

**Chapter 6 VOICE/SOUND RECORDING SYSTEMS****LIST OF CONTENTS**

								<i>Chap</i>
<i>Cockpit voice recorder</i>	...	...	...	...	...	...	...	<i>6A</i>
<i>Sound recorder</i>	...	...	...	...	...	...	...	<i>6B</i>

## Chapter 6A COCKPIT VOICE RECORDER

## LIST OF CONTENTS

	<i>Para</i>
<i>Introduction</i> ... ..	1
<i>Modification standard</i> ... ..	2
<i>Description</i>	
<i>General</i> ... ..	3
<i>Recorder</i> ... ..	4
<i>Controls and indicator</i> ... ..	5
<i>Operation</i> ... ..	6
<i>Servicing</i>	
<i>Cassette removal and loading</i> ... ..	7
<i>Function test</i> ... ..	8

**Introduction**

1. The cockpit voice recorder (CVR), ARI 23427/1, is installed in post-Mod 1782 aircraft and replaces the sound recorder, ARI 23208, installed in pre-Mod aircraft.

**Modification standard**

2. This Chapter includes Mod 1782.

**Description***General*

3. The CVR is provided to record pilot/navigator conversation and any other R/T conversation or commentary. The recorder can be selected to operate automatically on receiving an audio signal from the centralized audio selector system (CASS) and cease to operate after a preset signal-free period, or to operate continuously regardless of input signals. A playback selection is also included.

*Recorder*

4. The recorder, identified C-GY, is located above the navigator's lighting control panel on the starboard side of the navigator's cockpit. The recorder consists of a recorder assembly with front panel attached, housed in an outer case. Mounted on the front panel are all the operating controls and indicators (*Para 5*). The outer case is secured in the aircraft mounting by two Dzus fasteners at the front edges while the inner assembly is secured in the outer case by a locking device which allows it to be partially withdrawn for access to the cassette compartment (*Para 7*). Electrical

connection is via a connector receptacle at the rear of the case. A stowage receptacle on the underside of the mounting provides for stowage of the aircraft connector when a recorder is not fitted.

*Controls and indicator*

5. The recorder is selected and controlled by a four-position rotary selector switch Record, CONT – VO and Replay 1 – 1+2, and a four-position toggle switch, Off – On, Rewind and Fast Wind. A green lamp on the panel illuminates when the recorder is selected and running and a LED display provides a digital indication of tape used and tape position. A LED display night cover is incorporated. The front panel is illuminated by two integral lamps which are controlled via the navigator's instrument lighting controls (*Cover 1, Sect 6, Chap 9B*).

**Operation****CAUTION . . .**

When the system is not in use, the toggle switch on the recorder must be left in the Off position to prevent damage to the pinch roller.

6. The recorder is supplied with 28 V d.c. via fuse J8 on panel C-Q and pin A of the recorder connector plug. With the rotary selector switch set at VO and the toggle switch at On, any audio inputs to the recorder from the CASS, via terminal T+ on terminal block RTB5 and pin H of the connector plug, automatically cause the tape motors to run and the audio inputs are

recorded. When it is desirable to record inputs which may be of insufficient strength or duration to trigger operation of the recorder, selection of the rotary switch to CONT will cause the recorder to run continuously whenever the toggle switch is at On. The tape can be rewound for replay by moving the toggle switch to Rewind. Replay is only operable on Replay 1.

#### **Servicing**

##### *Cassette removal and loading*

#### **7. Remove/load a cassette as follows:**

- (1) Ensure toggle switch is at Off.
- (2) Depress tray stop locking bar and raise locking handle, withdraw recorder from case as far as tray stops allow and hinge down.

- (3) Carefully remove cassette from spool drives.
- (4) Ensure tape-used indicator has reset to zero.
- (5) Engage back edge of replacement cassette against spring-loaded lever and locate on spool drives.
- (6) Raise locking handle and slide recorder back into case. Depress locking handle and raise tray stop locking bar.

##### *Function test*

- 8.** A function test of the cockpit voice recording system is in AP 101B-1202-5E.

## Chapter 6B SOUND RECORDER

## LIST OF CONTENTS

	Para		Para
Introduction ... ..	1	Operation ... ..	8
Modification standard ... ..	2	Servicing	
Function ... ..	3	Replacing the cassette ... ..	10
Description		Function test ... ..	11
Recorder/reproducer ... ..	4		
Start override switch ... ..	7		

## LIST OF APPENDIXES

*A list of appendixes appears at the end of this chapter*

**Introduction**

1. This Chapter contains a description of the sound recorder (ARI 23208) installed in pre-Mod 1782 aircraft. Information is included relating to the location and installation of each component comprising the system, together with a brief description of each component. Further detailed information on the recorder/reproducer is in AP 116L-0113-16.

**Modification standard**

2. This Chapter includes Mod 1258, 1314, 1453, 1591 and 5209. Pre-Mod standard information is described in Appendixes to this Chapter.

**Function**

3. The basic function of the sound recorder is to record the pilot's and navigator's

conversation and any R/T conversation or commentary. To achieve this, the recorder tape transport is switched on automatically by an audio input signal from the CASS, the recorder switching off again automatically – after a preset period – in the absence of further audio signals. Selection of an override switch allows the recorder to run continuously. On pre-Mod 1453 and 1591 aircraft, the embodiment of Mod 1314 provides for recordings to be replayed on the recorder through the CASS, for reception by the navigator only.

**Description****Recorder/reproducer**

4. The recorder/reproducer, C-GY, fitted on the starboard side of the navigator's cockpit, uses cassette loading magnetic

tape as the recording medium. A three-digit counter incorporated on the front panel to indicate tape used, is automatically reset to zero on cassette removal.

5. By depressing a tray stop locking bar and raising a locking handle, the recorder may be partially withdrawn from its case for access to the cassette receptacle. The body of the unit, when withdrawn, is retained in the case by two spring-loaded stop pins and is supported by the tray stop locking bar.

6. Also mounted on the front panel are a selector switch marked RECORD-REPLAY, and a four-position toggle switch marked OFF-ON-REWIND-FAST WIND. Illumination of the panel is by two integral lamps

controlled by the navigator's instrument lighting circuit (*Cover 1, Sect 6, Chap 9B*).

**Note...**

*The replay facility of the recorder is not used on pre-Mod 1314, or post-Mod 1453 and 1591 aircraft.*

*Start override switch*

7. A single-pole changeover switch C-GZ, adjacent to the recorder, is marked VOICE CONTROL-CONT RUNNING; the switch is used to override the automatic audio control of the recorder.

**Operation**

**Caution...**

*When the system is not in use, the toggle switch on the recorder must remain in the OFF position to prevent damage to the pinch roller.*

8. With the VOICE CONTROL-CONT RUNNING switch selected to VOICE CONTROL and the control switches on the recorder selected to RECORD and ON, respectively, an audio output level greater than a preset value from the CASS (*Chap. 2, this Section*) will automatically switch on the tape motors. Once started, recording will continue until after the signal has ceased for a period, adjustable by a preset control, when the recorder will be switched off automatically.

9. To record signals which are too weak or of insufficient duration to trigger the recorder, the VOICE CONTROL-CONT RUNNING switch is selected to CONT RUNNING thus permitting the recorder to operate continuously when the control switch is selected to ON.

**Servicing**

*Replacing the cassette*

10. The following sequence must be observed when loading or removing a cassette from the recorder:-

- (1) Depress the tray stop locking bar and raise the locking handle.
- (2) Withdraw the recorder from its case and hinge down at the tray stops.
- (3) Ensure that the toggle switch is selected to OFF and, if appropriate, carefully remove the previously recorded cassette from the cassette spool drives.
- (4) Check that the tape-used indicator is reset to zero.
- (5) Engage the back end of the replacement cassette against the spring-loaded lever and insert cassette over the cassette spool drives.
- (6) Raise the locking handle and slide the recorder back into its case.
- (7) Depress the locking handle and raise the tray stop locking bar.

*Function test*

11. A function test of the sound recorder system is in AP 101B-1202-5A3E.

UK RESTRICTED

AP 101B-1202-1B, Cover 2, Sect 8, Chap 6B  
Mar 89(Amdt 97)

LIST OF APPENDIXES

	App
Sound recorder (pre-Mod 1453 and 1591) ...	1

UK RESTRICTED

**Appendix 1    SOUND RECORDER (pre-Mod 1453 and 1591)**

1. On pre-Mod 1453 and 1591 aircraft, the incorporation of Mod 1314 provides for recordings to be replayed on the sound recorder through the CASS, for reception by the navigator only. An additional connection, from pin B on the recorder/reproducer, is taken to the navigator's station box.

2. With the control switches on the recorder selected to REPLAY and ON, respectively, information previously recorded on the tape will be replayed. The output from the replay amplifier is fed via the CASS and selected by the VOICE REPLAY push-switch on the navigator's station box (*Chap 2, this Section*), the push-button also being used to adjust the audio level.