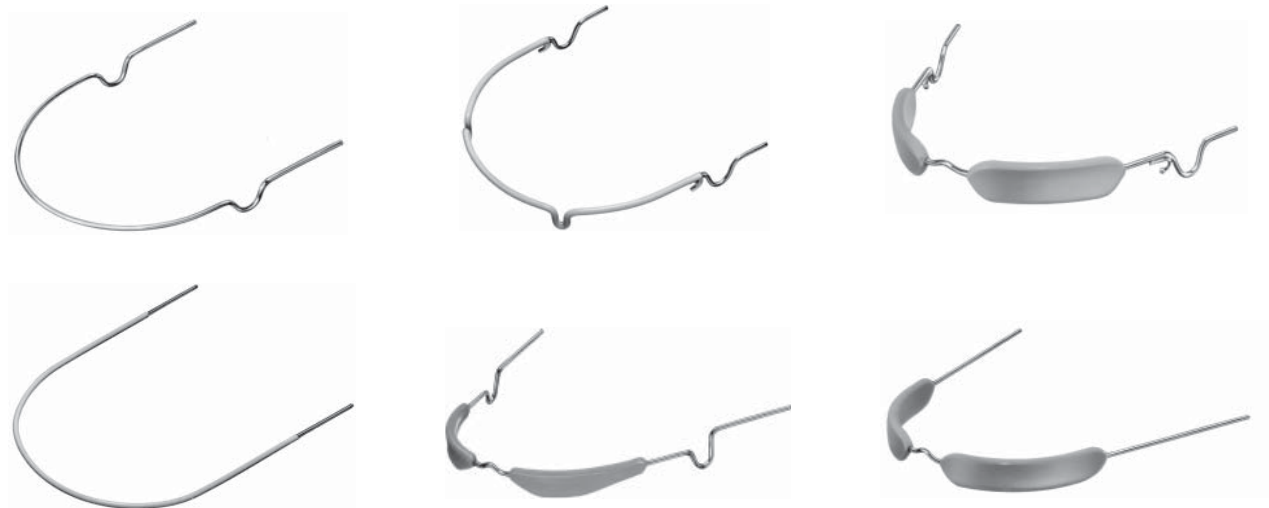
Used to distalize first permanent molars or dissuade hyperactive mentalis muscle. May also be used to reduce crowding. Adjustable U-shaped molar loops act as molar stops and serve as transverse, vertical or sagittal adjustment areas. Hygienic nylon coating over wire reduces tissue irritation.



Lip Bumper with Pads

Anatomically contoured anterior polypropylene pad with gentle radii and slight elevation so that arch development and distalization forces are directed more efficiently. Special design reduces tissue irritation and frenum impingement. Pad is slightly flexible to facilitate minor anterior wire adjustments.

Adjustable U-shaped molar loops serve as stops and simplify transverse, vertical or sagittal adjustments. Lip Bumpers with ligation hooks facilitate tying to molar tubes.



TPO offers an excellent selection of Lip Bumper kits, each containing a variety of sizes. See the TPO Product Catalog.

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.



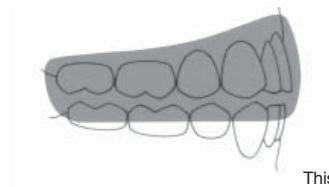
Unmatched Protection and Comfort

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

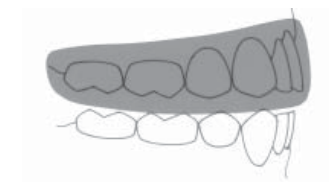
The upper flange height extends gingivally 2-2.5 mm (.079" - .098") for positive retention. Precision Seating Springs (see page 28) are also available in Varsity Guards, at additional cost, for added retention.



This

Durability

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



Not This

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.

Economy

The expense of a custom Varsity Guard is quite low in relation to other equipment purchased for athletic competition, and is more than justified in terms of preventing pain and possible permanent injury. The high quality material assures long life of the appliance. Often one guard will serve an athlete for an entire career.

Regulation Yellow

If requested, TPO can fulfill the NCAA regulation that requires appliances to be made of a bright yellow material.



Indirect Bonding

Splints

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

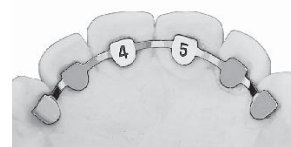
Send a model of the patient along with a completed Indirect Bonding prescription form. When possible, TPO will select a preformed appliance to fit the model.

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 silicone transfer tray to cover the lingual surface of the appliance, including the incisolingual surfaces of the teeth.



Maxillary Custom Lingual Retainer



Bond-A-Splint Retainer



Bond-A-Bar



Bondable Lingual Retainer



Brackets

Indirect Bonding is also available for full appliance treatment.

If TPO brackets are to be used, we will provide them. Brackets from other companies should be sent to TPO along with impressions or models of patient.

Please include exact information on bracket positioning and heights for archwire slots to ensure accurate indirect service.

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



Model Sculpture Service

TP Orthodontics Offers Four Distinct Model Services to Meet Your Exact Requirements

TPO is completely equipped to do the finest study model work available. Impressions are poured the day they are received, with finishing as prescribed.

TPO processes thousands of models each year. This experience is your best guarantee of complete satisfaction.

Prices are based on processing of models to either old or new Tweed specifications. Special trimming instructions, or requests for additional services (such as inked lettering), are subject to additional charges. Quotations are furnished on request.

Trimmed According to Tweed Foundation Standards or Your Specifications

Unless otherwise indicated, TPO will employ the following Tweed specifications in trimming your models: Model height – 69.85 mm (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.

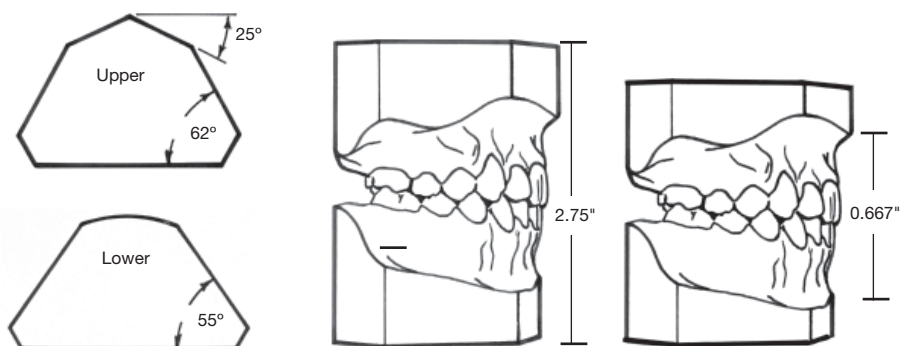
To identify the correct occlusion, please include a wax bite with impressions or mark the buccal surfaces of the models with a pencil.



Before



After



Tweed, Old Height: 2.75"

Tweed, New Height: Bases – 0.333",
Anatomy – 0.667"



Finished Model from Alginate Impressions

Send alginate impressions and wax bite packaged according to the instructions on page 38.

Service A

Often utilized by orthodontists taking the American Board of Orthodontics, the Tweed Foundation and other exams. Plaster model is trimmed to exacting standards, sculptured, filed, finished, soaped and polished. Patient's name is imprinted on the back.



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.

Duplication of Poured Anatomy to Create New Model with Bases

Service B

Often utilized by orthodontists taking board exams. TPO is up-to-date on current model requirements of the American Board of Orthodontics and other societies.

Send arches and a wax bite to TPO. Bases are not required and should 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.

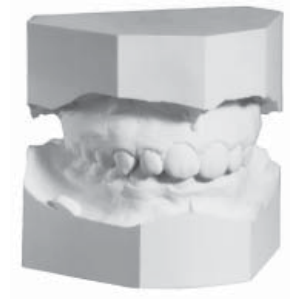


Unfinished Model from Alginate Impressions

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.



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
- Label for the laboratory serving your area

No postage is needed. We will record your postage and bill you later.

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.

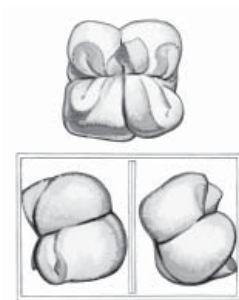
Caution: During winter months, dip impressions in windshield washer fluid to inhibit freezing and mail from a post office rather than a drop box.



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.



Index

A	E	M	S
ACCO Appliance 14	Expander	Maintainers	Sagittal
Activators	Three-Way 14	Band and Loop Space 11	Three-Way 14
Bruner Headgear 20	Expansion Appliances 12	Fixed Space 10	Two-Way 14
Hamilton Expansion 19	Expansion Screws 12	Memory Retainers 9	SAL Retainer System 7
HvB Headgear 20	F	Model Sculpture	Schwarz
LSU 19	Flip-Lock HERBST 21	Services 36	One-Screw 15
Teuscher 18	Fränkels 19	Tweed 36	Two-Screw 15
Woodside 18	Functional Appliances 18	Mouthguard	Screws
Appliances	G	Varsity 34	Expansion 12
"E" 15	Gelb Splint 17	N	Set-Ups 30
ACCO 14	Gnathological 32	Nance Appliance 11	Socket Bridges 29
Arch Development 12	Greenfield Molar Distalizer 14	Night Guard 17	Socket Liners 29
Bluegrass 15	H	Nord Appliance 14	Soft or Hard Splint 17
Cetlin 14	Haas	O	Splints 16
Crozat 14	Rapid Palatal Expander 13	Orthopedic Corrector 18	Braided Wire 16
Decals 3	Three-Way 13	P	Clear 17
Expansion 12	Habit Appliances 15	Packaging Instructions 39	Custom 16
Flip-Lock HERBST 21	Habit Expansion Activator 19	Palatal Expander	Gelb 17
Functional 18	Hawley Retainers 8	Bonded Rapid 13	Indirect Bonding 35
Habit 15	HERBST Appliance 21	Haas Rapid 13	Night Guard 17
Hyrax 13	Type I 21	Hygienic Rapid 13	Repositioning 17
Jackson 14	Type II 21	Pastel Palates 3, 27	Soft or Hard 17
Nance 11	Hinge-Axis	Pedo Partial 11	Spring Aligners 6
Nord 14	Custom 31	Pendulum Appliance 14	Acrylic Extensions 6
Pendulum 14	Normal 32	Perfector Appliance 22	Plus 1 Upper 6
Perfector 22	HvB Headgear Activator 20	Position-ette 24	Plus 2 Upper 6
Removable 4, 10	Hyrax Appliance 13	Positioner 24	Plus 3 Lower 6
Splints 16	I	Precision Seating Springs 28	Plus 3 Upper 6
Suggested Wearing Schedule 27	Indirect Bonding	Preparing Impressions 38	Standard 6
Tooth Positioning 24	Brackets 35	Preparing Models 38	Wire Extensions 6
Arch Development Appliances 12	Splints 35	Prescription Forms 2	Spring Loaded Posterior Intruder 14
Articulation Methods 23, 30	Instructions	Q	Springs
B	Ordering 2	Quad Helix	Precision Seating 28
Bionators 18	Packaging 39	Lower Removable 13	T
Bluegrass Appliance 15	Preparing Impressions 38	Upper Fixed 13	Teuscher Activator 18
Bond-a-Bar 16	Preparing Models 38	Upper Removable 13	Three-Way Expander 14
Bond-A-Splint 16	Invisible Retainer 10	R	Three-Way Haas 13
Brackets	J	Regainers	Three-Way Sagittal 14
Indirect Bonding 35	Jackson Appliance 14	Fixed Space 11	Thumb Crib 15
Braided Wire Splint 16	L	Open Coil Spring Space 11	Tongue Rake 16
Bruner Headgear Activator 20	Labial Bows 4	Space 11	Tooth Positioner 24
C	Laboratory Services	Removable Appliances 4	Consultation Set 26
Cetlin Appliance 14	Locations 1	Repositioning Splint 17	Tooth Positioning Appliances 24
Clasps 5	Lehman II 20	Retainers	Transpalatal Arch
Clear Retainer 10	Lingual Arch	Clear 10	Fixed 11
Clear Splint 17	Bonded 3-to-3 10	Hawley 8	Two-Way Sagittal 14
Consultation Set 26	Fixed 3-to-3 10	Invisible 10	V
Crozat Appliance 14	Fixed 6-to-6 11	Memory 9	Varsity Guard 34
crystal-Flex 27	Fixed 6-to-6 U-Loops 11	SAL 7	W
Custom	Fixed Bicuspid to Bicuspid 10	Rick-A-Nator 18	W Arch 13
Appliance Decals 3	Lip Bumpers 33	A	Woodside Activator 18
Hinge-Axis 31	LSU Activator 19	D	
Pastel Palates 3		Decals 3	
Perfector 22			
Splint 16			



TP Orthodontics, Inc.
www.tportho.com