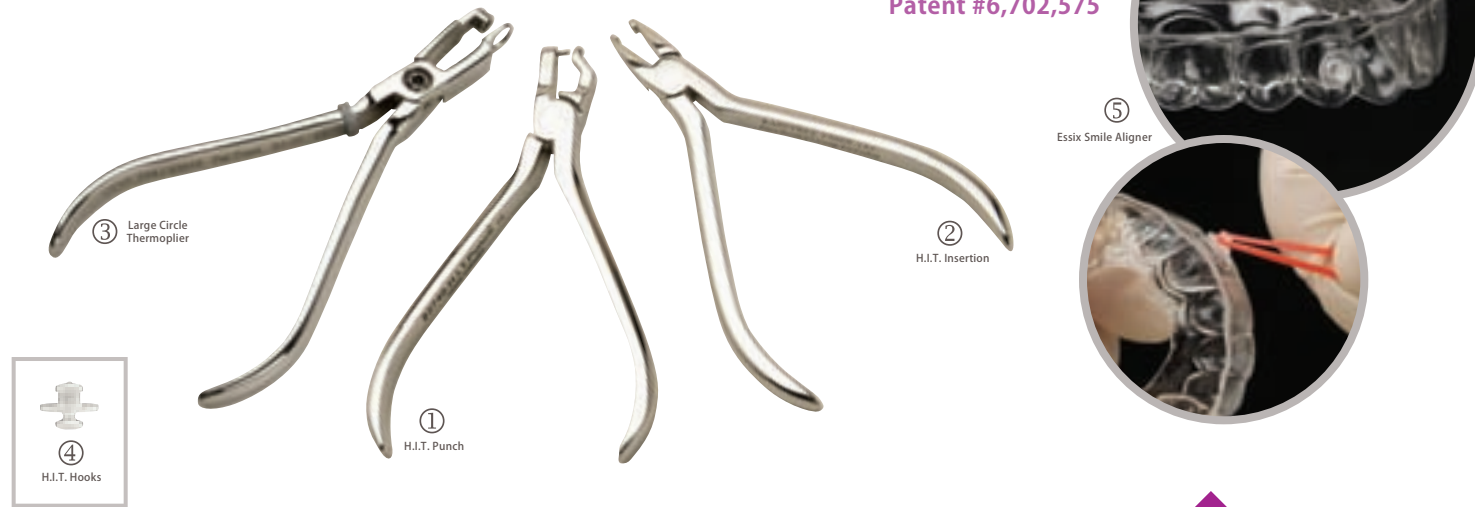


H.I.T.™ Hook Inserting Tack System

Patent #6,702,575



What is H.I.T. ?

H.I.T. is a system designed by Dr. Keith Hilliard to insert external hooks for attaching elastics into an Essix Smile Aligner. The system is easy to use and can be performed by an assistant or lab technician to allow the doctor time to see more patients. Allows you to close midline diastemas and extraction sites without brackets or bonded attachments.

What is needed ?

- ① **H.I.T. Punch Pliers (item # 82740)** – These Pliers create the hole into which the H.I.T. will be placed in the aligner.
- ② **H.I.T. Insertion Pliers (item # 82720)** – These Pliers insert the H.I.T. into the hole created by the punch pliers in the aligner.
- ③ **Large Circle Thermopliers (item # 82610)** – These Pliers are used to place relief in the aligner prior to using the Punch Pliers.
- ④ **H.I.T.s (item # 828HT)** – Notched tacks (hooks) used on the outside of an aligner for the attachment of elastics.
- ⑤ **Essix Smile Aligner made with 0.030" (¾ mm), 0.035" (⅞ mm), or 0.040" (1 mm) Essix plastic.**

H.I.T. System Components

	Item #
H.I.T. Punch Pliers	82740
H.I.T. Insertion Pliers	82720
Large Circle Thermopliers™	82610
✓ Set of 2 H.I.T Pliers	827HC
✓ Set of 2 H.I.T Pliers & Large Circle Thermopliers™	827HS
H.I.T. Hooks – 50 H.I.T. Hooks	828HT

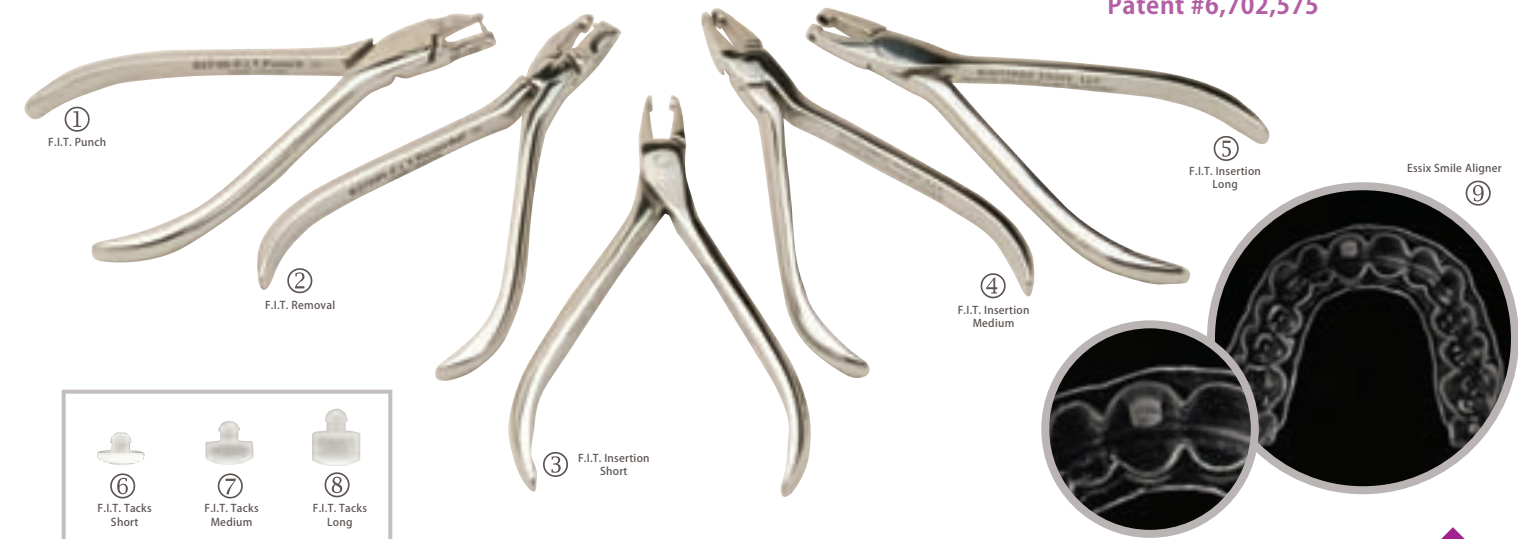
For additional assistance on the H.I.T. System,

contact us: 800-883-8733 • 504-488-0080

www.essix.com

F.I.T.™ Force Inducing Tack System

Patent #6,702,575



What is F.I.T. ?

A system designed by Dr. Keith Hilliard to provide incremental protrusions that are placed into Essix Smile Aligners to create tooth movement. The technique can be performed by an assistant or lab technician, thus allowing the doctor time to see more patients.

What is needed ?

- ① **F.I.T. Punch Pliers (item # 82730)** – The F.I.T. Punch Pliers create the hole into which the protrusions will be placed.
- ② **F.I.T. Removal Pliers (item # 827HR)** – These pliers are used to remove the “old” tack without enlarging the hole, in the same appliance.
- ③-⑤ **F.I.T. Insertion Pliers (item # 8271 S-small, M-medium, L-long)** – These pliers carry the corresponding F.I.T. protrusion to the hole created by the F.I.T. Punch Pliers in the appliance. A simple squeeze of the Pliers will result in a protrusion being locked into the appliance.
- ⑥-⑧ **F.I.T.s (item # 82801-short, 82802-medium, 82803-long)** – These “tacks” are made from polycarbonate and have an active end and a protrusive end. The active end is a curved button that actively pushes on the tooth needing movement. The protrusive end exits the hole made by the F.I.T. Punch Pliers and mushrooms onto the appliance when squeezed by the pliers. The tacks are 0.91 mm, 1.67 mm, and 2.42 mm buttons.
- ⑨ **Essix Smile Aligner made with 0.030" (¾ mm), 0.035" (⅞ mm), or 0.040" (1 mm) Essix plastic.**

F.I.T. System Components

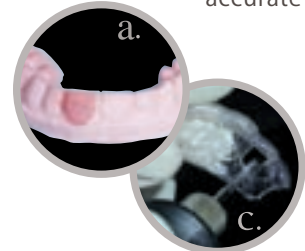
	Item #
F.I.T. Punch Pliers	82730
F.I.T. Remover Pliers	827HR
F.I.T. Insertion Pliers – Short	8271S
F.I.T. Insertion Pliers – Medium	8271M
F.I.T. Insertion Pliers – Long	8271L
✓ Set of 5 F.I.T. Pliers	827FC

	Item #
F.I.T. Tacks – 50 Short Tacks (.91 mm)	82801
F.I.T. Tacks – 50 Medium Tacks (1.67 mm)	82802
F.I.T. Tacks – 50 Long Tacks (2.42 mm)	82803
✓ F.I.T. Tacks – 48 Combo Tacks (Small, Medium & Long)	8281C

Technique

1 Create space within the appliance to allow the target tooth to move. This can be accomplished in any of three ways:

- a Use Triad rope or gel prior to thermoforming the aligner to block out on the model. This method allows the most accurate shaping of the space for the tooth to move into.
- b Use the Bubble-forming Thermopliers™ (item # 82590) to adjust the aligner after thermoforming.
- c Cut a window in the aligner after thermoforming using the Essix Window Bur (item # 18925)



2 Create the hole for placement of the F.I.T.™ tack.

- a Determine the optimal position for the tack on the Essix Smile Aligner (determine the best position to apply pressure on the tooth).
- b Use the F.I.T. Punch Pliers (item # 82730) to create the hole in the Essix Smile Aligner at the desired position. The hole is punched from the outside to the inside. Thus the telescoping cylindrical end is placed on the outside of the aligner.
- c Lightly contact the aligner and then squeeze the Pliers firmly in a quick motion. Make sure to check the inside of the aligner for extraneous plastic that may interfere with the seating of the tack.



3 Placement of the tack

- a Determine the desired F.I.T.™ tack size to use. It is recommended to use the tacks in sequence from small-to-long and not use the medium or long immediately.
- b Place a drop of water on the receptacle end of the F.I.T. Insertion Pliers. The surface tension of the water will allow the tack to stay "in" the Pliers without falling out easily.
- c Using the Essix Tweezer (item # 82148B), place the button end of the tack into the drop of water.
- d Place the receptacle end (the end with the water and button) on the inside of the aligner. Align the protrusion of the tack with the hole previously created.
- e Firmly squeeze the Pliers to push the protrusive end out of the hole and cause "mushrooming" of the tack.
- f Deliver the aligner to the patient to use!



4 Placing additional tacks

- a If more than 0.91 mm of movement is required, you will need to use the medium or medium and long tacks after using the short tack.
- b Simply place the F.I.T. Remover Pliers (item # 827HR) on the tack. The piston side should be on the outside of the aligner.
- c Gently squeeze the Pliers together and the tack should disengage from the aligner and end up in the receptacle of the Remover Pliers.
- d Add additional tacks following the same procedure in step 3 above.



Have additional technique questions? Call customer service at 1-800-883-8733!

1 When should I use the F.I.T.s instead of the Thermopliers?

- a Use F.I.T.s when a precise adjustment of 0.91 mm, 1.67 mm, or 2.42 mm is needed. The exacting shape of the tack ensures precise movement.
- b Use F.I.T.s only when there is a need to tip or rotate the tooth in one direction. If it is anticipated that more complex adjustments will be needed such as a mesial or distal movement, use Thermopliers.

2 If I use the F.I.T. system, do I need to create relief in the Essix Smile Aligner? Yes! The tooth must have space to move in the appliance or movement cannot occur. See step 1 for methods to create this space.

3 Will I need a thermometer or heat source to use the F.I.T. system? No! The F.I.T. System mechanically locks the tack in place thus requiring no heat or temperature measurement.

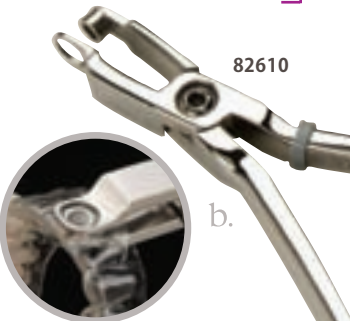
4 Do I really need a drop of water in the receptacle end prior to placement of the tack? No! The water is helpful in preventing the tack from falling out of the Pliers. Without the water, the tack must be carefully balanced in the receptacle to avoid dropping the tack.

H.I.T.™ Hook Inserting Tack System

Technique

1 Create a small space in the appliance to allow the "tail" or protrusive end to clear the tooth. Without this step, the "tail" will touch the tooth and result in undesired pressure on the tooth. If there is room in the aligner, the tooth will move. If there is no room, the tooth will cause the H.I.T. tack to be pushed out of the hole and the aligner. The ideal location for the relief is the center of the tooth surface.

- a Prior to thermoforming use Triad® rope or gel or blockout compound to create a small (0.5mm) "bump" on the model.
- b After thermoforming, use the Large Circle Thermopliers™ (item # 82610) to push the surface of the aligner 0.5mm away from the tooth. This technique is the easiest and quickest to provide the required relief in the aligner.



2 Create the hole for placement of the H.I.T.

- a Using the H.I.T. Punch Pliers (item # 82740), place the Pliers in the center of the space.
- b Lightly contact the aligner and then squeeze the Pliers firmly in a quick motion. Make sure to check the inside of the aligner for extraneous plastic that may interfere with the seating of the tack.



3 Placing the H.I.T.™

- a Place a drop of water on the receptacle end of the H.I.T. Insertion Pliers (item # 82720). The surface tension of the water will allow the hook to stay "in" the Pliers without falling out easily.
- b Place the notched end of the (item # 828HT) into the drop of water.
- c Place the receptacle end (the end with the water and button) on the outside of the aligner. Align the protrusion of the tack with the hole previously created.
- d Firmly squeeze the Pliers to push the protrusive end into the hole and cause "mushrooming" of the tack on the inside of the aligner.
- e Check that the H.I.T. hook is securely fastened to the aligner and can hold the force of the elastic.
- f Deliver the aligner to the patient to use!

