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Gravity Probe B Relativity Mission

# **PROGRAMMING PROCEDURE FOR THE GSS FMR CARD (PWA 8A01892) PAL DEVICE**

## **GP-B Procedure P0615 Rev -**

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Prepared by: Scott Smader  
FMR card RE.

Date

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Approved by: William J. Bencze  
RE, Gyroscope Suspension System (GSS) Group

Date

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Approved by: Dorrene Ross  
GP-B Quality Assurance

Date

**1.0 Revision History**

Rev Level	Comments/notes	Date	Revised By
-	First release of this procedure	16 Jun 2000	Scott Smader

**2.0 General Description**

This procedure describes how to program the flight PALs for the GSS FMR Card (PWA 8A01892)

**3.0 Applicable Documents**

Document number	Rev	Title
26221	-	GSS FMR PAL Drawing

**4.0 Quality Assurance Notification:**

- 4.1. Gravity Probe B QA (Dorrene Ross) and ONR (Ed Ingraham) must be notified at least 24 hours prior to the start of this programming operation. This may take the form of direct contact, e-mail or voice-mail.

GP-B QA NOTIFICATION:

ONR NOTIFICATION:

INITIALED: \_\_\_\_\_

INITIALED: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

TIME: \_\_\_\_\_

TIME: \_\_\_\_\_

**5.0 Parts Acquisition:**

- 5.1. Remove parts from GP-B stores.
- 5.2. Transfer the following parts to Stanford HEPL Room 127 flight assembly area.

QTY	PART NUMBER	PART NAME	P.O. NUMBER	LOT DATE CODE	LOG OUT
5 EA					

**6.0 Programming:*****Program parts at a certified anti-static workstation in the  
GSS Flight Test Area, HEPL Room 127***

The FMR programming file is named FMRB.MJD. It is dated June 12, 2000. Use the file on the CD-ROM released with the drawing for this device.

(This is a translation of the file FMRB.JED created on June 17, 1999, created by the software REMAP.EXE, downloaded March 8, 2000 from the website of UTMC, the manufacturer of the flight PALs. FMRB.JED was in turn created from FMR2.ABL, dated June 14, 1999, by Datal/O's software program ABEL, version 6.30.)

**Record revision level of FMRB.MJD file: 26221-501 Rev:** \_\_\_\_\_

GP-B QA INSPECTION: \_\_\_\_\_

DATE: \_\_\_\_\_

- 6.1. Connect the Datal/O Model 3900 to a Windows-based PC, and ensure that Datal/O's TaskLink application is installed according to the instructions in the 3900 User Guide.
- 6.2. Launch the TaskLink application on the Windows PC. Enter the HiTerm interface by using TaskLink's Utilities [Alt-U] Programming Interface [I].
- 6.3. Select device [S] type as UTMC UTMC22VP10.
- 6.4. Using More Commands [M], Transfer data [T], Input from disk [I] from the programming file, FMRB.MJD, into the programmer RAM.
- 6.5. When the data is loaded into the programmer's memory, the it will report:  
     Loaded: Checksum = 9370    Transmission checksum = D0C0.  
 If either of these checksums does not match, stop the procedure, and alert responsible individuals.
- 6.6. Set options for programming the device via the Program device [P] window. (The Program device command is located on the main programmer window. Press the F2 key until the main programmer window is visible.)

Source (RAM)	R
Security fuse	1
Program security fuse	Y
Illegal bit check	N

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- 6.7. Open the ZIF latch handle. Insert the flight part into the ZIF socket with pins 12 and 13 in the receptacles furthest from the ZIF latch handle. Close the ZIF latch handle to secure physical and electrical connection.
- 6.8. Program the device [Enter]. Verify programmed device checksum in programmer dialog window = 9370. If the checksum is not correct, or if the programmer reports any other fault, reject the device, and retry this step with a new part. If that part also fails, stop the procedure, and alert responsible individuals.
- 6.9. Open the ZIF latch handle. Remove the device.
- 6.10. Label and package the device per Dwg 26221, note 4
- 6.11. Repeat steps 6.7 through 6.10 with the second through fifth Flight FMR PALs.
- 6.12. Close the ZIF latch handle. Turn off the programmer. Exit TaskLink. Shut down the computer.
- 6.13. Return parts to flight stores.

GSS RE INSPECTION: \_\_\_\_\_

DATE: \_\_\_\_\_

GP-B QA INSPECTION: \_\_\_\_\_

DATE: \_\_\_\_\_

**7.0 Parts Storage:**

- 7.1. Return the programmed devices to GP-B flight stores.

**8.0 Closure of Procedure:**

- 8.1. GP-B QA to verify procedure is complete.

GP-B QA: \_\_\_\_\_

DATE: \_\_\_\_\_

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