Temporary Maintenance Instruction
TMI 139-499

Personal Locator Beacon (life raft container) – Re-programming Procedure

All AW139 Helicopters equipped with Kit Emergency Flotation 15/18 Pax Liferafts P/N 4G9560F00111 or P/N 4G9560F00211

The technical content of this document is approved under the authority of DOA nr. EASA.21J.005.

The present TMI will be evaluated for its introduction in the standard set of Technical Publication.
If no further notice is received, the present document expires on: May 08th 2020.

2019-05-08

Introduction

The purpose of this TMI is to provide, for the helicopters that install Kit Emergency Flotation 15 PAX Liferafts P/N 4G9560F00111 or Kit Emergency Flotation 18 PAX Liferafts P/N 4G9560F00211 with Personal Locator Beacon P/N 500-27-07Y or P/N 500-27-07 a reprogramming procedure for the Personal Locator Beacon.

Personal Locator Beacon (life raft container) – Re-programming Procedure

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References

Table 1*: *References

Data Module	Title
39-A-00-20-00-00A-120A-A	Helicopter safety - Make the helicopter safe for maintenance

Table 2: Access Point

Access Panel / Door Id	Data Module
No Access Point	

Table 3: Zones

Zone ID	Data Module
No Zones	

Preliminary Requirements

Required conditions

Table 4: Required conditions

Data Module	Data Module/Technical Publication
No required conditions	

Support equipment

Table 5: Support Equipment

Nomenclature	Identification No.	Qty
Programming adapter	A01568	1
Programming Interface Adaptor	101-54	1
USB cable	101-42	1
Software installation CD	QA-00-233	1
Lap-top or PC	ZZ-00-00	1

Supplies

Table 6: Supplies

Nomenclature	Identification No.	Qty
No supplies are required		

Spares

Table 7*: *Spares

Nomenclature	Identification No.	Qty
No spares		

Safety condition

None

Procedure

1 Installation Of The Beacon Programming Software

NOTE:
If the beacon programming software is already installed on the laptop/PC go to paragraph 1.3

1.1 Installation Of The FTDI Driver

1.1.1 Power on the computer

1.1.2 Start the operating system (the following instructions assume Windows XP)

1.1.3 Log on as an Administrator

1.1.4 Insert the CD-ROM into the CD/DVD drive on your computer

1.1.5 Start Windows Explorer by clicking Start → All Programs → Accessories →Windows Explorer

1.1.6 Using Windows Explorer navigate to the CD/DVD drive for your computer (D: is used for example in the following steps)

1.1.7 Using Windows Explorer locate the FTDI Driver installation program i.e. D:\FTDIDriver\CDM20600.exe

1.1.8 Double-click the icon for CDM20600.exe to launch the driver installation program

1.1.9 Wait for the driver to finish installing

1.2 Installation Of The Beacon Programming Software

1.2.1 Using Windows Explorer locate the Beacon Programming Software installation program i.e. D:\Beacon Programmer\Setup.exe

1.2.2 Double-click the icon for Setup.exe to launch the installation program.

1.2.3 Follow the on screen prompts appropriately to install the software onto your computer.

1.2.4 Start the Beacon Programming application by clicking Start → All Programs →Techtest Ltd → Beacon Programmer.

1.2.5 The Programming Start Page will open.

1.3 Configuration of The Hardware For Programming

NOTE
Before starting with the following instructions, ensure the lap-top or PC is ON.

1.3.1 Remove and disconnect the battery from the PLB

1.3.2 Connect the Programming Adaptor (A01568) to the 500-27-07 PLB with Programming Interface Adaptor 101-54

1.3.3 Connect Programming Adaptor to the PC with the USB cable 101-42

NOTE:
The “Found New Hardware” notification should display followed shortly by a “Hardware Is Installed And Ready To Use” notification.

1.4 Re-Programming The 406 MHz Message

When applicable depending on national rules, the Point of Contact, who is entitled to receive and decode the 406 MHz message in case of transmission of a distress signal from any of the PLBs, may provide the operator with the data required to program the CPI Configuration Unit. The possible programming options and the corresponding data needed are listed in Figure 1.

1.5 Programming Procedure

1.5.1 The following steps shall be followed to program the beacon.

NOTE
Before starting, verify that the instructions of par. 1.1 have been completed.

1.5.1 Start the program Beacon Programmer v1.0.3

1.5.2 From the Programming Start Page click the option “Connect To Beacon and Read Message” (Figure 2). A successful installation will result in the display of the currently programmed beacon message. (Figure 3)

1.5.3 From the Current Beacon Message page click the option “Change the message”

1.5.4 The Select Hex Code Entry Method page is displayed.

1.5.5 To create/modify the PLB message using a standard protocol, go to step 1.6.

1.5.6 To create/modify the PLB message using a national protocol go to step 1.7.

1.5.7 To create/modify the PLB message using a user protocol go to step 1.8.

1.5.8 If the 15 Hex code is available go to step 1.9.

1.5.9 If the 30 Hex code is available go to step 1.10.

NOTE:
if not differently specified by the operator and/or national authority, the standard protocol is suggested.

1.6 Create/Modify the PLB Message Using a Standard Protocol

1.6.1 From the Select Hex Code Entry Method page click the option “Create new / Modify existing message”. (Figure 4) The 406MHz Message Wizard is displayed. The data fields will reflect the message that is currently programmed.

1.6.2 From the 406MHz Message Wizard click the message protocol option “Standard” to select Standard Location protocol.

1.6.3 From the “Choose the message protocol” drop down box select the option “Standard PLB with Type Approval Number and Serial ID”. (Figure 5)

1.6.4 Click the “Next >” button to display the next page of the wizard (Figure 6)

1.6.5 Select the appropriate option from the country code drop down box

1.6.6 If necessary, click the Dec button next to the Identification Data field to select the decimal number format

1.6.7 Enter the PLB Serial Number into the Identification Data field

NOTE:
The PLB Serial Number is reported on the PLB identification label

1.6.8 Click the “Next >” button to display the next page of the wizard

1.6.9 Enter the C/S code (TAC Number) into the Type Approval Number field

NOTE:
The Certification Number is reported in the PLB identification label (Figure 7).

1.6.10 Click the “Next >” button to display the next page of the wizard

1.6.11 If necessary, click the 121.5 MHz option for the Auxiliary Radio-locating Device

1.6.12 If necessary, click the Internal option for the Position Data Source

1.6.13 Click the Finish button to close the wizard. The newly created message will be displayed and decoded for confirmation. (Figure 8)

NOTE:
Part of the data included in the message of Figure 8 shall be reported on the form in Figure 10

1.6.14 On the Confirm New Message page click the “Program the beacon” option to reprogram the message in the beacon. Successful programming will be indicated by the Programming Complete display. Programming can be verified by clicking the “Read back and display the programmed message” option and checking the correct data is displayed. (Figure 9)

1.6.15 Disconnect the battery from the lap-top or PC and reinstall it on the PLB.

1.7 Create/Modify the PLB Message Using a National Protocol

1.7.1 From the Select Hex Code Entry Method page click the option “Create new / Modify existing message”. (Figure 4) The 406MHz Message Wizard is displayed. The data fields will reflect the message that is currently programmed.

1.7.2 From the 406MHz Message Wizard click the message protocol option “National” to select Standard Location protocol.

1.7.3 From the Choose the message protocol drop down box select the option “National Location PLB”. (Figure 11)

1.7.4 Click the “Next >” button to display the next page of the wizard

1.7.5 Select the appropriate option from the country code drop down box

1.7.6 If necessary, click the Dec button next to the Identification Data field to select the decimal number format

1.7.7 Enter the PLB Serial Number into the Identification Data field

NOTE:
The PLB Serial Number is reported on the PLB identification label

1.7.8 Click the “Next >” button to display the next page of the wizard

1.7.9 Enter the National Use Data into the Type Approval Number field

NOTE:
The National Use Data is provided by the local authority

1.7.10 Click the “Next >” button to display the next page of the wizard

1.7.11 If necessary, click the 121.5 MHz option for the Auxiliary Radio-Locating Device

1.7.12 If necessary, click the Internal option for the Position Data Source

1.7.13 Click the Finish button to close the wizard. The newly created message will be displayed and decoded for confirmation

NOTE:
Part of the data included in the message of Figure 12 shall be reported on the form in Figure 13

1.7.14 On the Confirm New Message page click the “Program the beacon” option to reprogram the message in the beacon. Successful programming will be indicated by the Programming Complete display. Programming can be verified by clicking the “Read back and display the programmed message” option and checking the correct data is displayed. (Figure 9)

1.7.15 Disconnect the battery from the lap-top or PC and reinstall it on the PLB.

1.8 Create/Modify the PLB Message Using a User Protocol

1.8.1 From the Select Hex Code Entry Method page click the option “Create new / Modify existing message”. (Figure 4) The 406MHz Message Wizard is displayed. The data fields will reflect the message that is currently programmed.

1.8.2 From the 406MHz Message Wizard click the message protocol option “User” to select Standard Location protocol.

1.8.3 From the Choose the message protocol drop down box select the option “User Location PLB with Serial ID”.

1.8.4 Click the “Next >” button to display the next page of the wizard

1.8.5 Select the appropriate option from the country code drop down box

1.8.6 If necessary, click the Dec button next to the Identification Data field to select the decimal number format

1.8.7 Enter the PLB Serial Number into the Identification Data field

NOTE:
The PLB Serial Number is reported on the PLB identification label (Figure 7)

1.8.8 Click the “Next >” button to display the next page of the wizard

1.8.9 Enter the C/S Code (TAC Number) into the Type Approval Number field

NOTE:
The C/S Certification Number is reported in the PLB identification label (Figure 7)

1.8.10 Click the “Next >” button to display the next page of the wizard

1.8.11 Enter the National Use Data into the Type Approval Number field

NOTE:
The National Use Data is provided by the local national authority; if no national userdata is provided leave the field set to zero

1.8.12 Click the “Next >” button to display the next page of the wizard

1.8.13 If necessary, click the 121.5 MHz option for the Auxiliary Radio-Locating Device

1.8.14 If necessary, click the Internal option for the Position Data Source

1.8.15 Click the Finish button to close the wizard. The newly created message will be displayed and decoded for confirmation. (Figure 8)

NOTE:
Part of the data included in the message of Figure 8 shall be reported on the form of Figure 14

1.8.16 On the Confirm New Message page click the “Program the beacon” option to reprogram the message in the beacon. Successful programming will be indicated by the Programming Complete display. Programming can be verified by clicking the “Read back and display the programmed message” option and checking the correct data is displayed. (Figure 9)

1.8.17 Disconnect the battery from the lap-top or PC and reinstall it on the PLB.

1.9 Programming with 15 Hex Code

WARNING:
Programming with the 15 Hex code causes the loss of the location information in the beacon message

1.9.1 From the Select Hex Code Entry Method page click the option Enter Beacon ID

1.9.2 Enter the 15 characters beacon ID code on the Enter 15 Hex Beacon ID page (Figure 15)

NOTE:
The 15 characters beacon ID code shall be provided by the customer

1.9.3 Click OK. The newly created message will be displayed and decoded for confirmation

1.9.4 On the Confirm New Message page click the Program the beacon option to reprogram the message in the beacon (Figure 8)

NOTE:
Part of the data included in the message of Figure 8 shall be reported on the form of Figure 16. Successful programming will be indicated by the Programming Complete display. Programming can be verified by clicking the “Read back and display the programmed message” option and checking the correct data is displayed. (Figure 9)

1.9.5 Disconnect the battery from the lap-top or PC and reinstall it on the PLB.

1.10 Programming with 30 Hex Code

1.10.1 From the Select Hex Code Entry Method page click the option Enter hex code.

1.10.2 Enter the 30 hex code on the Enter Hex Code page (Figure 17)

NOTE:
The 30 hex code shall be provided by the customer

1.10.3 Click OK. The newly created message will be displayed and decoded for confirmation

1.10.4 On the Confirm New Message page click the Program the beacon option to reprogram the message in the beacon (Figure 8)

NOTE:
Part of the data included in the message of Figure 8 shall be reported on the form of Figure 18. Successful programming will be indicated by the Programming Complete display. Programming can be verified by clicking the “Read back and display the programmed message” option and checking the correct data is displayed. (Figure 9)

1.10.5 Disconnect the battery from the lap-top or PC and reinstall it on the PLB.

Requirement after job completion

1. Remove all the tools and other items from the work area.

2. Make sure that work area is clean.

3. Return helicopter to flight configuration

Location Protocol			
Protocol Group	User Location	Standard Location	National Location
Protocol	User Location PLB With Serial ID	Standard PLB With Type Approval Number and Serial ID	National Location PLB
Data Needed	NA	NA	Provide a Serial Number Assigned by Competent Administration

Figure 1 - Reprogramming options

Figure 2 - Programming start page

Figure 3 - Current beacon message

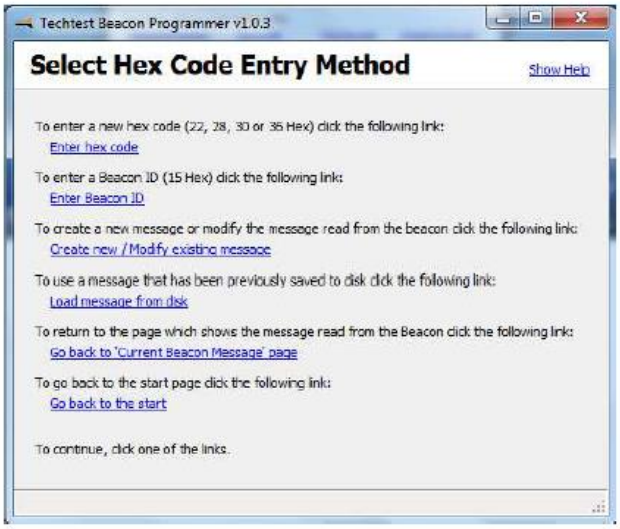

Figure 4 - Select Hex Code Entry Method

Figure 5 - Protocol Selection

Figure 6 - Country Code and Serial Number

Figure 7 - PLB Label

Figure 8 - New Message Confirmation Page

Figure 9 - Programming Complete Page

406 MHz Message Report	
Format Flag	
Protocol Flag	
Country Code	
Protocol Type	
Type Approval Number	
Serial Number	

15 HEX																													
30 HEX																													

Figure 10 - Programming Form (Standard Location Protocol)

Figure 11 - Protocol Selection

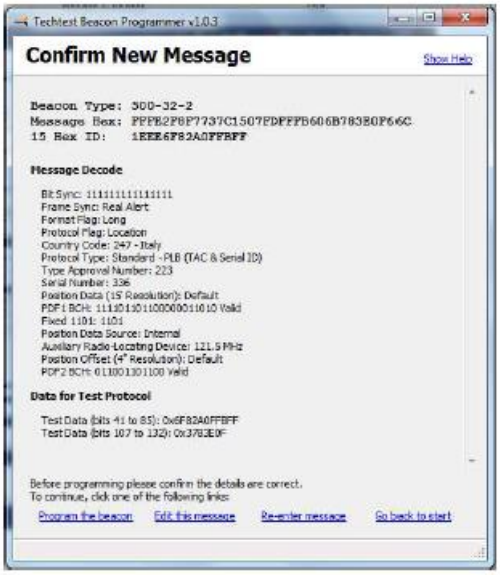

Figure 12 - New Message Confirmation Page

406 MHz Message Report	
Format Flag	
Protocol Flag	
Country Code	
Protocol Type	
Identification Data	

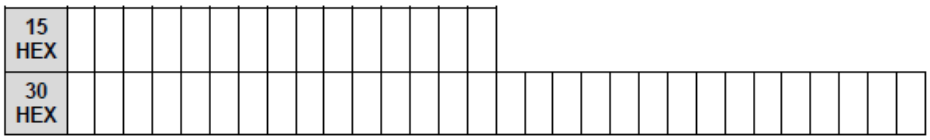

Figure 13 - Programming Form (National Location Protocol)

406 MHz Message Report	
Format Flag	
Protocol Flag	
Country Code	
User Type	
Serial User Type	
Serial Number	
COSPAS/SARSAT Certificate Number	

15 HEX																														
30 HEX																														

Figure 14 - Programming Form (User Location Protocol)

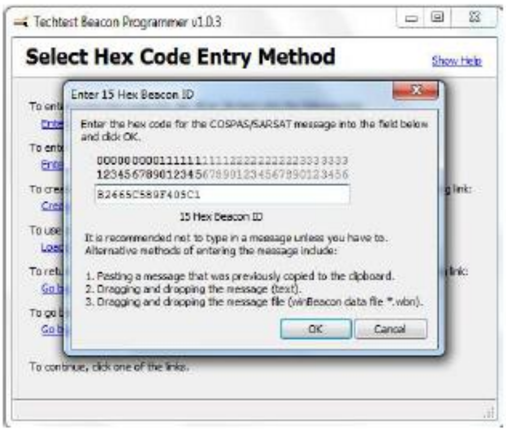

Figure 15 - Hex Beacon ID

406 MHz Message Report	
Format Flag	
Protocol Flag	
Country Code	

15 HEX															

Figure 16 - Programming Form (15 Hex Programming)

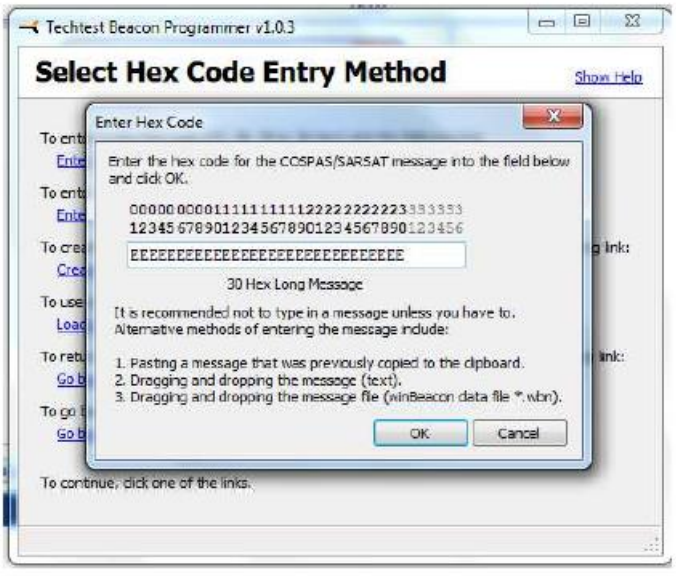

Figure 17 - Enter Hex Code

406 MHz Message Report	
Format Flag	
Protocol Flag	
Country Code	

15 HEX																														
30 HEX																														

Figure 18 - Programming Form (30 Hex Programming)