

TELEX

Airman 7 Operating Instructions



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WARRANTY AND SERVICE INFORMATION

For warranty and service information..... www.telex.com/warranty

CUSTOMER SUPPORT

Technical questions should be directed to:

Customer Service Department
Bosch Security Systems, Inc.
www.telex.com

Technical Solutions

Telex Aviation Technical Support 1-800-898-6723

After-Sales Support..... 1-800-553-5992

DISCLAIMER

The manufacturer of the equipment described herein makes no expressed or implied warranty with respect to anything contained in this manual and shall not be held liable for any implied warranties of fitness for a particular application or for any indirect, special, or consequential damages. The information contained herein is subject to change without prior notice and shall not be construed as an expressed or implied commitment on the part of the manufacturer.

Important!

Read Before Use

General:

- Read this technical manual completely before using the product.
- This technical manual is also available at www.telex.com/aviation.

Health and Safety:

- Always keep at least 4" (~10cm) between the ear cups and a pacemaker or implanted defibrillator because this product generates magnetic fields.
- Keep away from children – product parts and accessories are a choking hazard.
- This headset is capable of producing sound pressure over 85dB(A). In many countries, this is the maximum legal level for continuous noise exposure during the working day. Do not listen at high volume levels for extended periods of time to prevent hearing damage.

Preventing Damage and Malfunctions:

- Always keep the headset dry and do not expose it to extreme temperatures to avoid corrosion or deformation.
- Never attempt to repair a headset which is not operating correctly. Contact the Telex dealer you purchased the headset through or authorized repair facility.
- Only replace parts of the headset whose replacement is described within this manual. All other parts must be replaced by an authorized repair facility.

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Introduction

General Description

The Telex Airman 7 is a lightweight aviation headset designed specifically for optimizing pilot communications in commercial and business turbine aircraft. Building on the tradition of the Airman 750, the Airman 7 has improved durability, intelligibility, and comfort. Soft pliable ear cushions and headband pads combine with dual-direction ear cup pivots to provide long flight wearing comfort.

Features

- Flexible boom-mounted, noise-reducing microphone, positionable for right- or left-side use
- Dual, Single, and Listen-only versions available
- Soft, pliable ear cushions and headband pads
- FAA TSO C-139a approved

FAA

The Telex Airman 7 Headset (with or without microphone) is approved for aircraft use under FAA TSO-C139A.

The conditions and tests required for the TSO approval of this article are minimum performance standards. It is the responsibility of those installing this article, either on or within a specific type or class of aircraft, to determine that the aircraft installation conditions are within the TSO standards. TSO articles may have separate approval for installation on aircraft. The article may be installed only if performed under 14 CFR part 43 or the applicable air worthiness requirements.

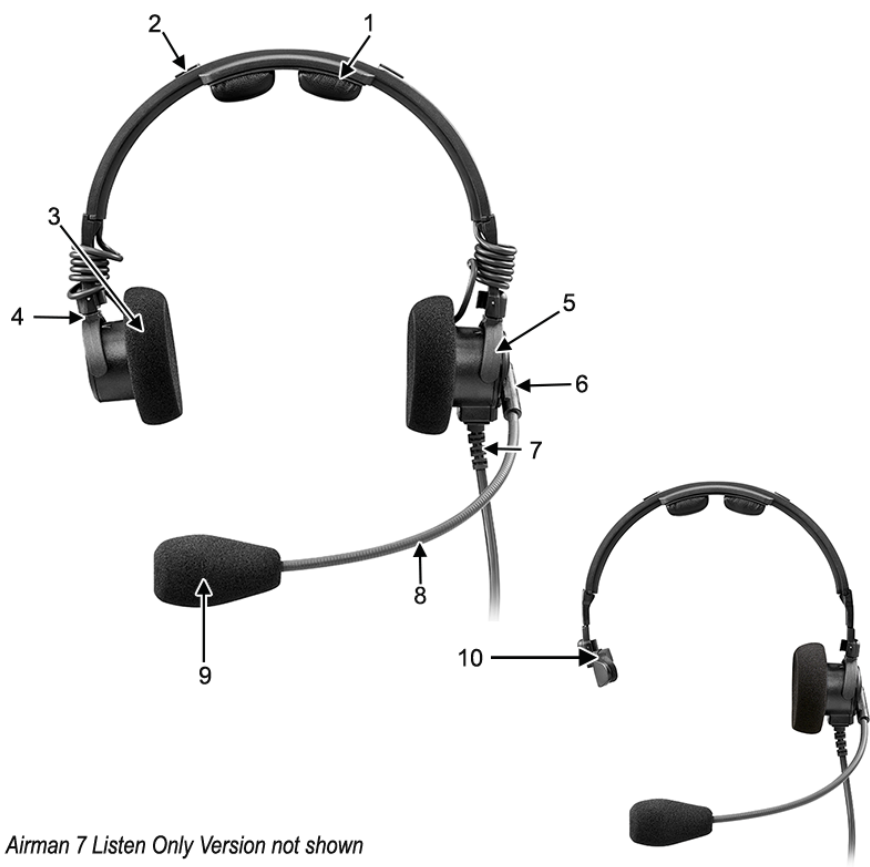
Tests were conducted per the minimum standards defined in RTCA DO -214A and DO-160G. The headset was designed and is manufactured to meet the following environmental categories.

Environmental Qualification Form

CONDITIONS	DO-160G SECTION	DESCRIPTION OF TESTS CONDUCTED
Temperature and Altitude	4.0	
Ground Survival Low-Temp/Short-Time	4.5.1	Equipment tested to Category A1
Operating Low-Temp		
Operating Low Temperature	4.5.2	Equipment tested to Category A1
Ground Survival High-Temp & Short-Time	4.5.3	Equipment tested to Category A1
Operating High-Temp		
High Temperature	4.5.4	Equipment tested to Category A1 with 70°C max. exception by DO-214 2.5.1.2
In-Flight Loss of Cooling	4.5.5	Equipment identified as Category X, N/A
Altitude	4.6.1	Equipment tested to Category A1/ 50000ft.
Decompression	4.6.2	Equipment tested to Category A1/ 50000ft.
Overpressure	4.6.3	Equipment tested to Category A1
Temperature Variation	5.0	Equipment tested to Category C
Humidity	6.0	Equipment tested to Category A
Operational Shock and Crash Safety	7.0	Equipment identified as Category X, N/A by DO-214 2.5.4.1 and 2.5.4.2
Vibration	8.0	Equipment tested to Category S, aircraft zone 2 (instrument panel or console mounting), Aircraft type 2 (Fixed Wing Turbojet or Turbofan engines), using vibration test curve B.
Explosive Atmosphere	9.0	Not Applicable
Waterproofness	10.0	Not Applicable
Fluids Susceptibility	11.0	Not Applicable
Sand and Dust	12.0	Not Applicable

CONDITIONS	DO-160G SECTION	DESCRIPTION OF TESTS CONDUCTED
Fungus	13.0	Equipment identified as Category X, N/A
Salt Fog Test	14.0	Equipment identified as Category X, N/A
Magnetic Effect	15.0	Equipment is Category Z
Power Input	16.0	Equipment tested to Category A
Voltage Spike	17.0	Equipment tested to Category A
Audio Frequency Susceptibility	18.0	Equipment tested to Category R
Induced Signal Susceptibility	19.0	Equipment tested to Category ZW
Radio Frequency Susceptibility	20.0	Equipment tested to Category T
Momentary		Equipment tested to Category T
Steady State		Equipment tested to DO-214 2.5.11.2
Emission of RF Energy	21.0	Equipment tested to Category M
Lightning Induced Transient Susceptibility (multiple burst)	22.0	Equipment identified as Category L2
Lightning Direct Effects	23.0	Not Applicable
Icing	24.0	Not Applicable
Electrostatic Discharge	25.0	Not Applicable
Fire, Flammability	26.0	Not Applicable - all components except wire considered small parts
Wire Flammability		Flammability: -JAR, FAR 25.853, 25.855, 25.869, and appendix F

Reference View



Airman 7 Listen Only Version not shown

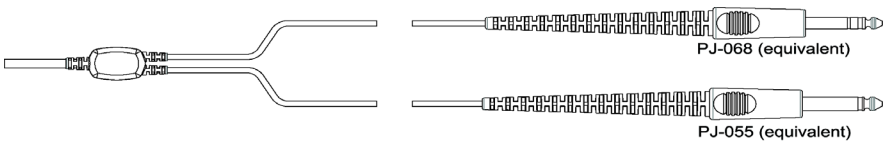
FIGURE 1. Airman 7 Reference view

- | | |
|--------------------|--------------------------|
| 1. Headband Pad | 6. Boom Rotator |
| 2. Headset Slider | 7. Strain Relief |
| 3. Ear Cushion | 8. Boom |
| 4. Ear Cup Rotator | 9. Microphone/Windscreen |
| 5. Yoke | 10. Temple Pad |

Connections

Airman 7 Series headsets are available with multiple connector styles depending on the application of use. All models utilize custom cables developed specifically for in-cockpit use. All connection points implement strain and bend relief features to provide long-term durability. Shielded wires throughout the headset protect against **RFI** (Radio Frequency Interference) and **EMI** (Electromagnetic Interference).

Dual Plug PJ Connector



PJ-068 (equivalent)	Description
Tip	Not Used
Ring	Mic Signal
Sleeve	Mic GND

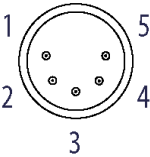
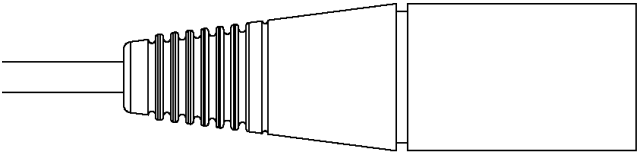
PJ-055 (equivalent)	Description
Tip	Headphone Signal
Sleeve	Headphone GND

Single Plug PJ Connector



PJ-068 (equivalent)	Description
Tip	Headphone Signal
Sleeve	Headphone GND

5-Pin XLR Aircraft Cable



Pin	Description	Color
1	Headphone Signal	Yellow
2	Headphone GND	Black/Outer Shield
3	Mic Signal	White
4	Mic GND	Blue/Inner Shield
5	Not Connected	No Color

Installation

Installation

To **install the headset for use**, do the following:

- Step 1** Inspect the headset for signs of damage. Do not use the headset if signs of damage are evident.
- Step 2** Plug the headset into the aircraft console, see “Install the Single Plug Headphone in an Aircraft (Listen Only)” on page 14, “Install the Dual Plug Headset in an Aircraft” on page 14, or “Install the XLR Plug Headset in an Aircraft” on page 15.
- Step 3** Put the headset on.
- Step 4** Adjust the headset for proper use, see “Headset Adjustment” on page 16.
- Step 5** Attach the clothing clip.

Install the Single Plug Headphone in an Aircraft (Listen Only)

To install the single plug headphone in an aircraft, do the following:

- 1. Insert the **plug** into the **headset jack** on the **aircraft console**.

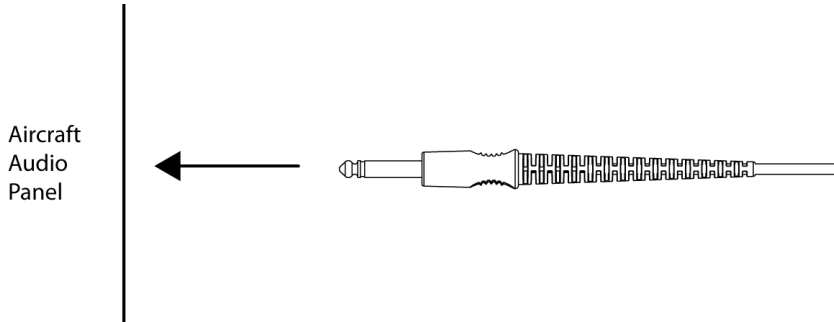


FIGURE 1. Single Plug Installation

Install the Dual Plug Headset in an Aircraft

To install the dual plug headset in an aircraft, do the following:

- 1. Insert the **microphone plug (smaller plug)** into the **microphone jack** on the **aircraft console**.
- 2. Insert the **headset plug (larger plug)** into the **headset jack** on the **aircraft console**.

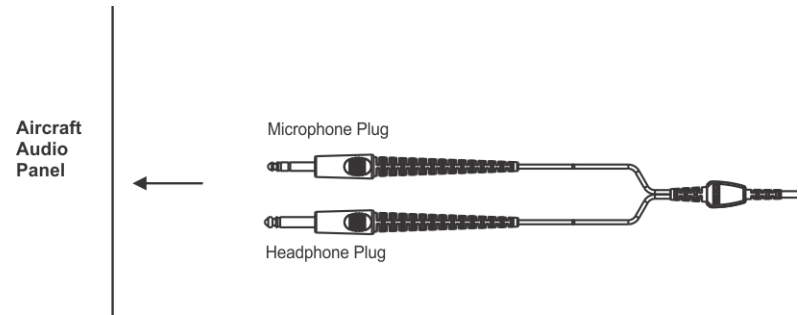


FIGURE 2. Dual Plug Installation

Install the XLR Plug Headset in an Aircraft

To install the XLR plug headset in an aircraft, do the following:

- > Insert the **XLR plug** into the **XLR jack** on the **aircraft audio panel**.

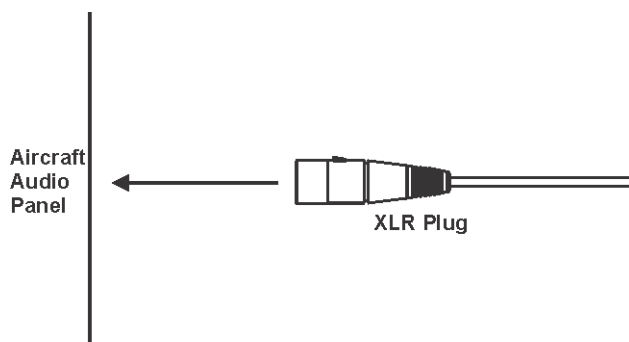


FIGURE 3. XLR Plug Installation

Headset Adjustment

The Airman 7 headset is designed to rest evenly on top of the head with each ear cup sitting centered and flush on each ear. The headset/headphone should fit over the head without pinching or gapping.

Headband Adjustment

To **adjust the headband size**, do the following:

- > With the headset resting securely on the top of the head, slide the **ear cup up and down to center the ear cup over the ear**.

NOTE: The headset works best when the headband pad is centered on the head. Both sides of the headset should be slid evenly for proper use.

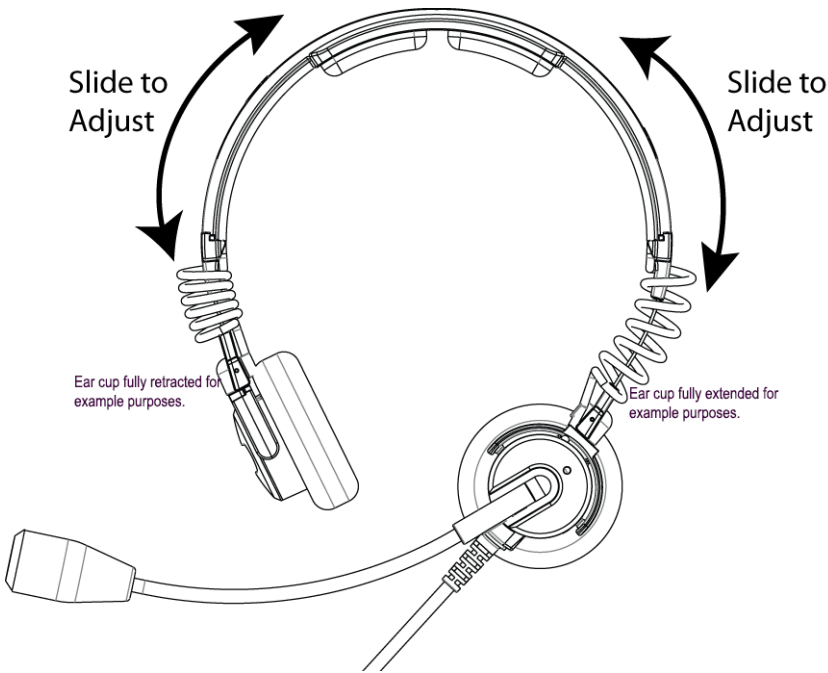


FIGURE 4. Headband Adjust

Ear Cup Adjustment

To adjust the ear cup to fit correctly, do the following:

- > Swivel the ear cup left or right to position the ear cup straight on the ear.

NOTE: Over time, repositioning the headset may be necessary for comfort.

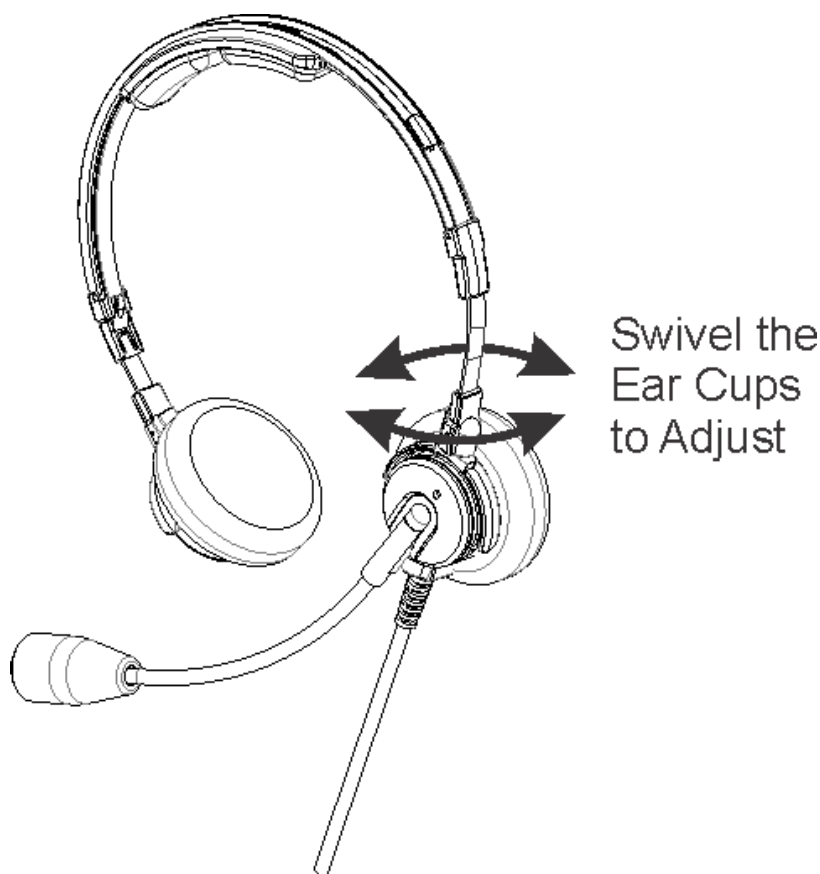


FIGURE 5. Ear Cup Adjustment

IMPORTANT:	Take care not to over-adjust the ear cups. Do not rotate the ear cups more than 90° or damage may occur.
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Mic Placement

The headset ships with the boom positioned at the top of the headband. Rotate the entire boom overhead to wear the microphone on either the right or left side of the head.

CAUTION: There are two(2) stops below the boom housing. Rotating the boom past these stops will cause damage to the unit. The boom microphone is rotated upward to move to the other side of the headset.

*****Do not rotate past the built-in stops. Doing so will damage the microphone.*****

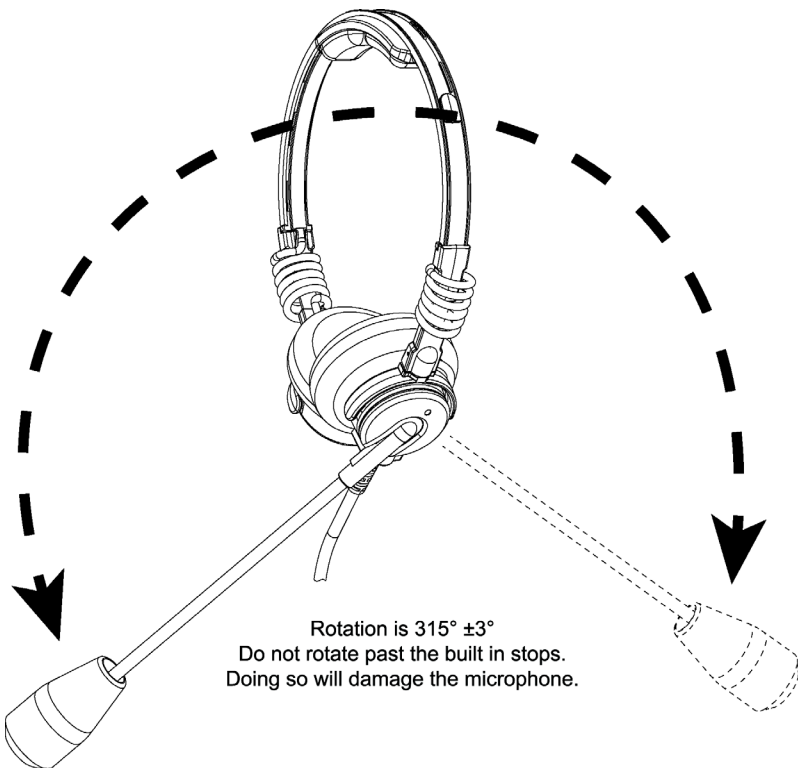


FIGURE 6. Boom Mic Rotation

To **properly place the mic**, do the following:

1. Rotate the **boom** to the side you want to use (left or right).
2. Bend the **boom** to position the mic in front of the mouth.

NOTE: For best noise-cancelling quality, place the boom mic as close to the mouth as possible and speak into the mic.

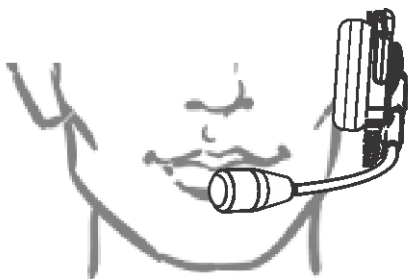


FIGURE 7. Mic Placement

Microphone Gain Adjustment

The **Microphone Gain** has been factory-adjusted to the nominal level required for normal radio operation.

IMPORTANT: Under normal circumstances microphone gain does not require adjustment. If needed, adjustment by an authorized aviation technician is recommended. For instructions on how to adjust the Microphone Gain, see the Customer Maintenance Manual, located on www.telex.com.

Clothing Clip Assembly and Attachment

Using the clothing clip reduces the cord weight from the headset. The clothing clip comes attached to the cord and only needs to be adjusted up or down for best use.

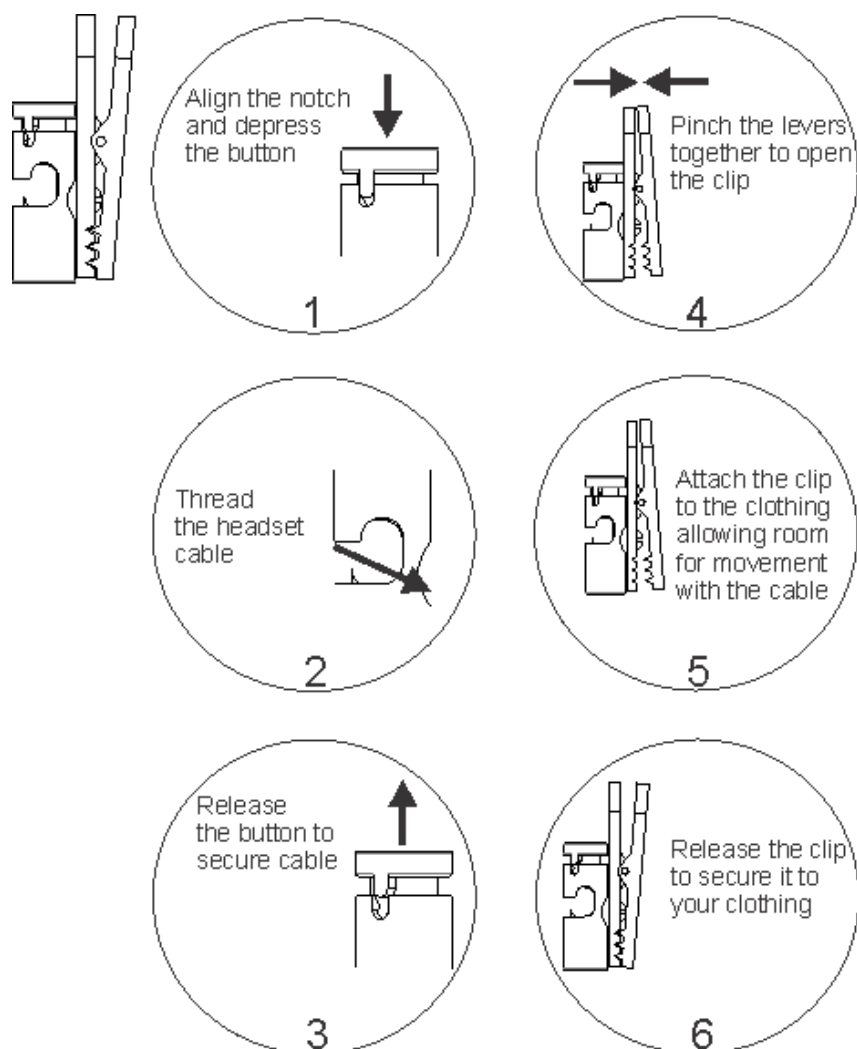


FIGURE 8. Clothing Clip Assembly and Attachment

Care & Maintenance

Recommended Maintenance Schedule

NOTE: Ear cushions, headband pads, and microphone wind screens are considered wear items. For proper headset performance these items need to be inspected and replaced at regular intervals. See maintenance schedule (below) for more information. Headset performance diminishes if not replaced when deterioration or damage is apparent.

Task	Per Use	Monthly	6 Months
Check Boom Mic Placement	X		
Check Ear Cup Placement	X		
Check Headband Fit	X		
Inspect And Clean Connectors			X
Clean Windscreen		X	
Clean Ear Cushions		X	
Clean Headband Pad		X	
Check Connection Cable		X	
Inspect & Replace Windscreen			X
Inspect & Replace Ear Cushions			X
Inspect & Replace Headband Pad			X

Cleaning the Headset and Connectors

IMPORTANT: Do not allow any liquid to puddle on the unit or touch the speaker or microphone element directly.

To **clean the headset**, do the following:

- > Using a mild detergent with water and a soft towel, or isopropyl alcohol wipes, **clean the plastic and metal headset parts.**

IMPORTANT: Do not soak or allow liquid to puddle on the unit.

Cleaning the Ear Cushions and Headband Pads

IMPORTANT: Do not soak cushions or pads.

To **clean the ear cushions and headband pad**, do the following:

- > Using a damp (not wet) soft towel or isopropyl alcohol wipes, gently **wipe the ear cushions and headband pad thoroughly.**

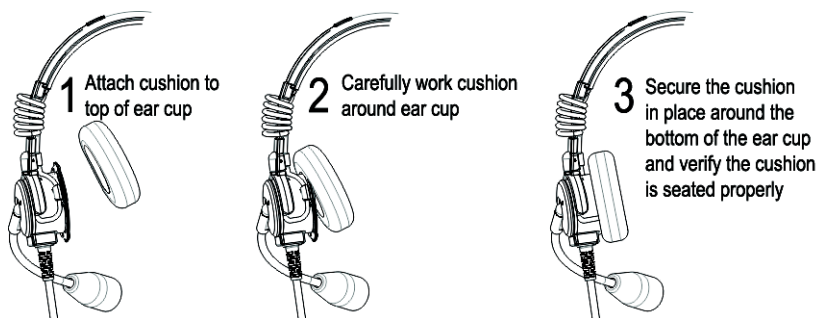
Replacing Ear Cushions and Headband Pads

To ensure optimal product performance, it is recommended you replace ear cushions and headband pads periodically (every six (6) months or sooner, if needed).

To **remove the ear cushions**, do the following:

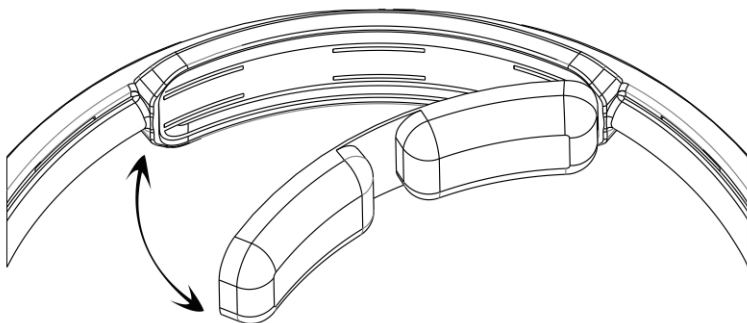
1. Grasp the **edge of the ear cushion** where it folds into the slot on the ear cup.
2. Gently pull the **ear cushion up and away from the ear cup.**
3. Starting at the **top of the ear cup (1)**, **carefully work the cushion around the cup (2) until it is in place (3).**

4. Verify the **cushion** is seated properly before use.



To **remove the headband pads**, do the following:

1. Grasp the **edge of the headband pad**.
2. Gently pull the **headband pad away from the headband**.



To **replace the headband pad**, do the following:

1. Remove the **paper from the sticky side of the headband cushion**.
2. Align the **headband pad with the recessed area on the headband**.
3. Firmly press the **headband pad into place**.

Installing or Replacing the Hygienic Covers

NOTE: Two hygienic covers are included with the headset. However, extra hygienic covers can be purchased separately.

To **replace the hygienic covers**, do the following:

1. Grasp the **edge of the hygienic cover** where it folds into the slot on the ear cup.
2. Gently pull the **hygienic cover up and away** from the ear cup.
3. Starting at the top of the ear cup, carefully work the **cover around the ear cup** until it's in place.

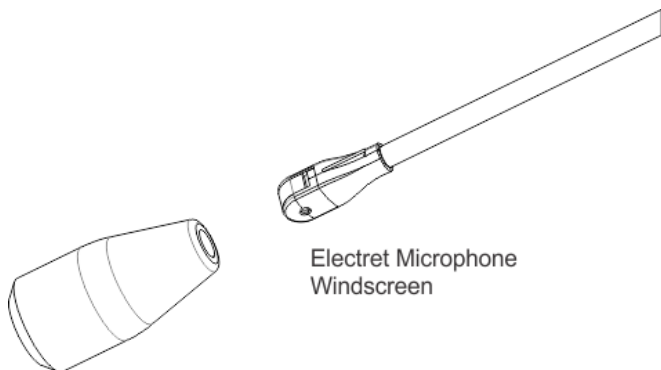
Cleaning or Replacing the Windscreen

The foam windscreen can be cleaned using low pressure air to blow contaminants off from the exterior. If low pressure air does not provide effective results the windscreen should be replaced.

IMPORTANT: Do not clean the windscreen while installed on the microphone. Do not use any liquid on the foam windscreen.

To **remove the windscreen**, do the following:

- > Grasp the **microphone windscreen and gently pull away from microphone**.



To **replace the windscreen**, do the following:

- > Slide **new windscreen over microphone**.

Headset Storage

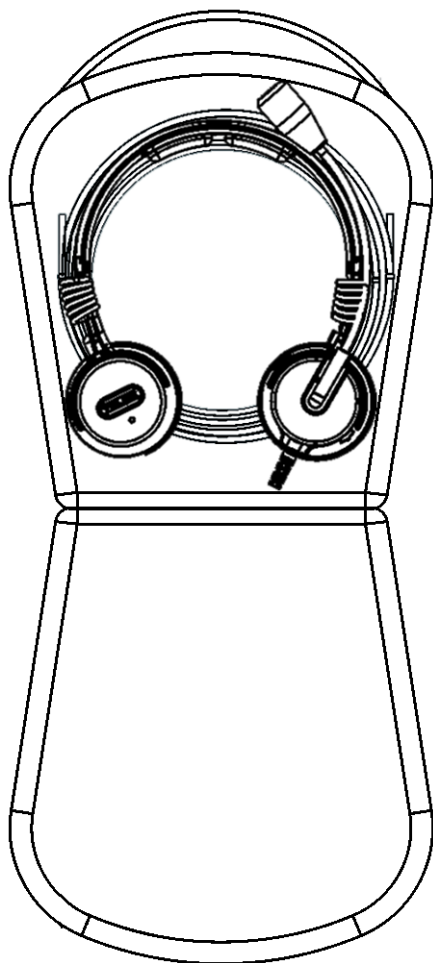
To **store the headset**, do the following:

1. Move the **boom mic** above the headband.



2. Fold the **ear cups flat**.

3. Coil the **cord** into a loop.



4. Place the **coiled cord and headset** in a box or protective case.
OR
Place the **coiled cord and headset** in the optional carrying case
(see "Part Number Information" on page 35).

Troubleshooting

Troubleshooting

- “No one can hear me when I talk” on page 28.
- “Others only hear me sporadically or my voice is distorted and unintelligible” on page 29.
- “I cannot hear anyone who is trying to speak to me” on page 30.
- “I hear others only sporadically or what I hear is distorted and unintelligible” on page 31.

Issue	Possible Cause	Solution
No one can hear me when I talk	<ul style="list-style-type: none">• Microphone not connected correctly.	<ul style="list-style-type: none">• Verify microphone is plugged in correctly.
		<ul style="list-style-type: none">• Verify no breaks or damage to cord (If damaged, headset needs to be serviced).
	<ul style="list-style-type: none">• Microphone is not placed correctly.	<ul style="list-style-type: none">• Reposition microphone to correct location closely to front of mouth. For more information, see “Mic Placement” on page 18.
	<ul style="list-style-type: none">• Intercom system is not adjusted properly, not functioning, or compatible with microphone.	<ul style="list-style-type: none">• Authorized avionics technician or repair facility needs to readjust and re-test microphone amplifier.
	<ul style="list-style-type: none">• Microphone gain is not adjusted properly.	<ul style="list-style-type: none">• Authorized avionics technician or repair facility needs to readjust and re-test microphone amplifier.
	<ul style="list-style-type: none">• Microphone is not functioning.	<ul style="list-style-type: none">• Return headset to authorized repair center for maintenance.

Issue	Possible Cause	Solution
Others only hear me sporadically or my voice is distorted and unintelligible	<ul style="list-style-type: none"> • Microphone is not located correctly. 	<ul style="list-style-type: none"> • Reposition microphone to correct location closely to front of mouth. For more information, see “Mic Placement” on page 18.
	<ul style="list-style-type: none"> • Microphone windscreen is missing or needs to be replaced. 	<ul style="list-style-type: none"> • Replace Windscreen For more information, see “Cleaning or Replacing the Windscreen” on page 24.
	<ul style="list-style-type: none"> • Pilot is speaking to loudly or to quietly into the microphone. 	<ul style="list-style-type: none"> • Alter speaking level.
	<ul style="list-style-type: none"> • Intercom system is not adjusted properly, not functioning, or not compatibly with microphone. 	<ul style="list-style-type: none"> • Authorized avionics technician needs to verify compatibility and proper of function of the intercom.
	<ul style="list-style-type: none"> • Microphone gain is not adjusted properly. 	<ul style="list-style-type: none"> • Authorize avionics technician or repair facility needs to re-adjust and re-test microphone amplifier.
	<ul style="list-style-type: none"> • Microphone is not functioning. 	<ul style="list-style-type: none"> • Return headset to authorized repair center for maintenance.

Issue	Possible Cause	Solution
I cannot hear anyone who is trying to speak to me	<ul style="list-style-type: none">Headphones not connected correctly.	<ul style="list-style-type: none">Verify headphone is plugged in correctly.
		<ul style="list-style-type: none">Verify no breaks or damage to cord.
	<ul style="list-style-type: none">Headphones are not worn properly.	<ul style="list-style-type: none">Reposition headphones to ensure properly covering the ear. For more information, see “Headset Adjustment” on page 16.
	<ul style="list-style-type: none">Intercom System is not adjusted properly, not functioning, or not compatible with headphones.	<ul style="list-style-type: none">Authorized avionics technician needs to verify compatibility and proper function of the intercom.
	<ul style="list-style-type: none">Headphone volume setting is not adjusted properly.	<ul style="list-style-type: none">Adjust volumes, as required (if equipped).
	<ul style="list-style-type: none">Headphones are not functioning.	<ul style="list-style-type: none">Return headset to authorized repair center for maintenance.
	<ul style="list-style-type: none">Sidetone volume levels are not correct (only applies to not being able to hear yourself over sidetone.	<ul style="list-style-type: none">Adjust the sidetone level on the intercom or radio system, if applicable.

Issue	Possible Cause	Solution
I hear others only sporadically or what I hear is distorted and unintelligible	<ul style="list-style-type: none"> Headphones have poor connection to the aircraft. 	<ul style="list-style-type: none"> Check and clean connectors and re-connect to aircraft.
	<ul style="list-style-type: none"> Headphones are not properly positioned. 	<ul style="list-style-type: none"> Reposition headphones to ensure properly covering of the ear. For more information, see “Headset Adjustment” on page 16.
	<ul style="list-style-type: none"> Headphone ear cushions are missing or need to be replaced. 	<ul style="list-style-type: none"> Replace ear cushions For more information, see “Replacing Ear Cushions and Headband Pads” on page 22.
	<ul style="list-style-type: none"> Intercom system is not adjusted properly, not functioning, or not compatible with headphones. 	<ul style="list-style-type: none"> Authorized avionics technician needs to verify compatibility and proper function of the intercom.
	<ul style="list-style-type: none"> Headphone volume setting is not adjusted properly. 	<ul style="list-style-type: none"> Adjust volumes, as required (if equipped).
	<ul style="list-style-type: none"> Headphone are not functioning. 	<ul style="list-style-type: none"> Return headset to authorized repair center for maintenance.

Label Information



FIGURE 1. Box Label Information

The Datamatrix ECC200 holds the following information:

- CTN Number
- Serial Number
- SAP Part Number
- Datamatrix ECC200

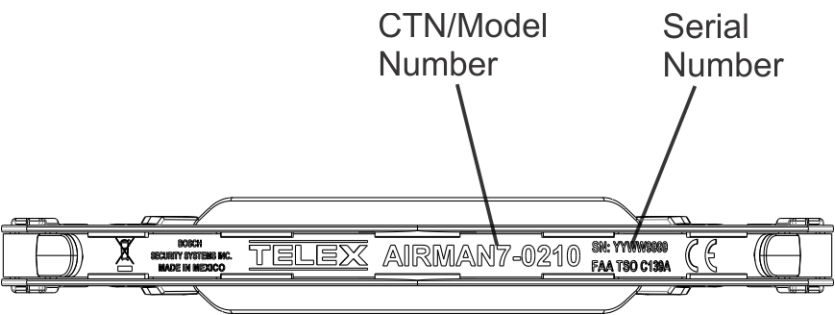


FIGURE 2. Example Headband

Specifications

Specifications

Headphones

Type

Dynamic

Impedance**AIRMAN7-0220, AIRMAN7-0211**600 Ω +/-20% @ 1 kHz**AIRMAN7-0110**300 Ω +/-20% @ 1 kHz**AIRMAN7-0210, AIRMAN7-0000**150 Ω +/-20% @ 1 kHz**Frequency Response**
(Per RTCA DO-214a)

< 10dB max. to min. over the range of 350 to 3500Hz

Sensitivity
(Per RTCA DO-214a)*For models AIRMAN7-0220, AIRMAN7-0211*

92 dB +/- 5 dBSPL

For model AIRMAN7-0110

95 dB +/- 5 dBSPL

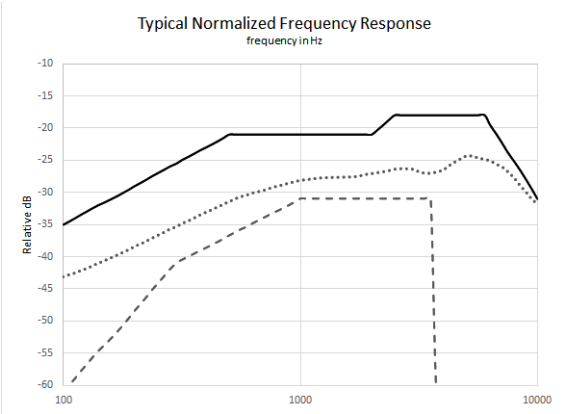
For models AIRMAN7-0210, AIRMAN7-0000

98 dB +/- 5 dBSPL

Microphone and Amplifier
(not applicable for Airman7-0000 listen-only)

Element Type Noise-canceling amplified electret

Frequency Response
(Per RTCA DO-214a)



Sensitivity
(Per RTCA DO-214a) -28dB +/- 2 dB re 1V/Pa @ 1kHz, 12V

Operating Voltage
(Per RTCA DO-214a) 8-28 VDC (470 Ohm TSO load circuit)

Connector Type

For models AIRMAN7-0210, AIRMAN7-0211, AIRMAN7-0110

Microphone
PJ-068 (equivalent)

Headphones
PJ-055 (equivalent)

For models AIRMAN7-0220

Microphone and Headphones
5-pin Male XLR

For model AIRMAN7-0000

Headphones
PJ-055 (equivalent)

Physical

Weight	headset weight (with cord)	wearing weight (without cord)
<i>Airman7-0210</i>	~5.7 oz. (~161.6 g)	~3.3 oz. (~93.6 g)
<i>Airman7-0220</i>	~5.9 oz. (~167.3 g)	~3.3 oz. (~93.6 g)
<i>Airman7-0211</i>	~5.7 oz. (~161.6 g)	~3.3 oz. (~93.6 g)
<i>Airman7-0110</i>	~4.9 oz. (~138.9 g)	~2.5 oz. (~70.9 g)
<i>Airman7-0000</i>	~3.7 oz. (~104.9 g)	~2.8 oz. (~81 g)

Cord Length

6 ft. +/-4 in. (1.8 m +/- 10.0 cm)

Color

Black and stainless steel

Part Number Information

CTN	Description
AIRMAN7-0210	Double Side Headset, 2PJ, 150 Ohm
AIRMAN7-0220	Double Side Headset, XLR5, 600 Ohm
AIRMAN7-0211	Double Side Headset, 2PJ, 600 Ohm
AIRMAN7-0110	Single Side Headset, 2PJ, 300 Ohm
AIRMAN7-0000	Double Side Headphone, PJ, 150 Ohm
AIRMAN7-0900	Windscreen for Airman 7 or 8, 2 pcs
AIRMAN7-0901	Foam Cushion for Airman 7 or 8, 2 pcs
AIRMAN7-0902	Supple Cushion for Airman 7 or 8, 2 pcs
AIRMAN7-0904	Clothing Clip for Airman 7 or 8
AIRMAN7-0905	Carrying Case for Airman 7 or 8
AIRMAN7-0906	Headband Pad for Airman 7 or 8
AIRMAN7-0907	Hygiene Cover for Airman 7, 10 pcs

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