



## 3M™ Wireless Communication System Model XT-1 Headset Service Procedures – Using assemblies Technical Bulletin - #140

The document below

Lists the 3M™ Wireless Communication System Model XT-1 headset assemblies available for servicing (with 3M OEM SKUs)  
Describes the standard procedure for conducting break-fix and maintenance tasks on the 3M™ Wireless Communication System Model XT-1 headset using readily available assemblies from 3M

Only 3M OEM parts (SKU's listed below) should be used for servicing. These procedures should be conducted in a repair center facility.

### 3M™ Wireless Communication System Model XT-1 Headset Service Parts – Assemblies

SKU #	Name
78-6911-4727-2	3M(TM) Head Pad, 10/pkg
78-6911-4728-0	3M(TM) Ear Pad, 10/pkg
78-8117-4729-8	3M(TM) Ear Cup, 5/pkg
78-6911-4745-4	3M(TM) Windscreen, Microphone, 10/pkg
78-8117-4123-6	3M(TM) Headband, Assembly
78-6911-4882-5	3M(TM) Kit, Battery Terminal
78-6911-4910-4	3M(TM) Kit, Battery Latch and Button
78-6911-5094-6	3M(TM) Boom, Mic, Assembly
78-8117-4237-4	3M(TM) Case, Outer, Assembly, 1/case
78-8117-4127-7	3M(TM) Case, Inner, Assembly
78-8117-4099-8	3M(TM) LED Lens

### 3M™ Wireless Communication System Model XT-1 Headset Standard Break-Fix Service Procedures

1. Replacing the Ear Cup and/or Ear Pad and/or Head Pad and/or Microphone Windscreen.
2. Replacing the Inner Case Assembly, Outer Case Assembly, and Boom Microphone Assembly.
3. Replacing Battery Latch Parts, Battery Latch Spring, or Battery Holder PWA.
4. Replacing the Headband Assembly.
5. Replacing the Indicator LED Lens and the Programming Station IR Lens.

## Replacing the Ear Cup and/or Ear Pad and/or Head Pad and/or Microphone Windscreen

### Replacing the Ear Cup and/or Ear Pad

Tools Required: None

3M OEM Parts and SKUs:

SKU #	Name
78-6911-4728-0	3M(TM) Ear Pad, 10/pkg
78-8117-4729-8	3M(TM) Ear Cup, 5/pkg

Procedure:

1. To replace the ear cup or ear pad, use your fingers to twist and pull the ear cup and ear pad together, from the speaker on the headset case.
2. Gently separate the ear pad from the ear cup.  
Replace the damaged ear pad and/or ear cup with a new one and reassemble.
3. Align the assembled ear cup and ear pad with the headset speaker, then twist and press into place.



**FIGURE 1**

### Replacing the Head Pad:

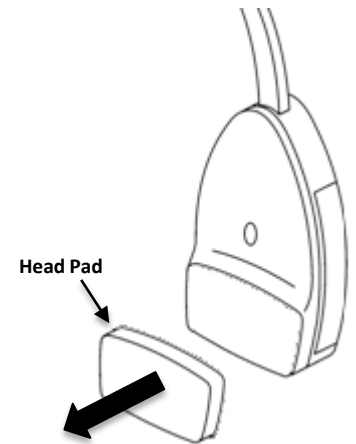
Tools Required: None

3M OEM Parts and SKUs:

SKU #	Name
78-6911-4727-2	3M(TM) Head Pad, 10/pkg

Procedure:

1. To replace the head pad, use your fingers to peel the old pad away from the battery case.  
Clean off all adhesive residue remaining on the surface.
2. Remove the protective backing from a new self-adhesive head pad and press into place on the inside surface of the battery case.



**FIGURE 2-a**

### Replace Microphone Windscreen on the headset

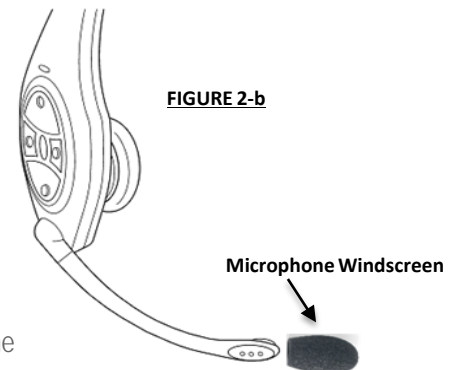
Tools Required: None

3M OEM Parts and SKUs:

SKU #	Name
78-6911-4745-4	3M(TM) Windscreen, Microphone, 10/pkg

Procedure:

1. Remove the old microphone windscreen from the headset.
2. Install the replacement microphone windscreen from the manager's kit by stretching the of new windscreen and slide over Microphone.



**FIGURE 2-b**

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## Replacing the Inner Case Assembly, Outer Case Assembly, and Boom Microphone Assembly

### Replacing the Inner Case Assembly

#### Tools Required:

- 1 - Small size Phillips screwdriver
- 1 - External retaining ring removal tool

#### 3M OEM Parts and SKUs:

SKU #	Name
78-8117-4127-7	3M(TM) Case, Inner, Assembly

#### Procedure:

**Important Note:**

Be careful to avoid pinching wires between case halves when reassembling the electronics case. Damaged wiring may cause the headset to fail during use.

1. Make sure power is off and remove the battery from the headset as illustrated in Fig 3.
2. Remove the ear pad by using your fingers to pull the ear pad from the ear cup. Then grasp the headset firmly in one hand, and pull the ear cup off the speaker with the fingers of the other hand. See Fig 4.
3. To disassemble the electronics side of the headset begin by removing the three screws shown in the illustration in Fig 5.
4. Carefully separate the inner and outer halves of the case assembly. Support the Inner Case so the speaker cable is not strained.

**Important Note:**

It is important to disconnect the speaker from the main circuit board as soon as the inner and outer case are separated to avoid stress on the wires inside the sealed enclosure. Replace the entire inner case assembly if the wires are broken at the speaker.

5. Remove the speaker wiring connector from the main circuit board. See Fig 6.
6. To install the new replacement Inner Case, connect the speaker wiring connector on the speaker wires to the connector on the main circuit board.
7. Make sure the LED Lens is still in place. Otherwise, follow the procedure **Replacing the Indicator LED Lens** to re-install the LED Lens.
8. Bring the two halves together and replace the screws as shown in Fig 5.
9. Reinstall the battery (Fig 7) and check operation of the headset prior to returning it to regular operation.

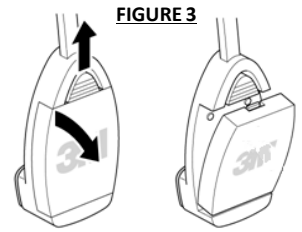


FIGURE 3

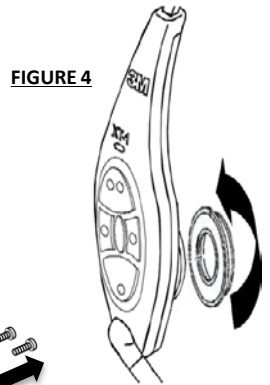


FIGURE 4

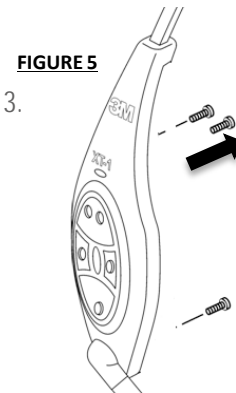


FIGURE 5

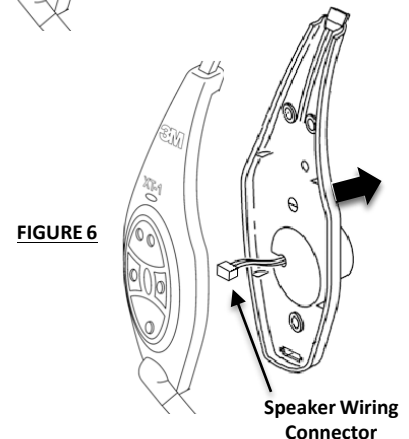


FIGURE 6



FIGURE 7

## Replacing Boom Microphone Assembly

Tools Required:

- 1 - Small size Phillips screwdriver
- 1 - External retaining ring removal tool

3M OEM Parts and SKUs:

SKU #	Name
78-6911-5094-6	3M(TM) Boom, Mic, Assembly

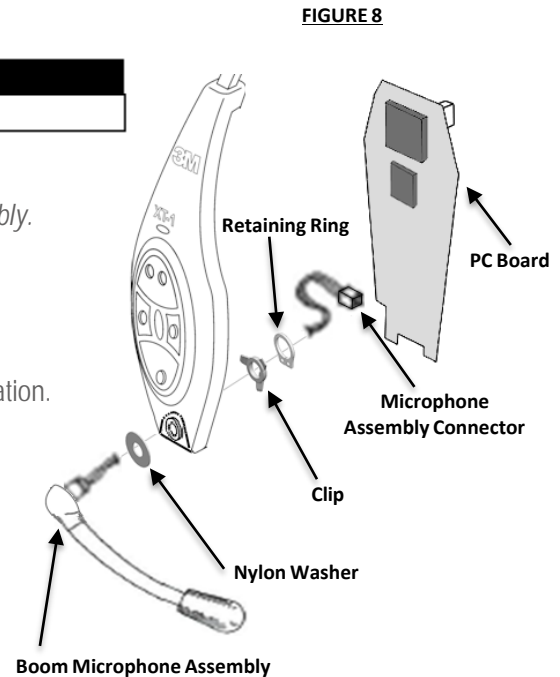
Procedure:

1. Repeat steps 1-4 from the previous procedure *Replacing Inner Case Assembly*.
2. Disconnect Microphone Boom Assembly wires by pulling the connector off the main circuit board. See Fig 8.
3. Locate and remove the retaining ring using the retaining ring tool. See illustration.

**Important Note:**

Make sure you set the retaining ring tool adjustment screw to limit how far the retaining ring is expanded. Unless this is done, the retaining ring will stretch out of shape to a point where it will not stay in its groove.

4. Remove the clip, nylon washer and boom microphone assembly.
5. Install replacement boom microphone by performing steps 1-3 in reverse order.
6. Reinstall the battery and check operation of the headset prior to returning it to regular operation.



## Replacing Outer Case Assembly

Tools Required:

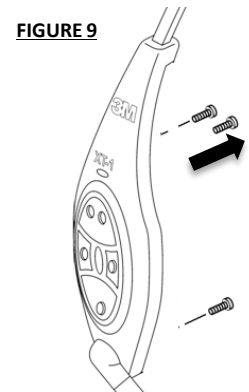
- 1 - Small size Phillips screwdriver

3M OEM Parts and SKUs:

SKU #	Name
78-8117-4237-4	3M(TM) Case, Outer, Assembly, 1/case

Procedure:

1. Replace the Outer Case Assembly as follows:
  - a. Remove the boom microphone assembly as described in the previous procedure and install it in the new replacement outer case.
  - b. Connect the connector on the boom microphone wires to the connector on the main circuit board.
  - c. Reassemble the inner and outer case halves by bringing the two halves together and replace the screws as shown in Fig 9.
2. Make sure the LED Lens is still in place. Otherwise, follow the procedure *Replacing the Indicator LED Lens* to re-install the LED Lens.
3. Reinstall the battery (Fig 10) and check operation of the headset prior to returning it to regular operation.



## Replacing Battery Latch Parts (Battery Button, Battery Latch, or Battery Latch Spring) and /or Battery Holder PWA (Printed Wiring Assembly)

### Replacing Battery Latch Parts

Tools Required:

- 1 - Number 0 Phillips Screwdriver
- 1 - Tweezers
- 1 - Small size Phillips screwdriver

3M OEM Parts and SKUs:

SKU #	Name
78-6911-4910-4	3M(TM) Kit, Battery Latch and Button

Procedures:

1. Make sure power is off and remove the battery from the headset. See Fig 16.
2. Disassemble the battery housing side of the headset by removing screws as shown in the illustration. See Fig 17.
3. Carefully separate the two halves of the housing. See Fig 18-a.
4. Holding the battery half of the housing in one hand, carefully separate the Battery Latch from the Battery Latch Button. See Fig 18-b.  
NOTE: It may be necessary to compress the two retainer posts on the Battery Latch Button to release the Battery Latch.
5. Remove and set aside the two pieces that make up the button/latch assembly.
6. Locate the spring in the housing and remove it using a tweezers or equivalent tool, to grasp and lift the spring up and away from the housing. See Fig 19.
7. Replace any broken Battery Latch parts (Battery Button, Latch, or Spring) and reassemble onto the battery housing performing steps 1-6 in reverse order.

FIGURE 16

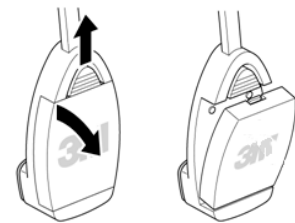


FIGURE 17

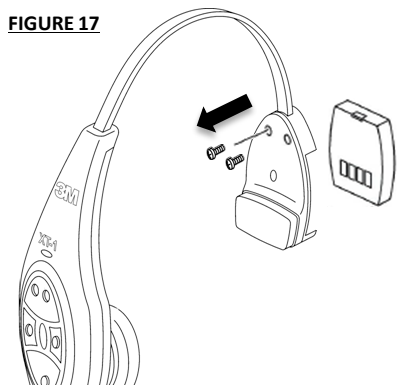


FIGURE 18-a

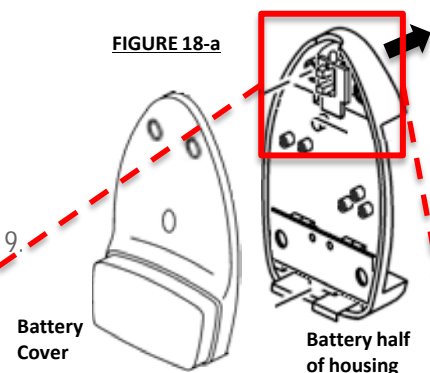


FIGURE 18-b

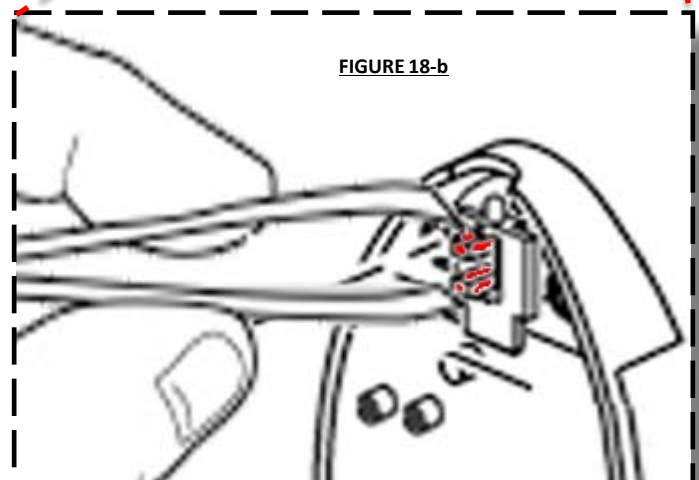
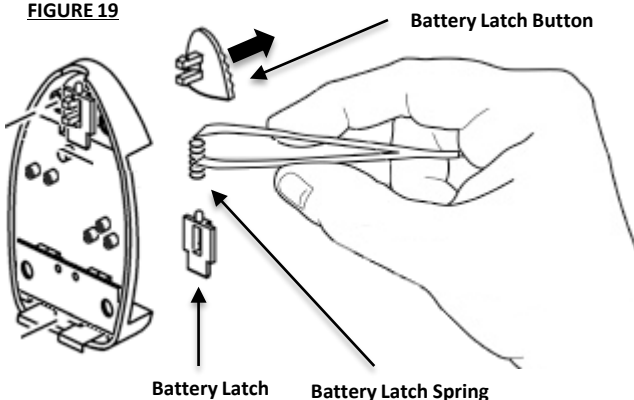


FIGURE 19



## Replacing Battery Holder PWA (Printed Wiring Assembly)

### Tools Required:

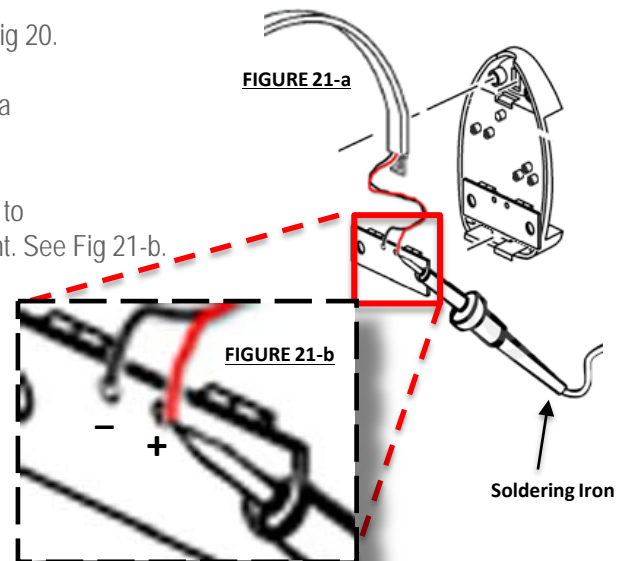
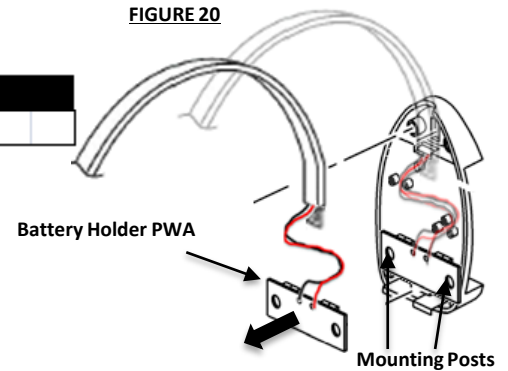
- 1 - Number 0 Phillips Screwdriver
- 1 - Soldering iron
- 1 - Small size Phillips screwdriver
- 3M™ 1/4" Polyimide Film Tape (SKU# 70-0160-3918-5)

### 3M OEM Parts and SKUs:

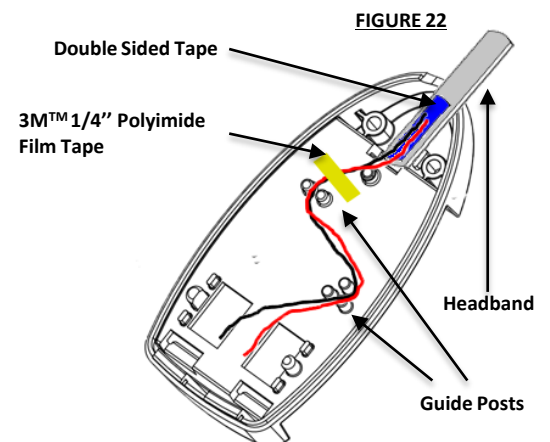
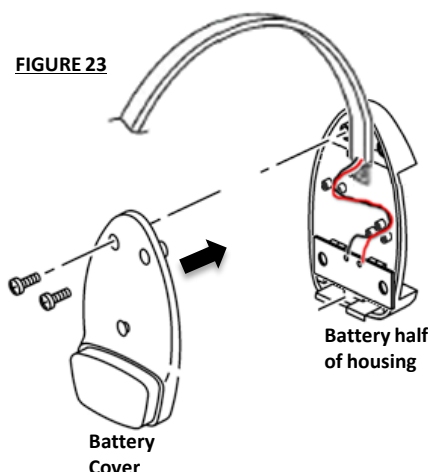
SKU #	Name
78-6911-4882-5	3M(TM) Kit, Battery Terminal

### Procedure:

1. Make sure power is off and remove the battery from the headset. See Fig 16.
2. Disassemble the battery housing side of the headset by removing screws as shown in the illustration. See Fig 17.
3. Carefully separate the two halves of the housing. See Fig 18.
4. Carefully pull the Battery Holder PWA off the mounting posts. See Fig 20.
5. Use a soldering iron to remove the two wires from the PWA, Fig 21-a  
Remove the defective PWA from the housing and discard.
6. Install a replacement Battery Holder PWA by soldering the red wire to the (+) connection point and the black wire to the (-) connection point. See Fig 21-b.
7. Make sure the wires are centered to the headband and wind around the guide posts as illustrated in Fig 22.  
**NOTE:** Use a small piece of double sided tape (illustrated in Blue in Fig 22) on the end of the metal headband to ensure the wire is centered. Doing this avoids any possibility of the wires getting pinched when reassembling the Battery Cover.



8. Apply a strip of 3M™ 1/4" Polyimide Film Tape to make sure the wires are held in place as shown in Fig 22.
9. Reassemble the battery cover and replace the screws. See Fig 23.



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## Replacing the Headband Assembly

### Tools Required:

- 1 - Small size Phillips Screwdriver
- 1 - Tweezers
- 1 - Soldering iron
- 3M™ ¼" Polyimide Film Tape (SKU# 70-0160-3918-5)

3M OE	SKU #	Name
	78-8117-4123-6	3M(TM) Headband, Assembly

### Procedure:

Replacing the Headband Assembly requires you to disassemble both the Electronics Side and the Battery Housing Side of the headset. See Fig 24.

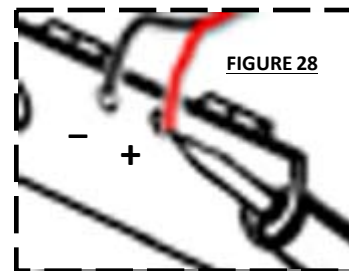
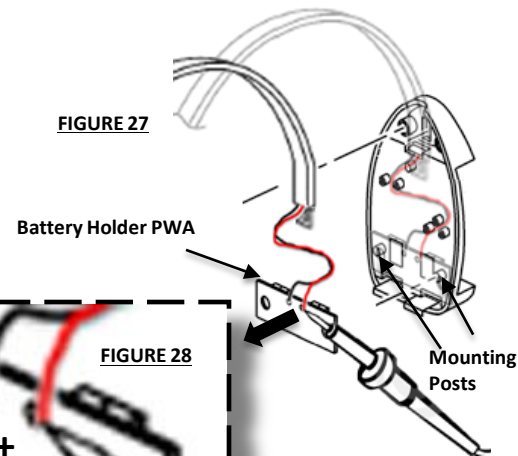
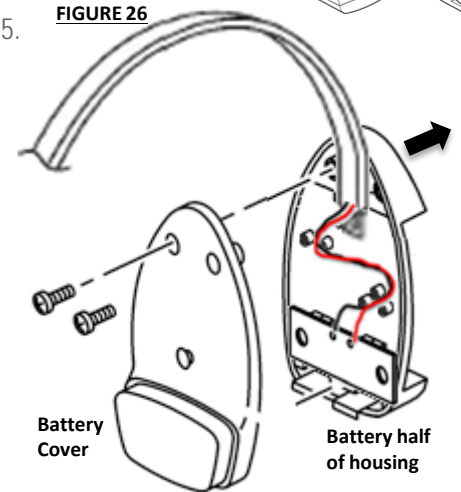
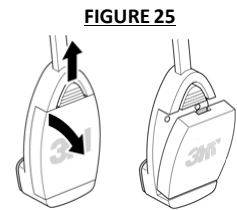
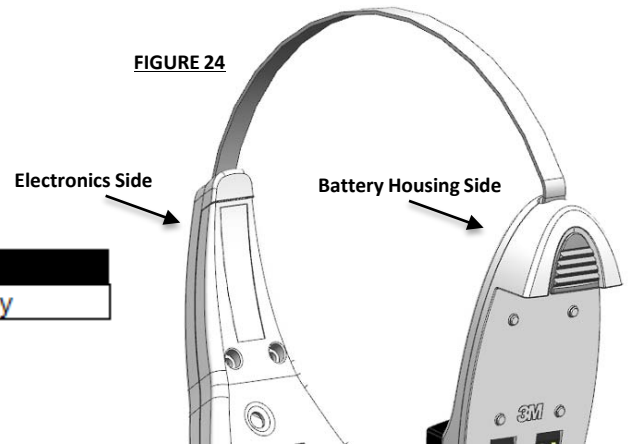
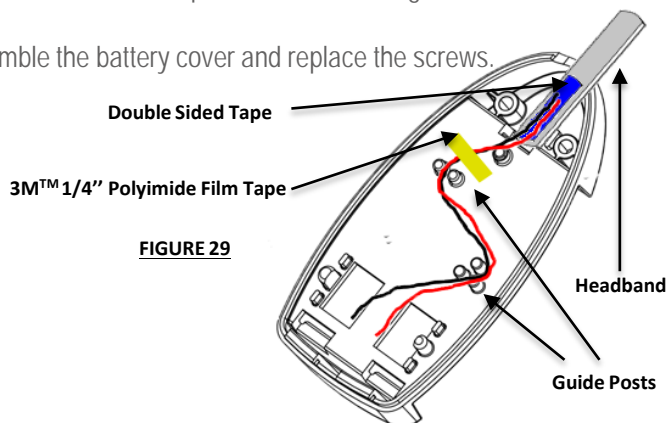
#### Battery Housing Side:

You may follow the first 5 steps outlined in the procedure **Replacing Battery PWA (Printed Wiring Assembly)**. Or, alternatively, follow the steps outlined below.

1. Make sure the power is off and remove the battery from the headset. See Fig 25.
2. Disassemble the battery housing side of the headset by removing screws and carefully separating the two halves of the housing. See Fig 26.
3. Carefully pull the Battery Holder PWA off the mounting posts, and use a soldering iron to remove the two wires from the PWA. See Fig 27.
4. Install a replacement headband assembly by soldering the Red wire to the (+) connection point on the Battery Holder PWA, and the black wire to the (-) connection point. See Fig 28.
5. Reposition the Battery Holder PWA on the mounting posts of the battery half of the housing.
6. Make sure the wires are centered to the headband and wind around the guide posts as illustrated in Fig 29.  
**NOTE:** Use a small piece of double sided tape (illustrated in Blue in Fig 29) on the end of the metal headband to ensure the wire is centered. Doing this avoids any possibility of the wires getting pinched when reassembling the Battery Cover.

7. Apply a strip of 3M™ ¼" Polyimide Film Tape to make sure the wires are held in place as shown in Fig 29.

8. Reassemble the battery cover and replace the screws.



### Electronics Side:

1. Remove the ear pad, ear cup, and the three screws from the inner case of the headset.
2. Separate the case halves, ever so slightly. Carefully raise the inner case just over the On-Off button and slide down slightly to separate. See Fig 31-a. Support the inner case so the speaker wires are not strained.
4. Disconnect the headband's power wiring connector located at the top of the main circuit board. See Fig 31-a.
5. Locate the headband clip positioned just under the headband entry opening on the outer case assembly.
6. Carefully pull the power wire cable out of the top groove of the headband clip. See Fig 31-b.
7. Remove the headband clip from the headband end by rotating it 90 degrees and pulling it free of the headband. See Fig 31-b and Figs 32-a,b,c and d.
8. Pull the headband assembly (including the wiring cable) free of the outer case.
9. Insert the power cable from the replacement Headband through the top of the outer case.  
Hold replacement Headband Clip with the open wire groove facing up.  
Hold the Clip so the curved portion inside the slot of the Clip faces next to the curved section of the Headband end. See Fig 32-a.  
Rotate the Clip 90 degrees as you slide it into the curved section of the Headband end as shown in illustration. See Fig 32-b, 32-c and 32-d.
10. Carefully press the power wires, one on top of the other, into the top wire groove of the Clip.  
Be sure to press the wires completely down into the wire groove.
11. Plug in the power cable connector.  
Route the power cable between the On-Off button and the large capacitor on the PWA. See Fig 33.  
**NOTE:** The power cable **MUST** route down the center of the PWA or the Headband will not extend properly.
12. Apply a strip of 3M™ 1/4" Polyimide Film Tape to make sure the wires are held in place as shown in Fig 29.
13. Make sure the LED Lens is still in place. Otherwise, follow the procedure **Replacing the Indicator LED Lens** to re-install the LED Lens.
14. Assemble the case halves by inserting the tab at the top of the inner case through the slot at the top of the outer case and carefully lower it over the On-Off button and snap it shut at the bottom. See Fig 34.  
Care must be taken not to pinch any wires.
15. Replace three case screws, ear cup, and pad.

FIGURE 30

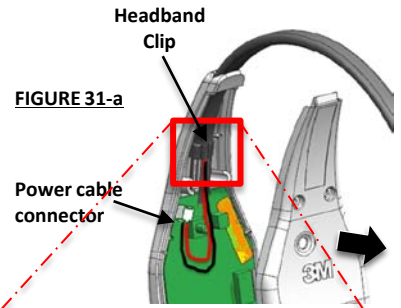
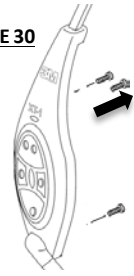


FIGURE 31-b

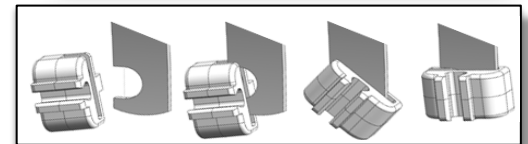
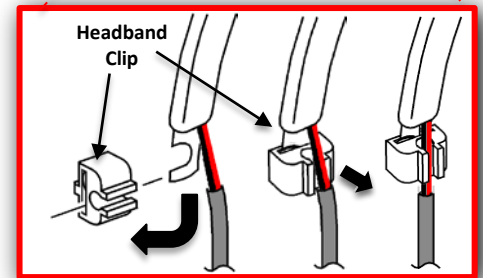


FIGURE 32-a FIGURE 32-b FIGURE 32-c FIGURE 32-d

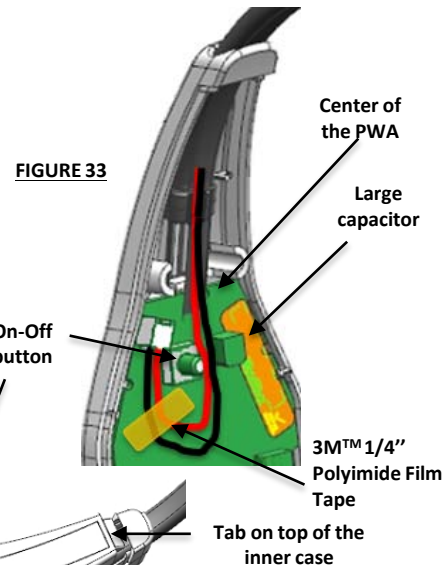
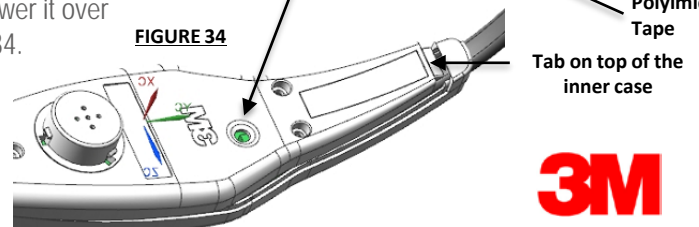


FIGURE 34



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## Replacing the Indicator LED Lens:

Tools Required:

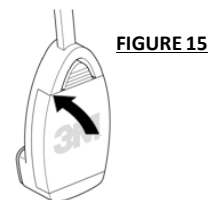
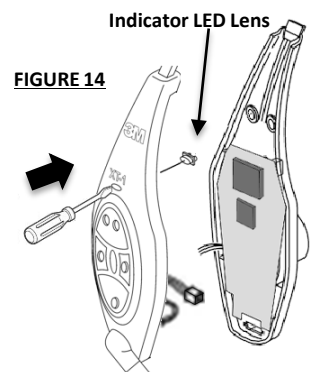
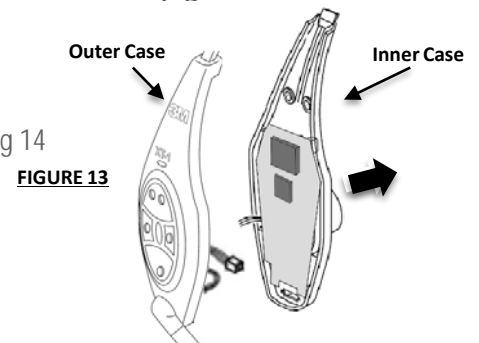
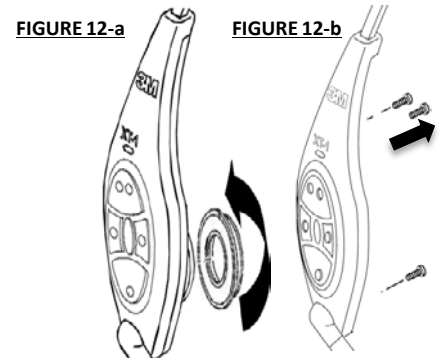
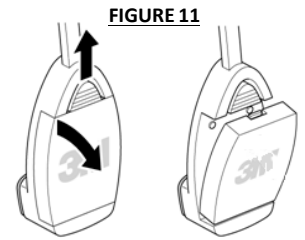
- 1 - Small size Phillips Screwdriver

3M OEM Parts and SKUs:

SKU #	Name
78-8117-4099-8	3M(TM) LED Lens

Procedure:

1. Make sure the power is off and remove the battery from the headset. See Fig 11
2. Remove the ear pad by using your fingers to pull the ear pad from the ear cup. Then grasp the headset firmly in one hand, and pull the ear cup off the speaker with the fingers of the other hand. See Fig 12-a
3. Disassemble the earpiece side of the headset by removing screws shown in Fig 12-b.
4. Carefully separate the inner and outer case assembly. See Fig 13
5. Use the tip of a small screwdriver to gently push the lens out of the housing. See Fig 14
6. Replace the removed indicator LED lens.
7. Reassemble the inner and outer case halves by bringing the two halves together and replace the three screws.
8. Reinstall the battery (Fig 15) and check operation of the headset prior to returning it to regular operation.



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