



**HEADSET  
AND HELMET**

**INSTRUCTIONS**

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**Thank you for purchasing the Lynx Pilot System.**

**IMPORTANT**

The following instructions have been prepared to provide users of the Lynx Pilot Communications System with the necessary information to enable safe and correct use.

Please read this booklet carefully and take time to familiarise yourself with your new equipment and its mode of operation before attempting to use it during flight.

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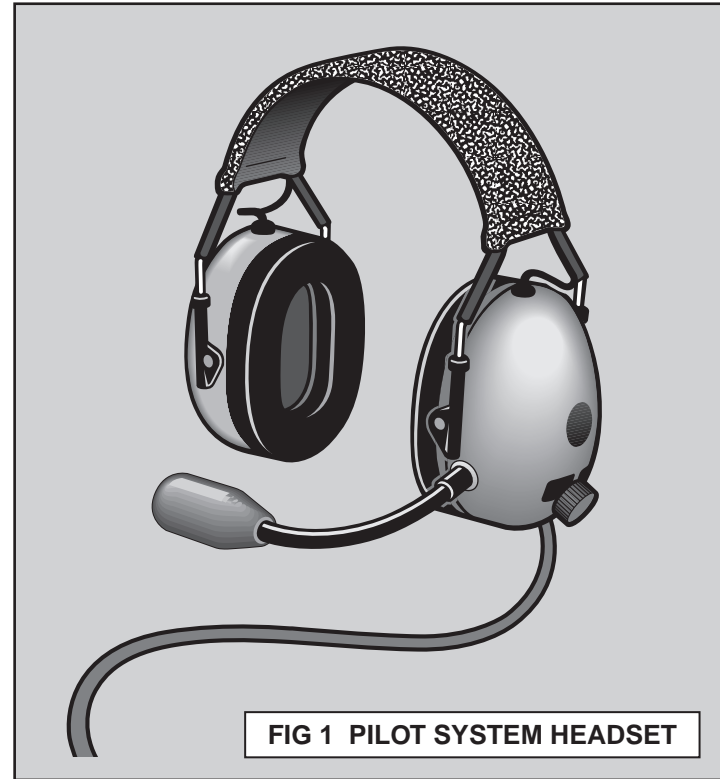
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## INTRODUCTION

The Lynx Pilot System Headset and Helmet have been purposely designed for use in the high-noise environment of open-cockpit aviation where noise attenuation and microphone noise cancellation are primary concerns. The Pilot System provides for both clear pilot to co-pilot communication and, when interfaced with a suitable transceiver, high quality radio telephony.



Built to exacting standards, the Pilot System is designed to offer the user the very latest in technology in a product intended to provide many years of rugged and reliable service.



**FIG 1 PILOT SYSTEM HEADSET**

## Pilot System Headset

The Pilot System Headset is fitted with aviation jack plugs and is intended for direct connection to standard general aviation intercom equipment. The headset (fig 1) is manufactured utilising the most recent developments in micro-electronics and contains a high-specification electret noise-cancelling microphone, a sub-miniature speech processor module and high-efficiency fixed-coil speakers. A volume control is also provided allowing the level of sound in each headset to be adjusted individually.

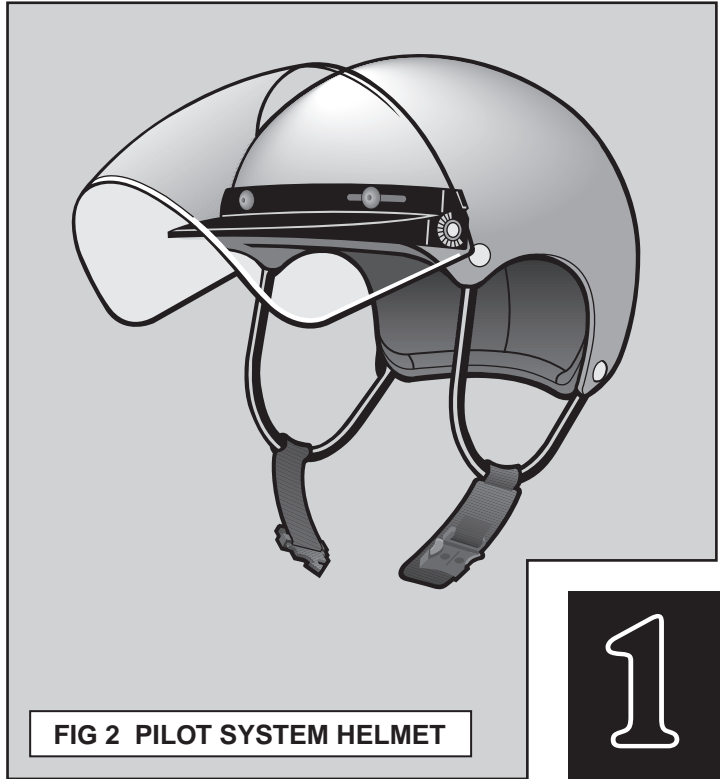
The design and construction of the ear defenders provide noise attenuation and hearing protection in noise levels up to 110 dB(A). The liquid-ring ear seals combine with the adjustable headband to give total comfort over periods of extended use.

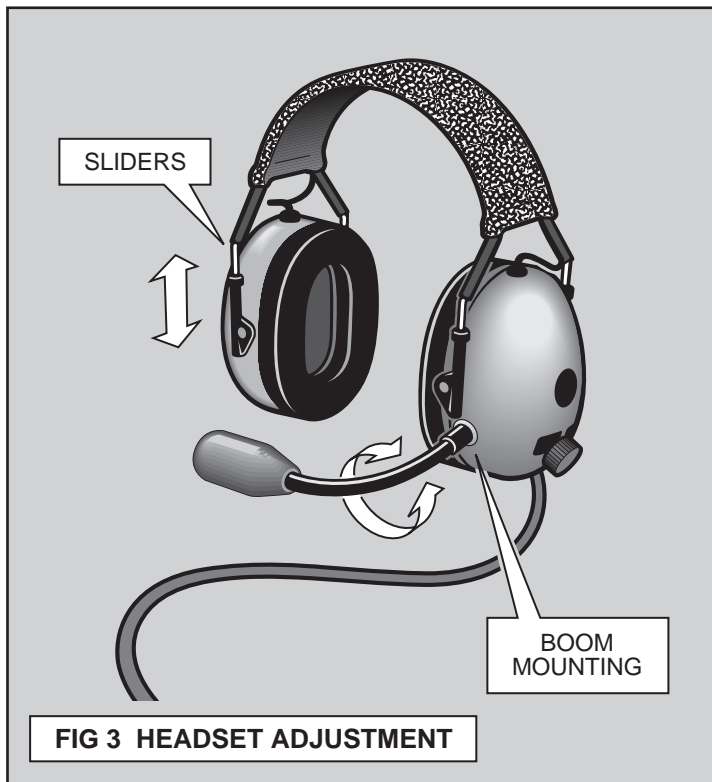
## Pilot System Helmet

The Pilot System Helmet (fig 2) is designed to mate with the headset to provide a degree of head protection in the event of an accident. Manufactured from Antracol Polycarbonate, the shell is light and extremely strong. The Styrene inner liner is formed to accommodate the headset and is supplied in a range of sizes to ensure an accurate and comfortable fit. The helmet can be used with either goggles or a visor, to protect the eyes from the elements and small flying objects.

The full-face visor is manufactured from scratch-resistant Lexan Polycarbonate and is securely attached to the helmet shell using machine fasteners and a foam sealing strip.

The Lynx Pilot System Helmet is only intended for aviation use and is not approved for any other application.





## OPTIMUM OPERATION

In order to gain maximum benefit from your Pilot System Headset, and to ensure ease of operation, it is advisable to study the simple techniques described below.

### Headset Fitting

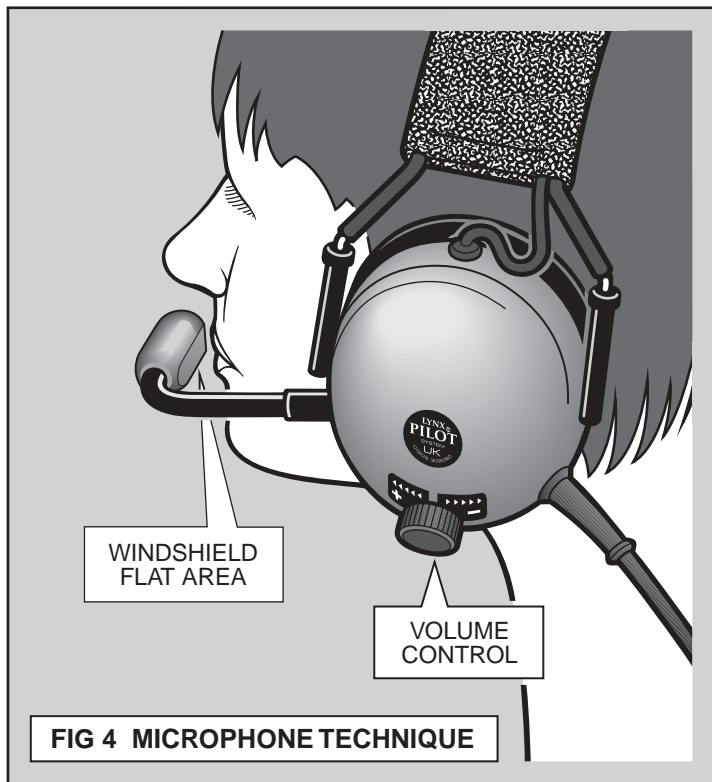
The headset headband is adjustable to allow for variations in head shape and size. Adjustment is made possible by the inclusion of sliders at the connection between the headband and the ear defender (fig 3). The simplest means of fitting correctly is to place the headset on the head and then slide the ear defenders downwards until they completely cover the ears. To obtain the best possible noise attenuation, remove as much hair as possible from beneath the ear seals and ensure that the headset is a tight and comfortable fit.

### Microphone Technique

The microphone is mounted on the end of a flexible boom arm and is protected from the elements by a foam wind-shield. A flat area on the shield indicates where the sound should enter the microphone and must always face directly towards the mouth (fig 4). For best results the flat area should also be positioned as close as possible to the lips but without actually touching. Once the boom arm has been set in position it may be swung out of the way and returned to the same position by simply rotating it about the boom mounting (fig 3).

### Volume Setting

The Lynx Headset is fitted with a volume control allowing the speaker output in each headset to be increased or decreased independently



**FIG 4 MICROPHONE TECHNIQUE**

(fig 4). Correct setting of this control is important in order to minimise the amount of extraneous background noise reaching the ears and to compensate for differences in individual hearing sensitivity. Initial volume adjustment should take place once the headset has been connected and switched on. At this stage the volume should be set to a comfortable level in preparation for making any radio check transmissions and before starting the aircraft engine.

Whilst undertaking radio checks it is important to note that the headset volume control only affects the output of the headset speakers. The level of audio received by radio should be adjusted separately using the transceiver volume control. For more detailed information on radio operation refer to the relevant transceiver operating instructions.

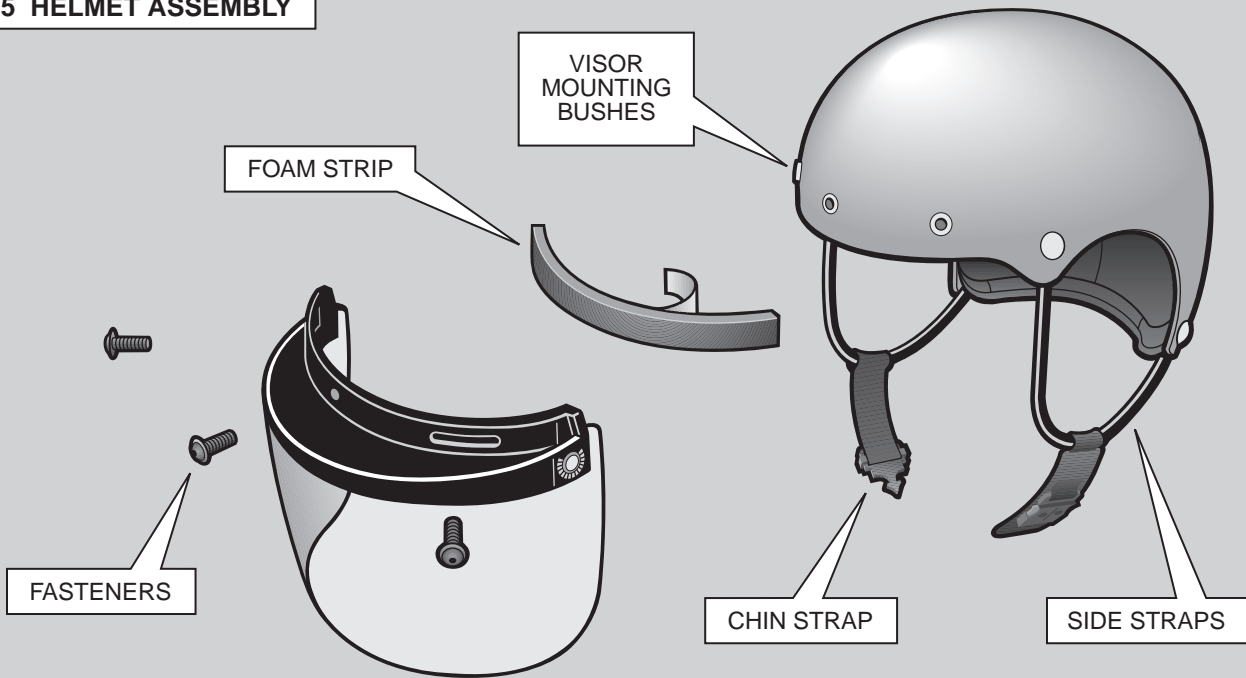
After the aircraft engine has been started the headset volume can be set more accurately by progressively reducing the level until the background noise is almost all cancelled out. Always remember to set the volume at a level where the engine noise is still slightly audible as often the sound of the engine is the first indication of impending problems in this area.

### **Storage**

Pilot System headsets should not be stored in temperatures exceeding 40°C (104°F) and they should not be left in direct sunlight for any period of time. Subjecting the headset to temperatures above 40°C may damage the plastic component parts and, in particular, the liquid-ring ear seals.



**FIG 5 HELMET ASSEMBLY**





## HELMET ASSEMBLY AND FITTING

The Lynx Helmet is designed specifically for aviation use and is intended to be used only in conjunction with a Lynx Headset. The outer shell and inner liner are formed to accept the shape of the headset and combine with it to provide an integrated assembly.

### Helmet Size

Lynx Helmets are manufactured in a range of sizes in order to provide individuals with comfortable and securely-fitting head protection. If you are in any way concerned as to the suitability of the size of helmet supplied to you, do not hesitate to contact your supplier for advice.

### Visor

The Lynx Helmet can be used with or without a visor attached. For open-cockpit applications however, the fitting of a visor is recommended (fig 5). The visor is supplied with a foam sealing strip, fixing screws and a hexagon drive key.

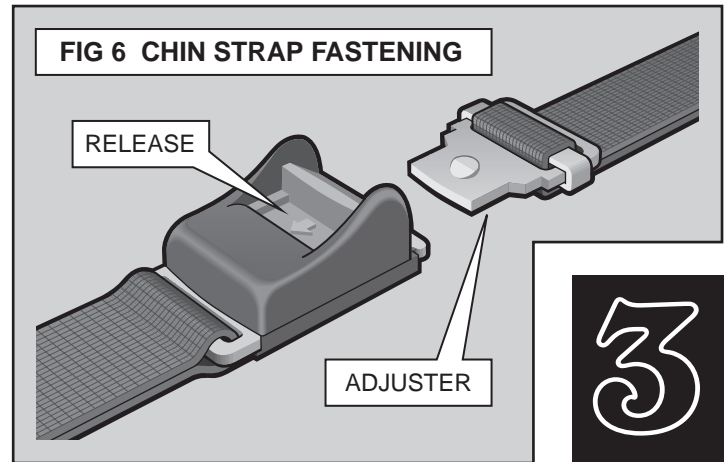
To fit the visor, first remove the backing from the self-adhesive sealing strip and apply the strip to the helmet in such a way as to cover the three visor mounting bushes. Once in place, make a hole through the strip into each bush in order to help locate the fixing screws. Position the visor in relation to the bushes and, taking care not to cross-thread the screws, fasten securely in place.

### Helmet Fitting

The helmet should be fitted after the headset is comfortably in place on the head. Raise the visor and hold the helmet using both hands to grip the side straps. With one half of the chin strap in the palm of each

hand lift the helmet above the head and lower it over the headset by pulling the side straps slightly outwards to clear the ear defenders. The helmet liner is relieved inside to accommodate the headset headband and it is important to align these two features before fastening the chin strap. It is also important to make sure that the helmet is positioned on the head so that it fully protects the forehead; do not place the helmet too far to the back of the head.

The chin strap should be adjusted to fit the helmet to each individual user. Always make sure that the chin strap is correctly adjusted and securely fastened before use (fig 6).



## SAFETY IN USE

The Lynx Pilot System is intended to provide the pilot with both hearing and head protection. The following points on safety are included here as a guide to the safe and correct method of use.

### Headset Care

The headset should be fitted, adjusted and maintained in strict accordance with the instructions in this booklet. If these recommendations are not adhered to, the hearing protection afforded by the headset may be impaired.

The headset and, in particular, the ear seals may become damaged with use and they should be checked at frequent intervals for cracks or noise leakage. Replacement ear seals and fitting instructions are available from Lynx Avionics.

The headset is made from Acrylonitrile Butadiene Styrene and Polyvinyl Chloride, both these substances may be severely affected by the application of paint, adhesive stickers, cleaning fluids and other solvents. Use only a damp cloth and mild detergent to clean a headset and do not immerse the headset in water; for more detailed information on this subject contact Lynx Avionics.

### Noise Attenuation

To provide full hearing protection, the headset should be worn at all times in noisy environments. The headset is of the ear-defender type and is designed to prevent as much external noise as possible from reaching the ears. Always remember that, when the headset is worn but not switched on, the unit prevents normal hearing to the extent that verbal instructions or warnings may be inaudible.

### Cable Routing

The Pilot System Headset is fitted with a 1.6 Metre straight cable and aviation jack plugs, and is intended for direct connection to aircraft intercom systems.

When connecting the headset to the aircraft it is important to ensure that there is sufficient slack in the cable to prevent the jack plug connectors from being pulled out during use.

Always check before flight that the cable routing does not interfere with any of the flying controls especially the hand throttle, control column or any of the various control linkages. Be aware at all times that a snagged cable may restrict the freedom of movement of the user as well as the controls of the machine.

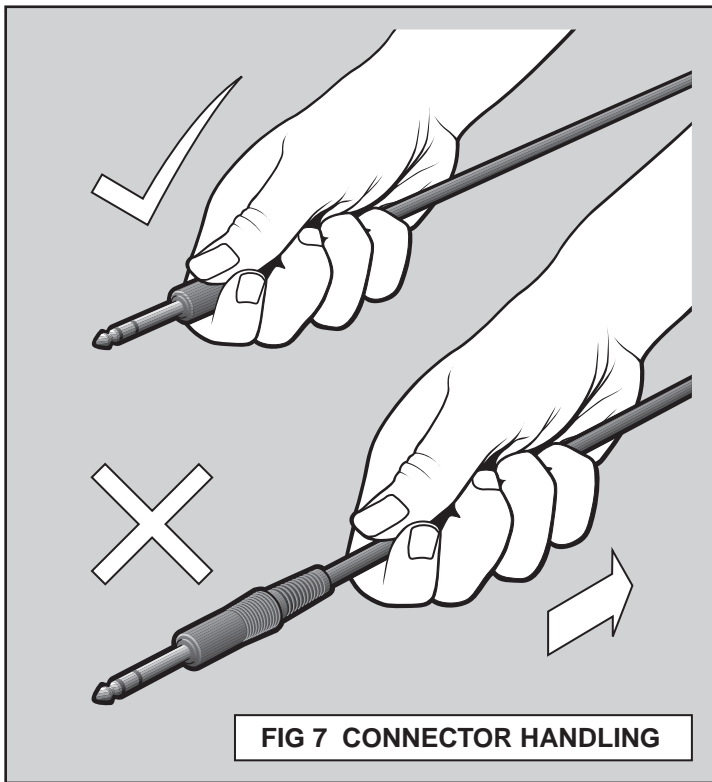
### Connector Handling

Whilst the headset lead is a rugged and reliable assembly, correct connector handling will prolong the life of the cable and will avoid possible problems with broken wires or faulty plug connections.

Always hold the connector by the moulded body when inserting or removing the plugs (fig 7). Never pull the headset lead, to remove a plug from a socket, as this may damage the lead internally.

### Helmet Care

The Pilot System Helmet is made to absorb some of the energy of an impact by partial destruction of its component parts. If a helmet is subject to a violent impact during use, or receives similar abuse, it should be discarded even though damage may not be apparent.



The helmet shell is manufactured from Polycarbonate and the helmet liner from Polystyrene, both these substances may be severely affected by the application of paint, adhesive stickers, cleaning fluids and other solvents. Use warm water and mild detergent to clean a helmet and only apply stickers as supplied by Lynx Avionics.

### Visor Care

The visors supplied for fitting to Lynx Pilot System Helmets are not guaranteed shatterproof and are only intended to protect the face and eyes from the elements and small flying objects.

The visor is manufactured from Lexan Polycarbonate and can be severely damaged by the application of paint, adhesive stickers, cleaning fluids and other solvents. Use only warm water and mild detergent to clean the visor and a soft cloth to wipe it dry.

Care should be taken when using a helmet fitted with a visor, and looking over the shoulder in high wind speeds, as it is possible that a visor may lift unexpectedly due to wind pressure.

If a visor is damaged, or begins to show signs of wear, it should be replaced immediately.

### Damaged Equipment

If your Lynx communications equipment is damaged in any way or for any reason becomes unserviceable, please contact Lynx Avionics for advice.

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