EASY STEP-BY-STEP INSTRUCTION GUIDE

Modification Guide

Advanced Hearing Instrument Modification Techniques

Starkey Hearing Technologies

Introduction

Starkey's Modification Program is designed to improve patient satisfaction by increasing the hearing professional's ability and confidence in fitting and modifying custom hearing instruments. Professional skill, combined with Starkey's flexible software platform, proper impression taking and precise modifications, will make the fitting process easier. Starkey's goal is to make modification as simple as possible, so the hearing professional feels confident with their skills and the patient is pleased with the product and service they receive.

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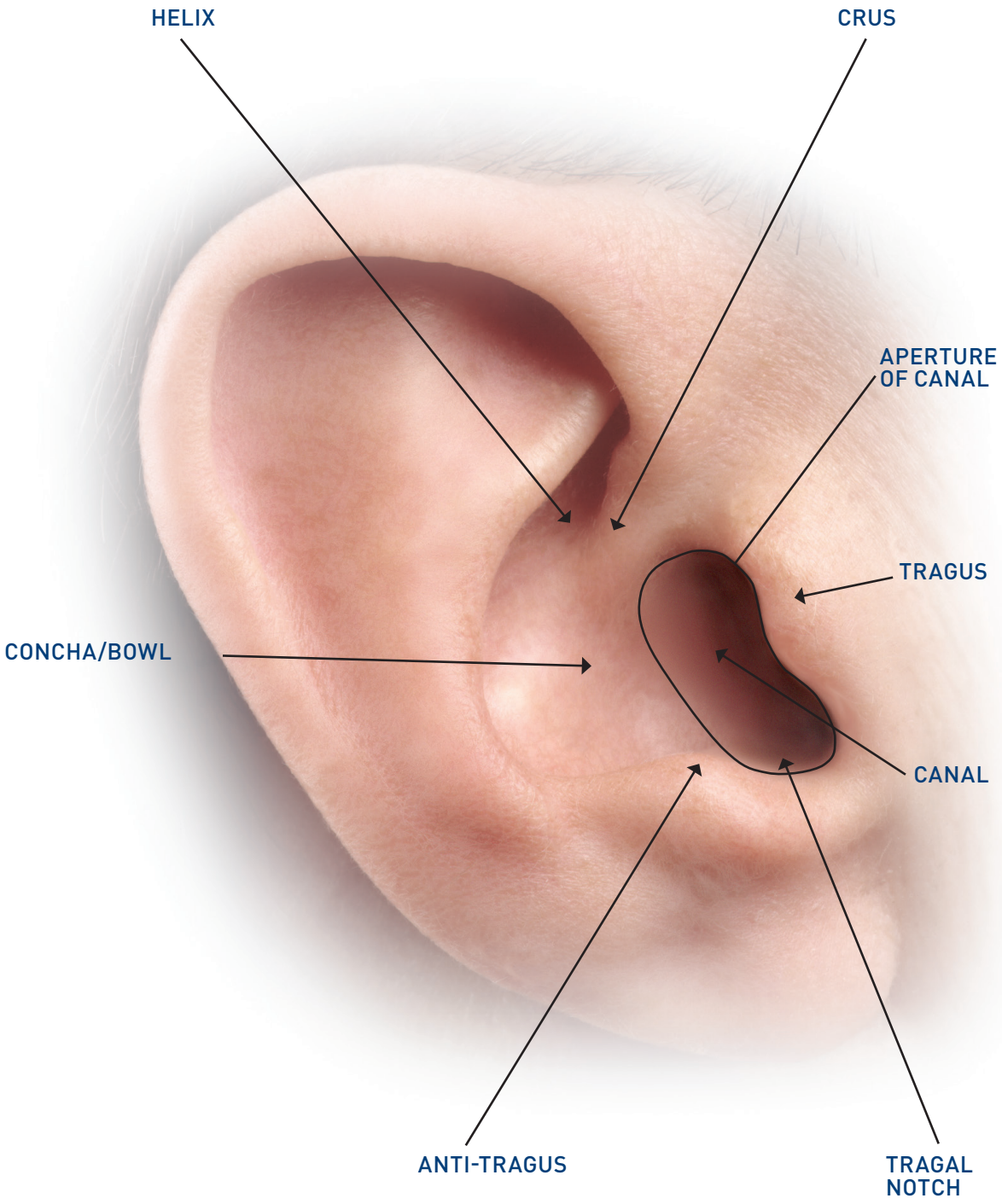
Understanding The Ear

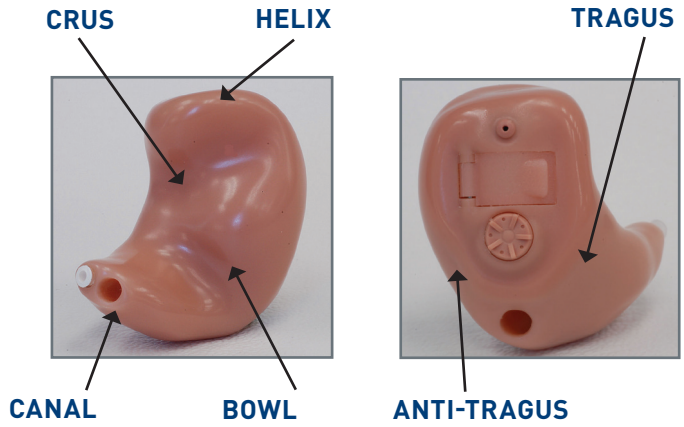
Knowing and understanding external ear anatomy is critical for effective communication during the manufacture and repair processes.



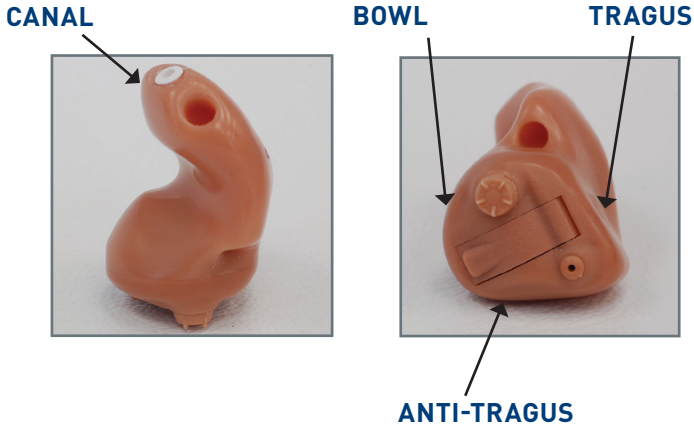
Understanding The Instrument

There is a direct correlation between the physical characteristics of custom hearing instruments and the external anatomy of the ear.

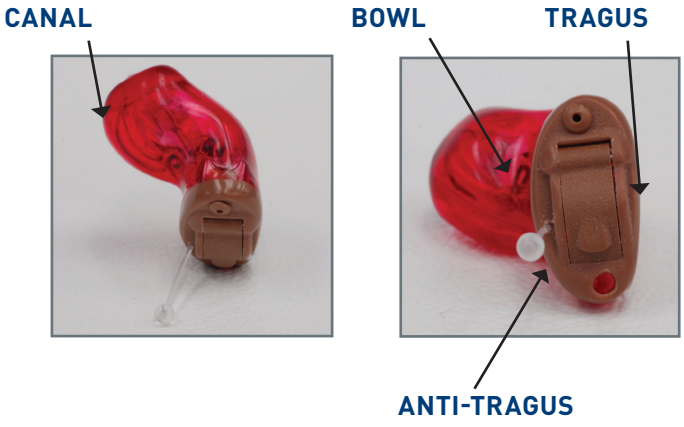
In-The-Ear Instruments



In-The-Canal Instruments



Completely-In-The-Canal Instruments



Section I

IT ALL STARTS WITH A GOOD EAR IMPRESSION

There is no hearing instrument technology or physical modification that can substitute for a good impression. Not having a good ear impression can cause problems such as feedback, discomfort, an aid "walking out" and many fitting problems.

Examine the ear canal

Before taking an impression it is crucial to fully examine the ear canal. It is also beneficial to have the patient move their jaw or "chew" in order to assess the amount of movement in the ear canal generated from the movement. It is also important to assess the length, diameter, texture, and any abnormalities or growths in the canal.

A video otoscope is the preferred method for examining a patient's ear canal. The system's monitor helps you more easily assess the attributes that effect a good impression.

Do not proceed if:

- Large amounts of cerumen will disrupt the accuracy of the impression
- There is visible sign of outer or middle ear infection or inflammation, distended or perforated eardrum; medical clearance should be obtained first
- There is excessive drainage or a foul odor; medical clearance should be obtained first

Use caution if:

- Cerumen is present and may be pushed further into the canal
- The canal widens after the second bend; removal of the impression may be difficult
- The canal is surgical, such as a mastoidectomy or fenestrated canal; medical clearance should be obtained first

Place the block

Place a flattened cotton oto-block in the ear canal to prevent the impression material from flowing further into the canal than is required. The block is flattened to provide the greatest amount of protection while sacrificing minimal canal length.

While a variety of oto-block materials are available, cotton oto-blocks, when used and placed properly, provide the best and least-compromising impression. The foam block often takes up much of the canal and does not provide an accurate representation of canal size and direction. When the impression reaches the hearing instrument manufacturer, the first step will be the removal of the block.

Remember:

- Place the oto-block past the second bend
- Use an oto-block that fully fills the canal to reduce the possibility of material leaking past the block
- Use a flattened cotton oto-block

Injecting the material

After the block is placed, it is time to inject the impression material into the canal. Much discussion surrounds the materials used for impression taking. In general, most people take the best impressions when they utilize the material they are comfortable with, whether it is silicone or powder/liquid acrylic, but be aware that powder/liquid acrylic may distort with heat or shrink over time.

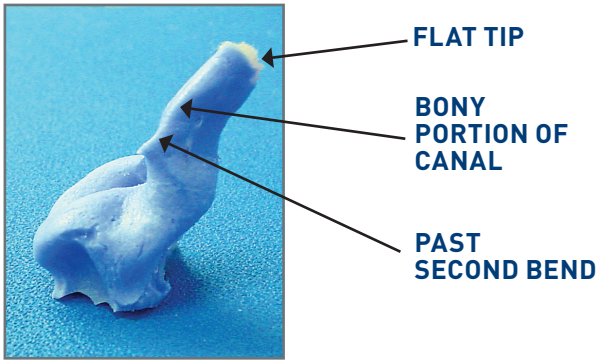
Removing the impression

Waiting for the material to cure is extremely important. Different materials have different curing times, so you must judge the time based on the material that you select. Typically, after 7-10 minutes, most material has cured and it is time to remove the impression. Gently pulling down, then back, then up on the pinna can help break the seal between the impression and the ear. Grasp the impression and pull it out with a gentle, twisting motion suited to the shape of the patient's ear canal. It is important that the impression material does not stretch.

Inspect your work

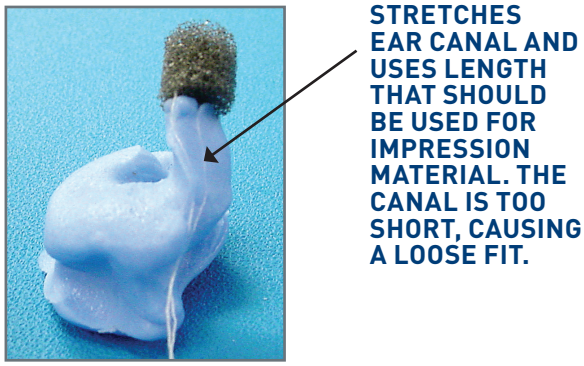
Always check the ear canal to ensure that no material was left behind. Inspect the impression for folds or stretch marks, gaps, voids, bubbles and canal length. When in doubt, take another impression; there is no better time than when the patient is seated in the chair.

A GOOD IMPRESSION



Uses a cotton oto-block

A BAD IMPRESSION



Uses a foam oto-block

When should you re-shoot the impression?

- If it's not past the second bend
- Unexplained voids or bubbles
- If an aid is being remade and the new impression is no longer than the aid itself
- When in doubt, re-shoot

Open jaw versus closed jaw

The virtues of impressions made with the patient's jaw closed versus opened have been debated for years. Various studies show both positive and negative results for each method. In general, the highest level of satisfaction with the lowest level of remakes for CIC and power aid fittings have resulted from impressions taken with an open jaw. The bottom line is that no one method works for all patients. The best approach is to assess the patient, their canal size, tissue firmness, ear canal movement and the aid type and gain requirements. This assessment helps determine the "best" impression technique. If you are unsure which method to use, a relaxed jaw approach is usually
the best option.

Packing up the impression

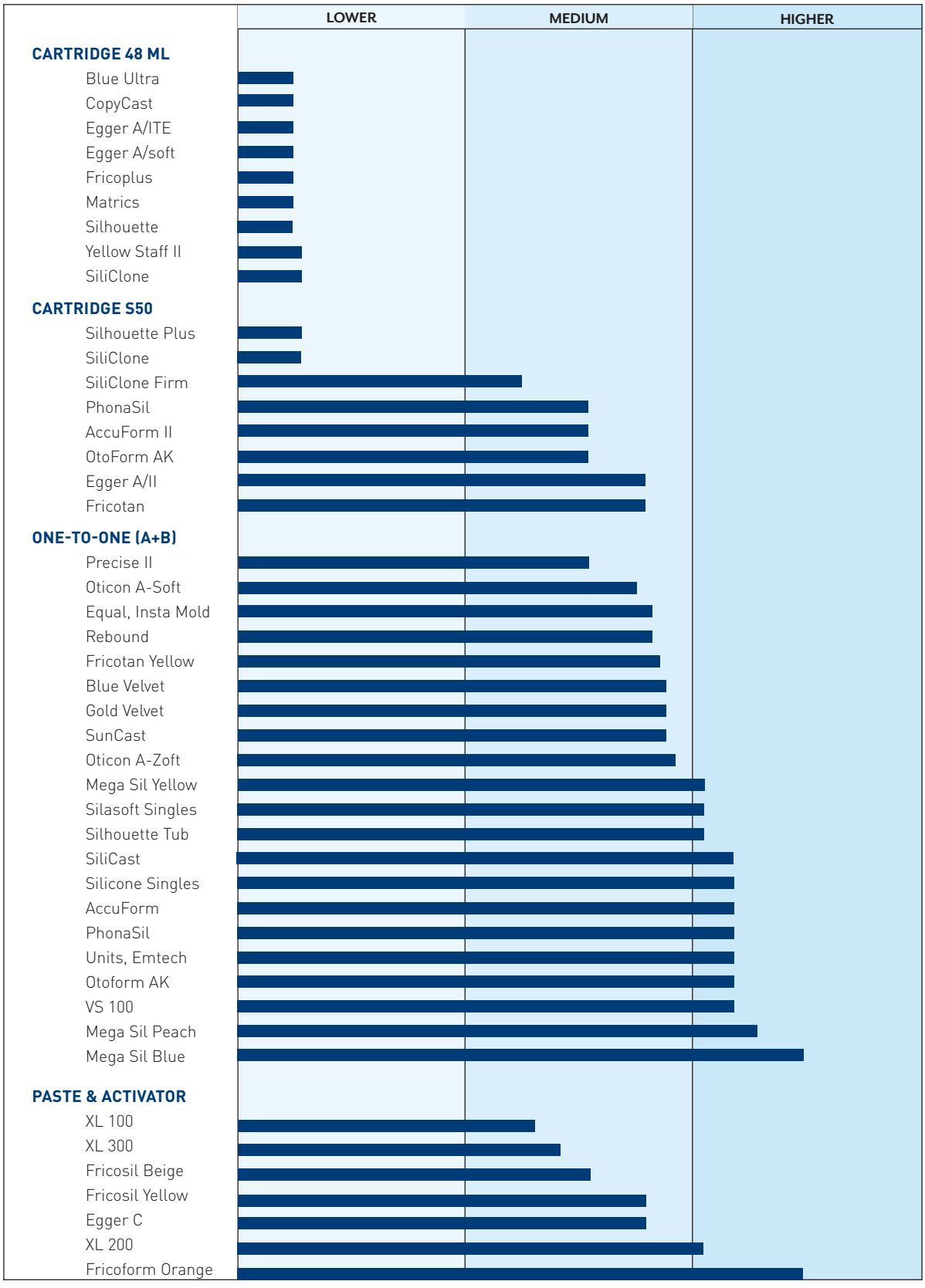
There is nothing more depressing than having the perfect impression, only to find that it has melted, been crushed or distorted during shipping to the factory. The packing method you choose depends on the type of impression material used. In general, most silicone impressions can withstand heat, cold, time and pressure. However, powder/liquid is not as resilient and should be shipped as soon as possible (within a week). Powder/liquid impressions need to fully dry prior to packing. They should be glued to the bottom of the box and have tissue gently wrapped around the canals to support them during shipping. The best shipping method for powder/liquid impressions is overnight delivery. This material does not hold up well in heat and may
melt or distort if exposed to hot conditions.

The scoop about Impression Material

There are various types of impression materials. The key factor is the viscosity of the material. Low-viscosity materials are easier to inject and are the least likely to expand the ear canal. A high-viscosity material will be more difficult to inject and will expand the ear canal. A medium viscosity tends to work best in general. All materials have advantages and disadvantages. One guideline may be to assess the current status of your impressions. How many fit, feedback, etc. problems are you experiencing? If you are having few problems, then your current method and material must be working. If you are having more problems, it may be time to consider a change in technique and material.

Ear impressions are much like fingerprints, no two are the same. The above shells show a good representation of different canal sizes and shapes. Because every ear is unqiue, you must examine and assess each canal individually prior to taking the patient's impression.

Silicone Impression Viscosity Guide



Section II

BUFFING THE INSTRUMENT

Buffing needs to be done after any grinding. Buffing can also be used to help reduce tight fits, especially in high-gain aids, when removing too much material can cause feedback.

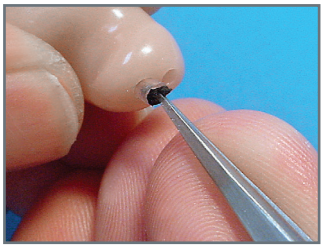
Always buff on low and never hold the aid against the buffing wheel longer than 2 to 3 seconds at a time; otherwise, plastic will heat and warp. Make sure to put a battery in the aid and have the volume control turned on. This prevents electrostatic discharge. Always put a sticker over the microphone and foam in the receiver to protect against foreign material.

BUFFING THE INSTRUMENT

STEP 1

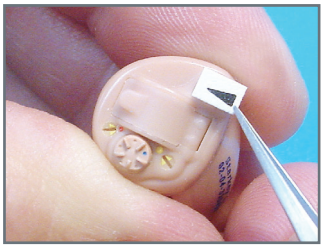
Insert battery into aid to protect against ESD (Electrostatic Discharge).

STEP 2



Place foam in receiver tube.

STEP 3

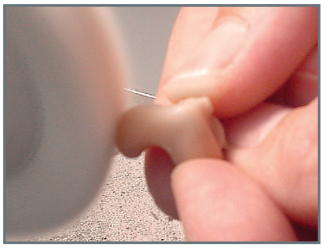


Place an arrow sticker over the mic.

STEP 4

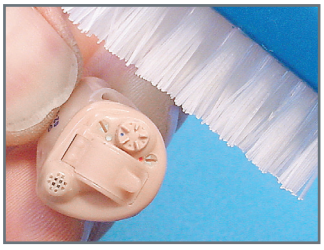
***Buff the aid, holding it against the buffing wheel for 2-3 second intervals and stopping for 1-2 seconds until the area is smooth.**

STEP 5



High shine on the wheel without compound. The entire aid should take only 5-10 seconds. Ninety percent of buffing should be done on the wheel with compound.

STEP 6



Remove foam and sticker from mic and receiver. Clean with brush.

* Buffing compound should be added periodically to your buffing wheel. If the wheel has already been broken in, compound will only need to be added every 2-4 aids. If you have a new buffing wheel, break it in by holding a sandpaper strip against it for 1-2 minutes. This will help remove any loose fabric. Then, add compound for approximately one minute.

Section III

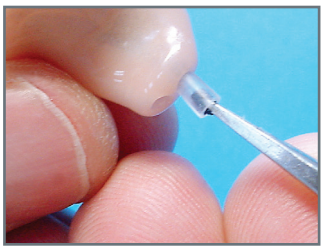
DIFFICULT INSERTION/TIGHT FIT

When encountering aids that are tight or difficult to insert, first check to see if there are any bulbous areas on the canal that need to be reduced. If there are no bulbous areas, start with tapering the canal tip.

Before starting to taper, always check the canal tip to determine how much acrylic is there to grind down. The areas to watch for are as follows: ITE, ITC and CIC bulbous area and canal tip; ITE helix.

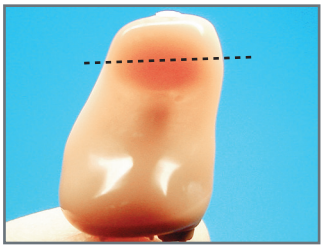
TAPER CANAL MODIFICATION

STEP 1



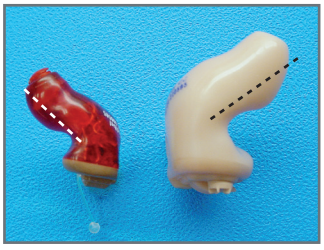
Always put foam in receiver tube to protect from debris.

STEP 2



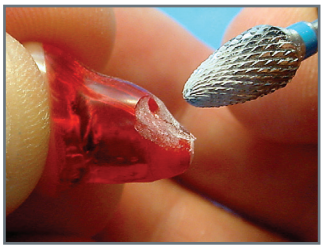
Check for shell thickness before starting to grind.

STEP 3



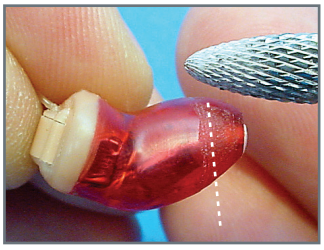
Check for bulbous area and reduce size of bulb.

STEP 4



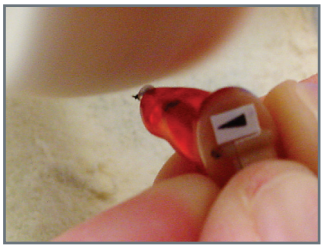
Step back vent.

STEP 5



Taper tip, but do not taper past the halfway point or you may cause a loose fit.

STEP 6



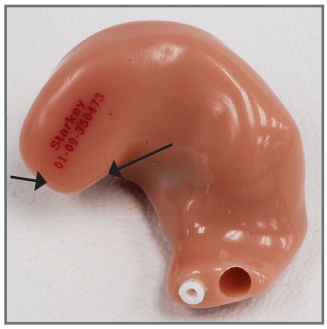
Buff canal tip. Use foam or sticker to cover mic and receiver.

ITE Helix Modification

A common area of discomfort can be the helix, specifically the edges, causing this to be an area of importance in tight fits. Most of the time you will be able to see redness or the ear will be tender to the touch.

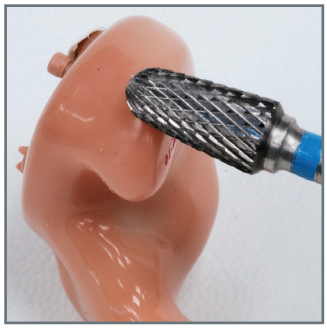
ITE HELIX MODIFICATION

STEP 1



Identify area of concern.

STEP 2

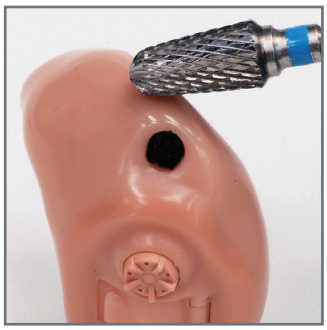


Grind outside of helix.

STEP 3

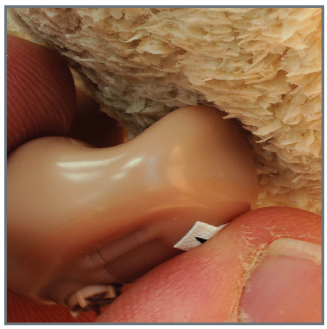
Grind inside of helix.

STEP 4



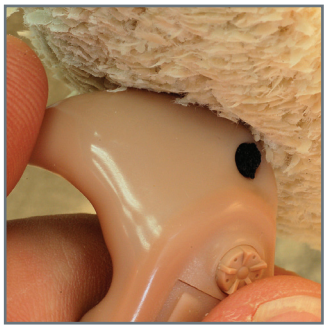
Alternatively, the tragal notch (bottom of the ear) may be reduced to relieve pressure in the Helix area (top of the ear).

STEP 5



Buff all reduced areas until smooth.

STEP 6



Buff until smooth.

CIC Canal Tip Modification

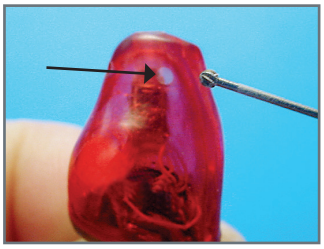
When tapering CIC canal tips, thin shells may be encountered due to the size of the aid. The canal tip may be filled in to prevent putting a hole in the shell. This will be easier than trying to patch a hole later.

CIC CANAL TIP MODIFICATION

STEP 1

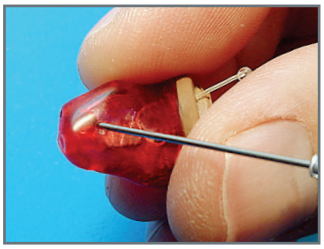
Locate receiver in shell.

STEP 2



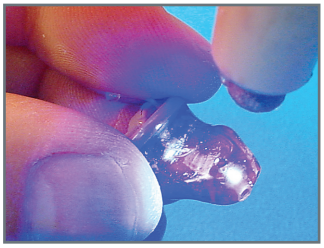
Drill 2 to 3 holes, but don't drill through the vent.

STEP 3



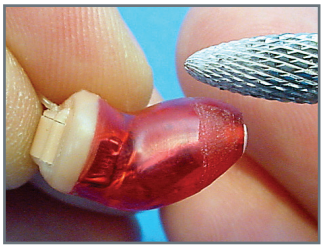
Fill in tip using UV material. Do not cover past half of the receiver.

STEP 4



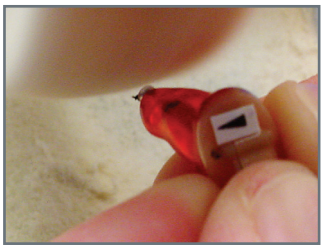
Cure under UV light for 30 to 60 seconds.

STEP 5



Taper canal.

STEP 6



Buff canal tip.

Section IV

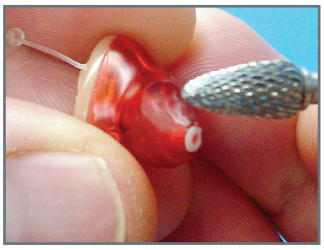
OCCLUSION MODIFICATIONS

The complaint of feeling plugged up can be addressed in two ways. First, reduce low frequencies through the software. Second, modify the vent by stepping the vent back and/or increasing the circumference.

Externalized vent modification is the easiest way to increase vent size. However, be aware that you can create a loose fit when performing this modification.

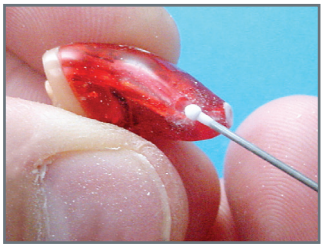
OPENING CIC VENT

STEP 1



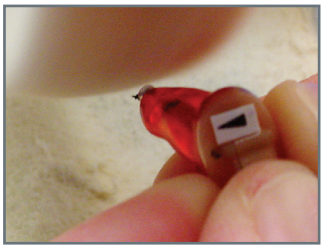
Step back vent.

STEP 2



Slowly open vent using a Tymp #2 extended burr.

STEP 3



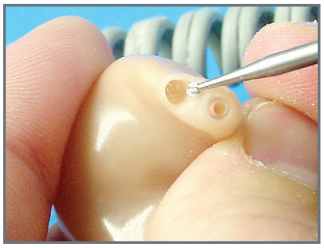
Buff and clean.

OPENING ITE/ITC VENT

STEP 4

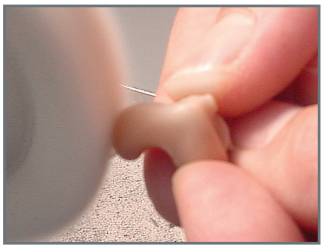
Step back vent. Angle parallel to vent.

STEP 5



***Select vent size (2V or 3V). Open vent at canal end.**

STEP 6



Buff and clean.

* When using a #2 extended burr, the vent will be the size of a 3V. If more venting is required, use a #1 extended burr and go down the edge of vent to open like IROS.

EXTERNALIZED VENT MODIFICATION

STEP 1

Grind down side of vent.

STEP 2

Buff edge smooth.

Section V

FEEDBACK/LOOSE FIT

There are many different solutions for feedback or loose fit. Generally, the focus of the buildup should be around the aperture of the canal. When building up for feedback, hard material is best for longevity. However, sometimes using a soft material will be required to alleviate feedback completely.

When encountering mild to moderate feedback from jaw movement, building up the area around the aperture of the canal is usually the most effective.

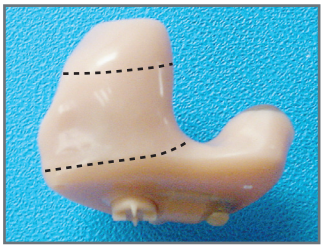
When building up an ITE, be careful not to let the material run into the crux area. The cartilage in this part of the ear is ridged and buildup in this area could cause discomfort.

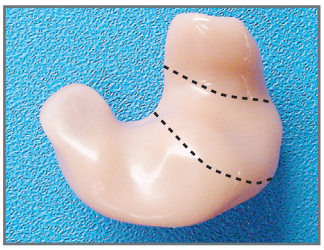
ITE AND ITC FEEDBACK

When adding material for feedback on ITEs and ITCs, follow the same steps as on the previous page. Apply material to the indicated locations below.

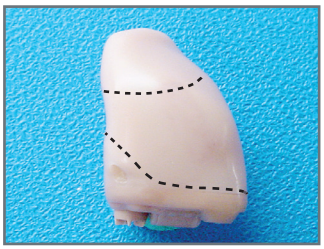
SUGGESTED LOCATIONS FOR ADDING MATERIAL TO ITE AND ITC AIDS

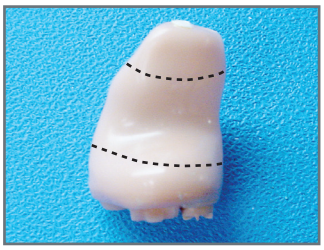
ITE





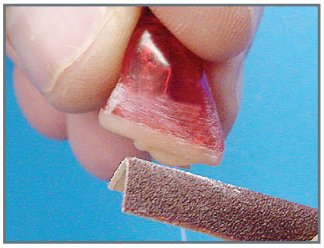
ITC





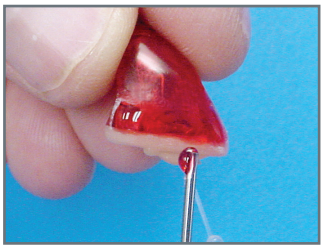
BUILDUP UV (BAND AROUND APERTURE OF CANAL)

STEP 1



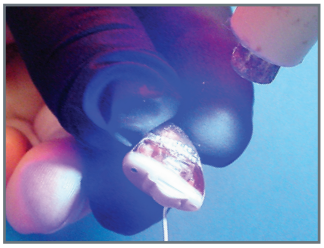
Rough up surface area of aperture.

STEP 2



Apply band around aperture 5-7mm wide.

STEP 3



Cure under light.

STEP 4

*Buff until tackiness is removed.

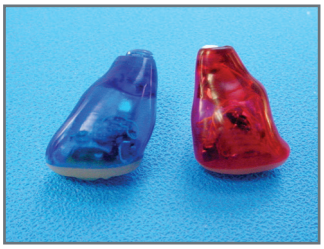
* When building up with UV material, the patch will be tacky after curing. Make sure to buff until tackiness is removed.

Aid walking out of the ear

This usually occurs from the ear canal pinching too close during jaw movement and is more common in smaller-model hearing aids. You can check for this using a video otoscope before or after taking the impression. Adding a canal lock with the original order will usually prevent this from happening. However, if this goes unnoticed until the fitting, try adding a canal lock in your office. See section VIII (page 24): Accessories. You can remove the part of the aid that is obstructing movement.

WALKING OUT OF EAR BUILDUP

STEP 1



Use VO to locate area where ear is moving. Identify area where ear moves and hits shell causing aid to move.

STEP 2

Remove shell from area where canal moves.

STEP 3

Verify and buff.

Section VI

FEEDBACK/LOOSE FIT

When patching, always clean the area thoroughly of wax and other debris. Use a foam pick or wax loop to remove foreign material and wipe with alcohol. After cleaning, scour area with sandpaper or Brillo pad so patch adheres to the shell.

PATCHING BLUE, RED OR CLEAR UV SHELLS WITH UV MATERIAL

STEP 1

Rough up only inside perimeter of damaged area.

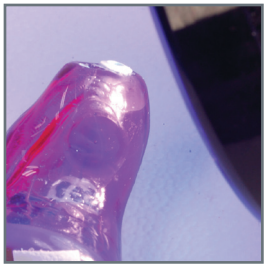
STEP 2

Moisten only inside perimeter of damaged area.

STEP 3

Stretch additional patching material over damaged area only.

STEP 4

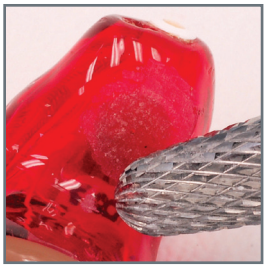


Cure patch under UV light for 30s. Clean patched area with alcohol to remove any sticky residue.

STEP 5

Add small amount of additional material to center of patch to level cavity.

STEP 6



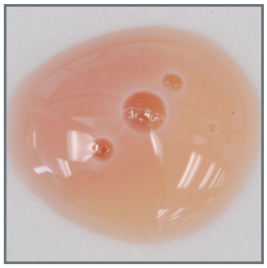
Lightly grind and smooth out patched area only.

STEP 7

Buff patched area until completely smooth and blended with shell.

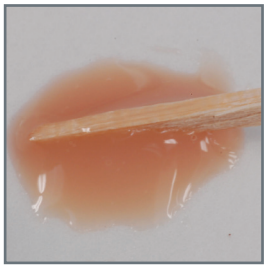
PATCHING PINK SHELLS WITH UV MATERIAL

STEP 1



Use a 1:1 combination of Pink UV and Beige SLA.

STEP 2



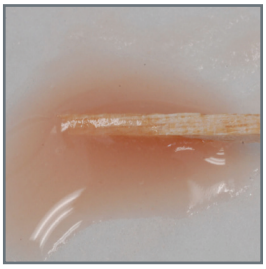
Mix thoroughly and remove bubbles.

PATCHING SHELLS WITH FOTOFIX AND ACRYLIC POWDER

STEP 1

Use a 1:1 combination of colored acrylic powder and Fotofix.

STEP 2



Mix thoroughly and remove bubbles.

Patch shell using previously demonstrated techniques.

Patching a Vent

When encountering an external hole in the vent, patch the area using the previous steps. However, if you have an internal hole or cavity leak, use the following steps to repair. Internal holes must be fixed or aids will create feedback, giving the false impression of a fit problem.

PATCHING HOLES IN VENTS

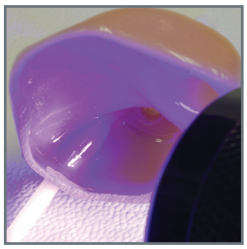
STEP 1

Insert correctly sized Teflon tube into vent. If tube does not fit, carefully grind inside vent with extended burr at blockage area.

STEP 2

Add minimal amount of UV material to cover damaged area.

STEP 3



Cure patch under UV light before removing Teflon tube.

CASED AID

STEP 1

Insert correctly sized Teflon tube into vent from faceplate side to verify fit. If tube does not fit, carefully grind inside vent with extended burr at blockage area.

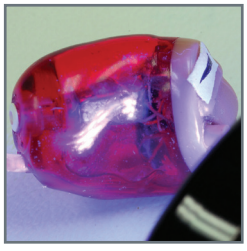
STEP 2

Remove tube and flood entire vent with UV material from faceplate side.

STEP 3

Holding aid in correct orientation, re-insert Teflon tube into flooded vent from faceplate side. Wipe away excess material.

STEP 4



Cure entire vent under UV light while holding aid in correct orientation. Once Teflon is removed, re-cure for a few seconds before buffing canal tip.

Section VII

WAX PROTECTION

BICONIC WAX GUARDS

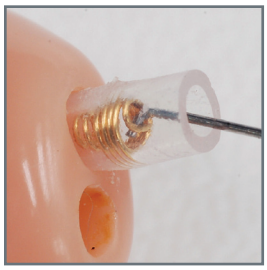
Biconic Wax Guards are used to stop wax damage in receivers and will need to be replaced whenever plugged.

REMOVING BICONIC WAX GUARDS

STEP 1

Use a hooked foam/wax pick to pull on removal bar of Biconic wax guard.

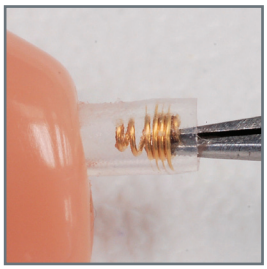
STEP 2



Hook removal bar and pull Biconic wax guard from tube. Ensure NOT to puncture tube with hook.

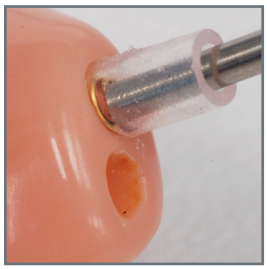
ADDING BICONIC WAX GUARDS

STEP 1



Use a tweezers to pick up Biconic wax guard, holding on to removal bar.

STEP 2



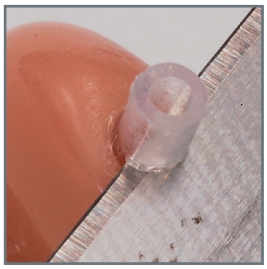
Using a blunt tool, push Biconic wax guard below surface of canal tip.

HEAR CLEAR™

Hear Clear is another type of wax protection system which is easier to install than a biconic wax guard and should be replaced whenever plugged.

ADDING HEAR CLEAR

STEP 1



After verifying rec. canister depth, cut receiver tube flush with tip of canal.

STEP 2

Using Hear Clear stick, insert Hear Clear into center of receiver tube. (Push straight in, and pull straight out.)

STEP 3

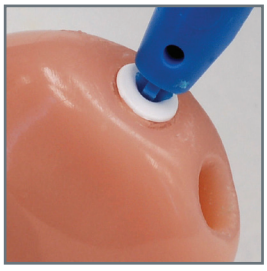
Verify Hear Clear fits flush in tube and on canal tip.

STEP 4

When removing a Wax Proof, use the same technique as cutting open an aid. Buff canal tip afterward.

REMOVING HEAR CLEAR

STEP 1



Use OTHER end of Hear Clear stick to penetrate (harpoon) and remove Hear Clear.

Section VIII

ACCESSORIES

MICROPHONE PROTECTION

Microphone protection is needed to keep undesirable material from entering the microphone spouts. Always ensure that the cover snaps into place inside the microphone and that the cover is sitting flush with the faceplate.

Use the uniquely formed tool to lift and remove the microphone cover correctly.

ADDING OMNI MICROPHONE PROTECTION

STEP 1

Snap Omni microphone cover into place by pressing down when centered inside the microphone spout.

STEP 2

Use the uniquely formed tool to lift and remove the microphone cover correctly.

ADDING DIRECTIONAL MICROPHONE PROTECTION

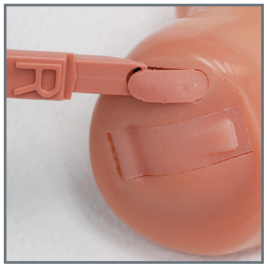
STEP 1

Line up colored dot under microphone cover according to side with screened spout of microphone.

STEP 3

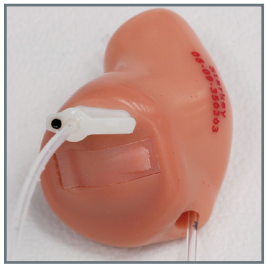
To remove, gently lift cover. Be mindful not to damage spout, faceplate or microphone cover cavity.

STEP 2



Snap Directional microphone cover into place by pressing down when centered inside the microphone spout.

STEP 4



To insert Real Ear measurement tube, line up black dot on coupler with screened spout of microphone. Press into place once centered over microphone cavity.

ADDING A CIC REMOVAL HANDLE

When replacing a CIC removal handle on an aid that already had one, the best location is next to where the other one was located. However, do not drill through the previous hole. This usually has fishing line still in it and will break the drill bit when trying to drill it out.

ADDING A CIC REMOVAL HANDLE

STEP 1

Remove any existing removal handle using a sharp razor blade.

STEP 2

Drill new removal handle hole adjacent to old handle or in custom location. For first time removal handles: ITE, place in Concha. ITC, place in Tragal notch.

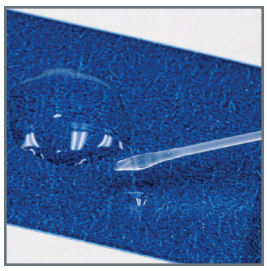
STEP 3

Using a sharp razor blade, remove any melted faceplate (flash) around hole.

STEP 4

Using tweezer cutters, cut removal handle to a point and verify dry fit.

STEP 5



Add a minimal amount of Loctite adhesive to removal handle tip (2-3mm). Remove any excess before inserting.

STEP 6

Grip handle close to pointed tip and insert into faceplate (2-3mm). Allow adhesive to dry completely (5 minutes).

ADDING A CIC REMOVAL HANDLE CONTINUED ON THE NEXT PAGE

ADDING A CIC REMOVAL HANDLE CONTINUED FROM THE PREVIOUS PAGE

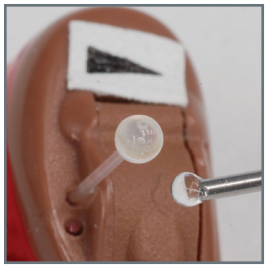
STEP 7

Using a tweezer cutter, cut handle 2mm longer than required.

STEP 8

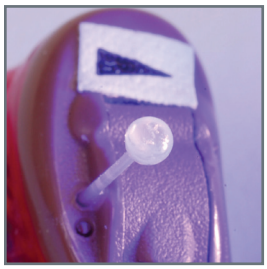
Using a hot soldering iron, pancake cut off tip of handle by dabbing it a couple of times against hot surface (10mm total length).

STEP 9



Add clear ball to handle (encase pancake) using clear HV UV material.

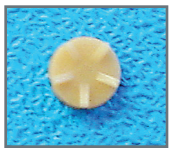
STEP 10



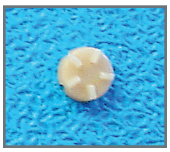
Cure ball under UV light. Once cured, verify strength of handle in faceplate and ball adhesion with a pull test.

RAISED/STACKED VOLUME CONTROL (VC)

Raised/stacked volume controls are needed when a patient has poor dexterity or difficulty using the VC. There are 2 types of raised VCs or 2Ws. The CVC (4-mm) ITC 2W will fit on a 3VC or a 4VC and the 5-mm ITE 2W will fit on a 5VC. Check your custom data sheet or invoice for the type that is on your aid.



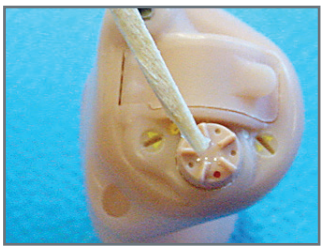
5-mm ITE (Glue)



CVC ITC (Glue)

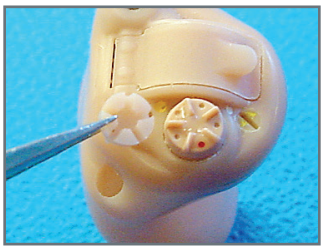
ADDING A RAISED/STACKED VOLUME CONTROL

5-MM/CVC STEP 1



Apply small amount of glue on top of VC.

5-MM/CVC STEP 2



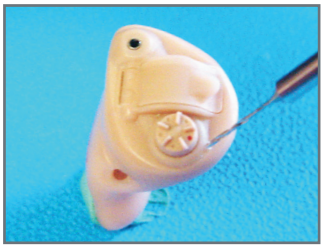
Line up grooves and apply 2W.

DOT WHEEL

Align the dots with the VC in the off position; Right is Red, left is marked with Blue. If the VC is not marked, verify the VC is off and mark VC dimple in the area where the faceplate can also be marked.

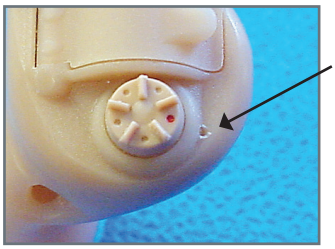
ADDING A DOT WHEEL

STEP 1



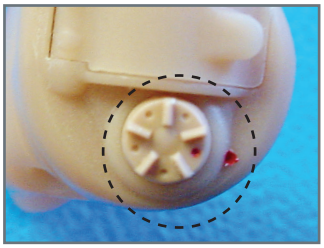
Use HV or pot marker and drill dimple that is aligned with VC in off position.

STEP 2



Mark dimple with paint pick.

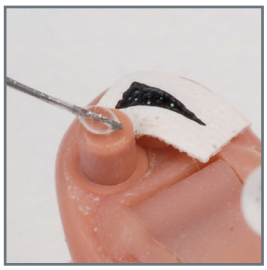
STEP 3



Verify quality of dot.

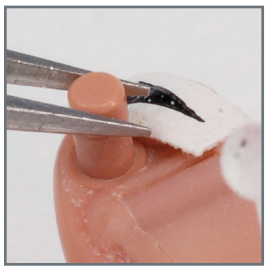
ADDING AN EXTENDER

STEP 1



Apply glue to leg and place extender on switch. Verify switch works.

STEP 2



SWITCH EXTENDER

Is used when the patient is having problems using the switch.

Section IX

MINOR REPAIRS

RE-TUBING RECEIVERS

Receiver tubing can be damaged or pushed in over time. In most cases, replacing the tubing is all the aid will need to function properly.

RE-TUBING A RECEIVER

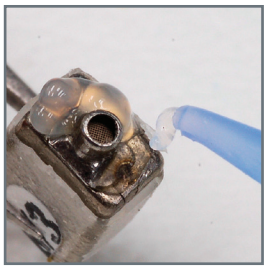
STEP 1

Cut angle on receiver tube to match specific angle on canal. General guide: CIC 0°, ITC 20°, ITE 30°.

STEP 2

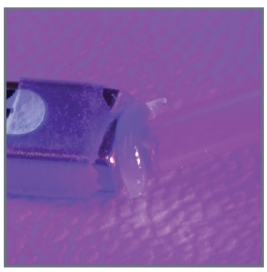
Using a tweezer cutter, clear receiver spout/ canister of all debris. Be mindful not to damage/ remove spout.

STEP 3



Apply bead of UV Silicone around spout onto receiver canister. Keep away from inside spout.

STEP 4



Press angled tube onto canister and cure UV Silicone.

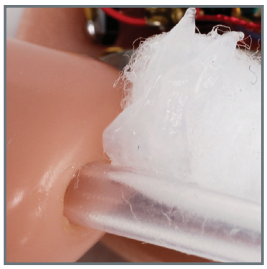
STEP 5

Cut excess UV Silicone from canister.

STEP 6

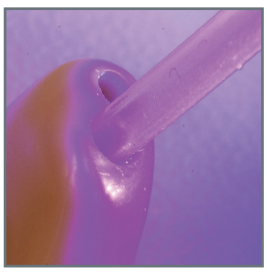
Inside canal tip, apply UV Silicone to receiver tube.

STEP 7



Wipe excess UV Silicone.

STEP 8



Cure UV Silicone around tube, 1 minute.

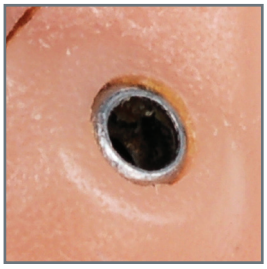
MICROPHONE PUSHED IN

Microphones can become dislodged from cleaning and/or being dropped. When putting a Microphone back in place, follow the steps below:

STEP 1

Clear all debris around mic spout using tweezer. Then, add minimal amount of adhesive around spout.

STEP 2



Insert mic completely into mic cavity in faceplate and verify mic spout flush with faceplate.

ATTACHING FACEPLATE

Faceplates can come off from minor impacts and/or the adhesive drying out. Use the following steps to re-attach.

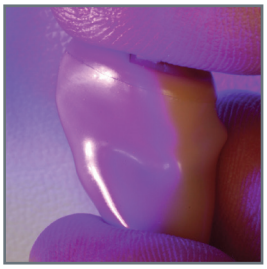
STEP 1

Moisten entire seam of shell with UV adhesive. (Do not attempt to grind shell seam or clean faceplate before adhering.)

STEP 2

Add faceplate to shell. Ensure alignment and NO wires in seam. Wipe excess UV material from seam.

STEP 3



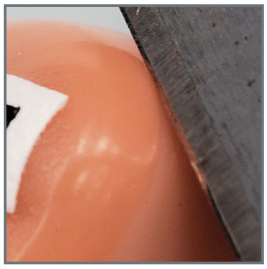
While applying pressure, cure UV adhesive under UV light.

STEP 4

Buff seam, if necessary.

OPENING HEARING AIDS

STEP 1



Choose open spot; no potentiometers, switches or volume controls (mic is good location). Find seam with razor blade. Always have battery in aid.

STEP 2

Rock blade back and forth to crack open seam.

STEP 3

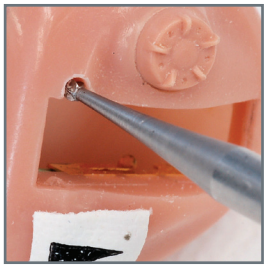
Continue to move around faceplate seam rocking razor blade back and forth.

* Hold razor blade as close to the edge as possible. This will help prevent severe cuts.

PATCHING A BATTERY DOOR HINGE PIN

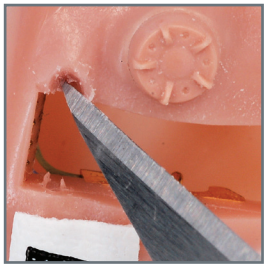
This is one of the more difficult patches. Always practice on an old aid before working on your repair.Typically, this is also only a temporary repair.

STEP 1



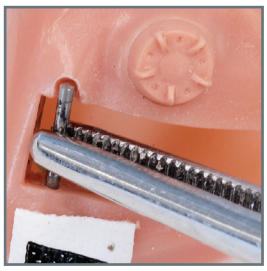
Hand clear damaged hinge pin cavity with drill bit.

STEP 2



Use scalpel to clear any plastic flash in or around cavity.

STEP 3

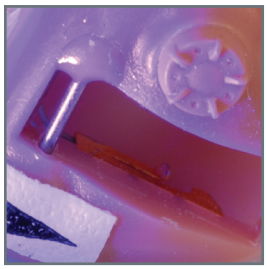


Dry fit hinge pin.

STEP 4

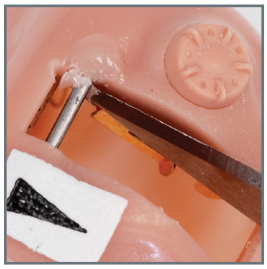
Add UV material. Lift hinge pin slightly to allow material to surround hinge pin in cavity.

STEP 5



Cure UV patch.

STEP 6



Remove excess patch in cavity to allow battery door to fit properly.

STEP 7

Verify fit of battery door.

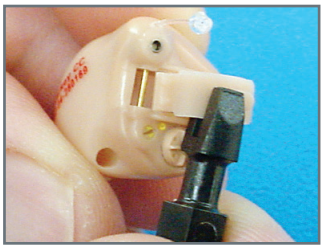
Section X

BATTERY DOOR IDENTIFICATION

BATTERY DOOR REPLACEMENT

When replacing damaged battery doors, always check that the polarity (+/-) of the battery door is correct before sending the aid to the factory for a dead aid repair!

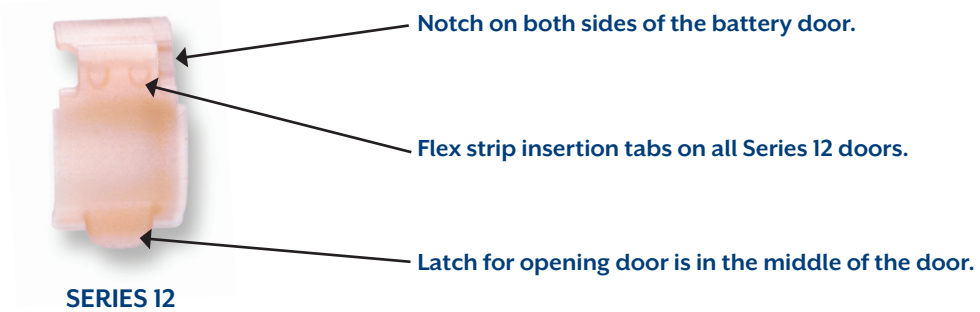
BATTERY DOOR EXTRACTOR



The extractor can be used on any Starkey-series faceplate. Insert battery extractor and twist away from the hinge pin or try to close battery door.

DO NOT PULL!!

SERIES 12 IDENTIFICATION



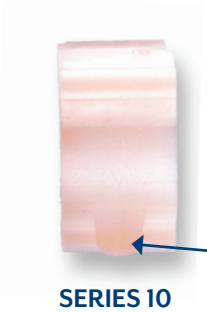
SERIES 12
Lip in Middle
Hinge Indentation

SIDE	SIZE	PART #
LEFT	TYMPANETTE	16420-XXX
	10	16452-XXX
	312	16454-XXX
	13	16457-XXX

SIDE	SIZE	PART #
RIGHT	TYMPANETTE	16421-XXX
	10	16453-XXX
	312	16455-XXX
	13	16456-XXX

PART # COLORS-(XXX) PINK-001 LIGHT BROWN-013
COCOA BROWN-006 DARK BROWN-002

SERIES 10 IDENTIFICATION



SERIES 10
Lip in Middle
No Indentations

No notch on battery door.

No insertion tabs on door.

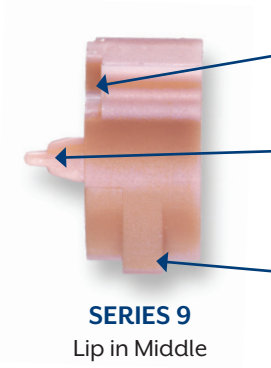
Latch for opening door is in the middle of the door and more curved than on Series 12.

SIDE	SIZE	PART #
LEFT	10	15755-XXX
	312	15759-XXX
	13	15762-XXX

SIDE	SIZE	PART #
RIGHT	10	15758-XXX
	312	15760-XXX
	13	15761-XXX

PART # COLORS-(XXX) PINK-001 LIGHT BROWN-013
COCOA BROWN-006 DARK BROWN-002

SERIES 9 IDENTIFICATION



SERIES 9
Lip in Middle
Mic Cover

Notch on one side of door only.

Microphone cover.

Latch to open door in the middle of door and square.

SIDE	SIZE	PART #
LEFT	10	19820-XXX
	312	19814-XXX
	13	19812-XXX

SIDE	SIZE	PART #
RIGHT	10	19821-XXX
	312	19815-XXX
	13	19813-XXX

SERIES 7 & 8 IDENTIFICATION

No notch on battery door.

No insertion tabs on door.

Latch for opening door is on the edge of the door and square.

SERIES 7 & 8
Lip on Edge
No Indentations

SIDE	SIZE	PART #
LEFT	10	19052-XXX
	312	19126-XXX
	13	19199-XXX

SIDE	SIZE	PART #
RIGHT	10	19053-XXX
	312	19127-XXX
	13	19200-XXX

PART # COLORS-(XXX) PINK-001 LIGHT BROWN-013
COCOA BROWN-006 DARK BROWN-002

INTECH IDENTIFICATION

Has a ring around the entire door.
This is the only door that has a ring.

INTECH
Lip in Middle
No Indentations

SIDE	SIZE	PART #
LEFT	10	15972-XXX
	312	16489-XXX
	13	16484-XXX

SIDE	SIZE	PART #
RIGHT	10	15973-XXX
	312	16488-XXX
	13	16485-XXX

PART # COLORS-(XXX) PINK-001 LIGHT BROWN-013
COCOA BROWN-006 DARK BROWN-002

Section XI

VENT IDENTIFICATION

ITE VENT IDENTIFICATION

1V

2V (MV)

3V

4V (VV)

IROS A

IROS B

IROS C

IROS D

DV
(VV with Tapered Tip)

ITC VENT IDENTIFICATION

BOTTOM VENT

1V

2V (MV)

3V (VV)

DV
(VV with Tapered Tip)

ID

IC

IT

TRENCH (TNV)

Venting continued from the previous page

CIC VENT IDENTIFICATION

1V

2V (MV)

3V (VV)

IT

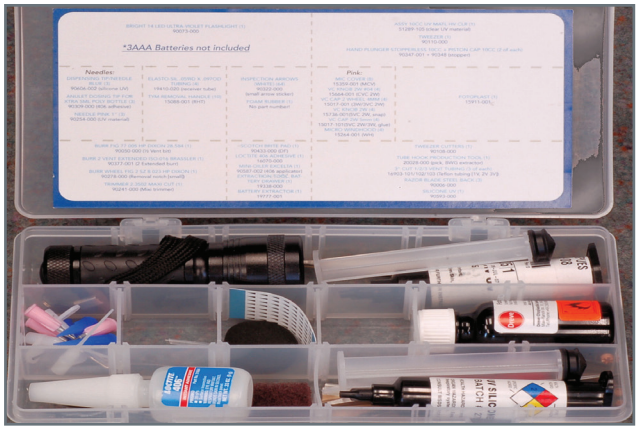
IO

Section XII

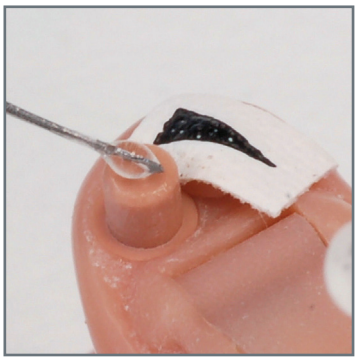
MODIFICATION TOOLS

HEARING AID MODIFICATION KIT

52498-000



ADHESIVE, APPLICATOR



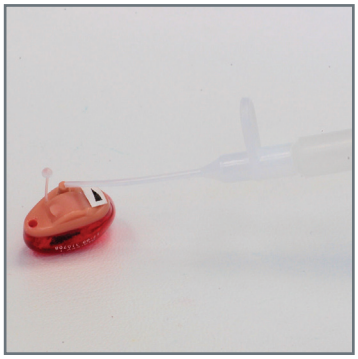
90587-002 (S)
90587-003 (L)
Apply small amounts adhesive/material

ADHESIVE, LOCTITE

16070-000 (406) - medium viscosity (included)
16071-000 (401) - high viscosity (additional)
90353-000 (4081) - low viscosity (additional)
Adhere removal handle in faceplate

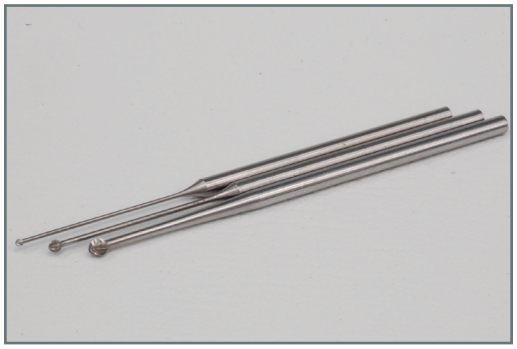
Modification Tools (continued)

ADHESIVE, TIP



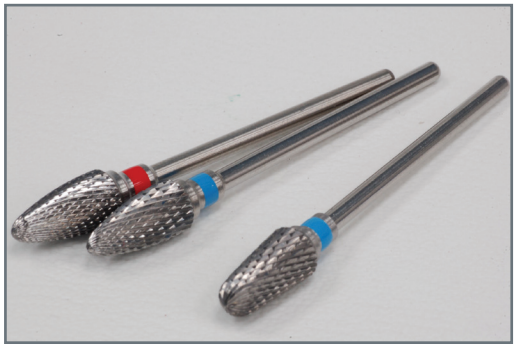
90309-000 (401-4081 Loctite)

BURR, EXTENDED



90470-001 (1 vent extended) (additional)
90377-001 (2 vent extended) (included)
90062-000 (3 vent extended) (additional)
Enlarge vent sizes

BURR, TRIMMER



90242-000 red
(pineapple-sharp nose, fine) (additional)
90241-000 blue
(pineapple-sharp nose, rough) (included)
90243-000 blue
(rounded, rough) (additional)
Cut back canal tip

BURR, WHEEL (RN)

90278-000
(removal notch, small) (included)
90210-000
(removal notch, large) (additional)
Also, grind out hairline cracks & cosmetically poor seams

Modification Tools (continued)

DRILL, REMOVAL HANDLE (RHT)

90050-000 (½ vent)

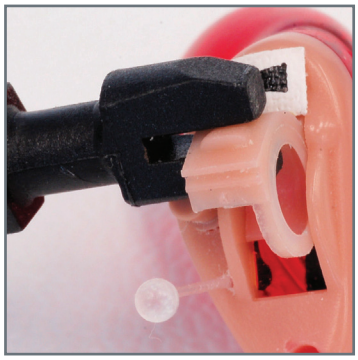
DULL FINISH (DF)

90433-000
Dull finish on faceplate

EXTRACTOR, BATTERY

19777-001 (metal, formed)

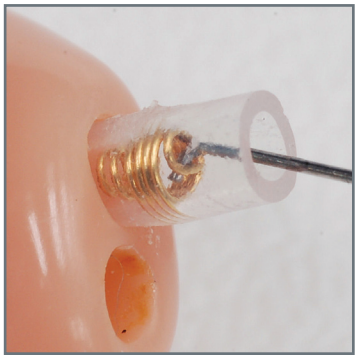
EXTRACTOR, BATTERY DRAWER



19338-000 (plastic) + screw driver tip

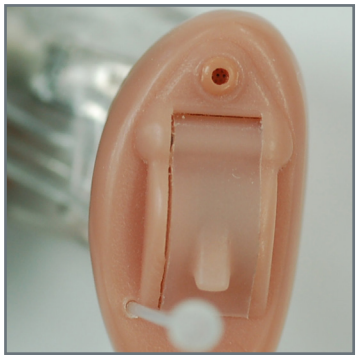
Modification Tools (continued)

HOOK, TUBE



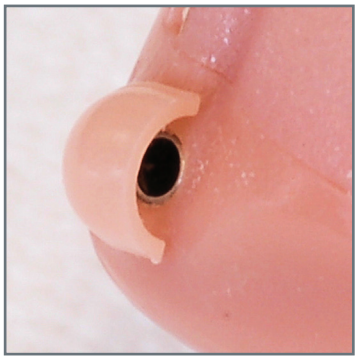
20028-000 (foam/wax removal pick, Biconic wax guard (BWG) extractor)

MIC COVER (OMC)



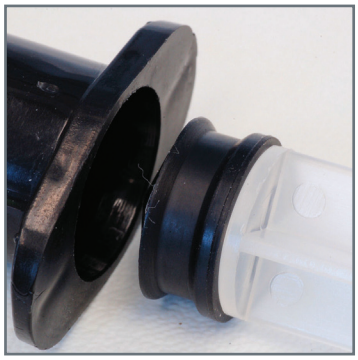
52829-(00B BLK, 002 DKB, 004 CNT, 005 CLR, 006 CBN, 023 LTB/PNK)

MIC WINDHOOD (WH)



15264-001 PNK (2/DKB, 4/ CNT, 6/CBN, 13/LTB)

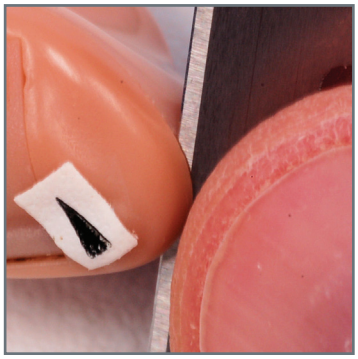
PLUNGER CLEAR, 10CC



90347-001 + 90348-000 (PISTON CAP 10CC SYRINGE BLACK)
NOT included with additional 10CC orders, e.g. UV material shell, 10CC & UV silicone, 10CC

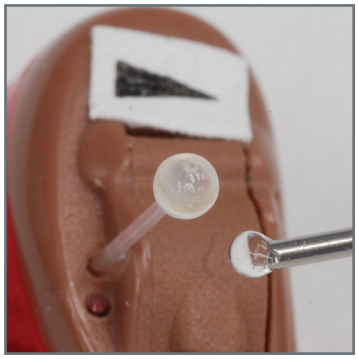
Modification Tools (continued)

RAZOR BLADE, STEEL BACK 100 PK



90006-000

REMOVAL HANDLE, CIC (RHT)

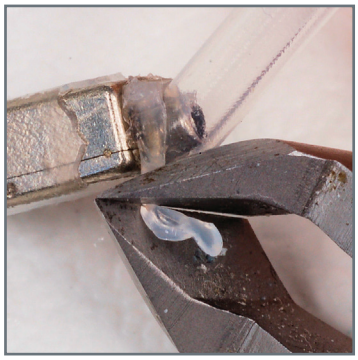


90877-002 (25)
90877-001 (500)
Ref. adhesive, loctite
drill, removal handle (RHT)
UV material shell, 10CC (CLR)

STICKERS, ARROW INSPECTION (WHITE)

90322-000 (small)
Debris protection, microphone

TUBE, RECEIVER, 0.75”



19410-020 Silicone
16057-001 (bulk) Silicone
16091-000 Viton (white)
Re-tubing receivers

Modification Tools (continued)

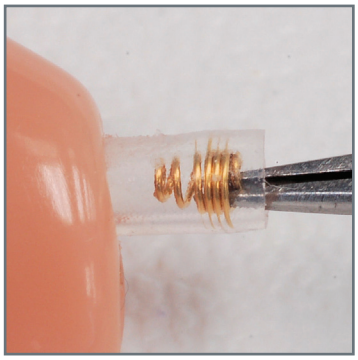
TUBE, VENT TEFLON

16903-101 (1V)
16903-102 (2V)
16903-103 (3V)
16903-104 (4V) (additional)
Patch vent leaks

TWEEZER, CUTTER

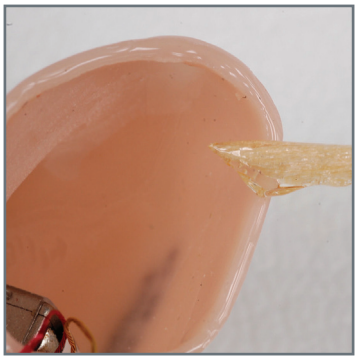
90108-100

TWEEZER, SHARP NOSE



90110-000

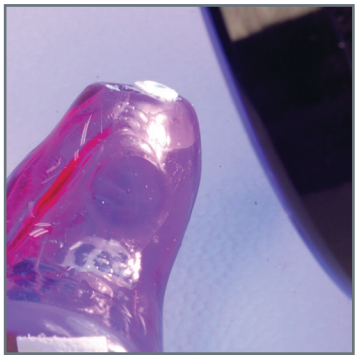
UV ADHESIVE



90569-000, Fotofix 20 ML CLR
90569-001, Fotofix 20 ML PNK TINT (additional)
Adhere faceplate to shell & acrylic powder patching

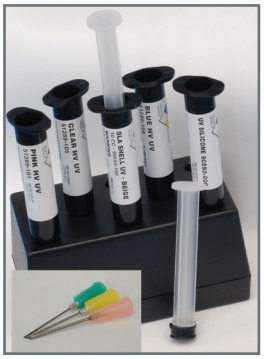
Modification Tools (continued)

UV FLASHLIGHT, 14 LED



90073-000 (batteries not included)

UV MATERIAL SHELL, 10CC



01958-001	**Eight Syringe Holder Box (additional)**
Shell:	**51289-105 Clear HV (removal handle ball)**
Material:	**51289-101 Pink HV (patching)**
	51289-107/8 Red/Blue HV (additional)
	90564-100 Beige, SLA (additional)
Needles:	**90254-000 Pink, large**
	90257-000 Green, small (additional)
	90256-000 Yellow, medium (additional)

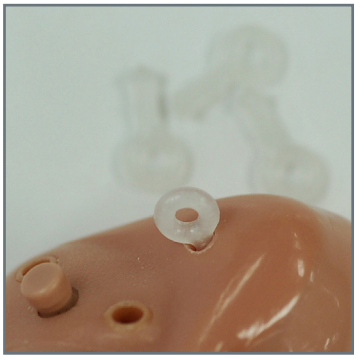
Ref. Plunger, 10CC

UV SILICONE, 10CC

90593-000 10CC syringe
90606-002 blue needle

Adhere silicone tubing
ref. plunger, 10CC

CHAIN LOOP (CL)



91017-000

Modification Tools (continued)

VENT BRUSH

90794-001 (S = Yellow)
90794-002 (M = Blue)

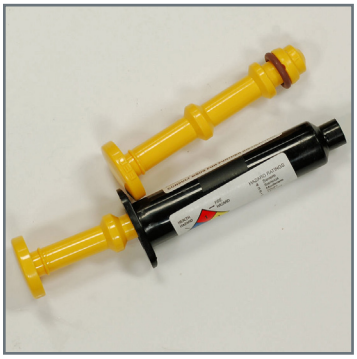
VC CAP, 2W/3W 5VC, GLUE

15017-101 PNK
(102/DKB, 104/CNT, 106/CBN, 113/LTB)

VC CAP, 2W/3W CVC (4VC) OR 3VC, GLUE

15017-001 PNK
(2/DKB, 4/CNT, 6/CBN, 13/LTB)

PLUNGER YELLOW, 10CC



90999-000

Notes

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