

# SERVICE MANUAL



*GE Medical Systems*

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Document 2336152

Revision 2

## **1.5T GP Flex Coil**

- Signa Horizon 1.5T**
- Signa Horizon LX 1.5T**
- Signa Twin Speed 1.5T**
- Signa Infinity 1.5T**
- Signa Infinity Twin Speed 1.5T**
- Signa CV/i 1.5T**
- Signa MR/i 1.5T**

**GE Catalog Part Number: M1085GF**

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## Damage in Transportation

All packages should be closely examined at time of delivery. If damage is apparent, have notation "**damage in shipment**" written on **all** copies of the freight or express bill **before** delivery is accepted or "signed for" by a General Electric representative or a hospital receiving agent. Whether noted or concealed, damage **MUST** be reported to the carrier **immediately** upon discovery, or in any event, within **14** days after receipt, and the contents and containers held for inspection by the carrier. A transportation company will not pay a claim for damage if an inspection is not requested within this **14**-day period.

**Immediately** complete a "Damage Loss Claim Form", available via MS Exchange Mail, after the damage is found.

MS Exchange Path:

Outlook/Public Folder/All Public Folders/Medical Systems/!Global Initiatives/Information Management/Forms/Common Forms/DAMAGE LOSS CLAIM FORM.

Send the completed form to the email address listed in the form.

For more information about the Transportation Claim Procedure, access the GE Medical Systems Intranet and enter the following URL address (case sensitive):

<ftp://3.87.40.2/globepro/qualsys/Docs/190016MF.PDF>

Rev. 11/15/2000

Language Policy For Service Documentation (Dir. 2128126)

**W A R N I N G**

- THIS SERVICE MANUAL IS AVAILABLE IN ENGLISH ONLY.
- IF A CUSTOMER'S SERVICE PROVIDER REQUIRES A LANGUAGE OTHER THAN ENGLISH, IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE TRANSLATION SERVICES.
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**AVERTISSEMENT**

- CE MANUEL DE MAINTENANCE N'EST DISPONIBLE QU'EN ANGLAIS.
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- NE PAS TENTER D'INTERVENTION SUR LES EQUIPEMENTS TANT QUE LE MANUEL SERVICE N'A PAS ETE CONSULTE ET COMPRIS.
- LE NON-RESPECT DE CET AVERTISSEMENT PEUT ENTRAINER CHEZ LE TECHNICIEN, L'OPERATEUR OU LE PATIENT DES BLESSURES DUES A DES DANGERS ELECTRIQUES, MECANIKES OU AUTRES.

**WARNUNG**

- DIESES KUNDENDIENST-HANDBUCH EXISTIERT NUR IN ENGLISCHER SPRACHE.
- FALLS EIN FREMDER KUNDENDIENST EINE ANDERE SPRACHE BENÖTIGT, IST ES AUFGABE DES KUNDEN FÜR EINE ENTSPRECHENDE ÜBERSETZUNG ZU SORGEN.
- VERSUCHEN SIE NICHT, DAS GERÄT ZU REPARIEREN, BEVOR DIESES KUNDENDIENST-HANDBUCH ZU RATE GEZOGEN UND VERSTANDEN WURDE.
- WIRD DIESE WARNUNG NICHT BEACHTET, SO KANN ES ZU VERLETZUNGEN DES KUNDENDIENSTTECHNIKERS, DES BEDIENERS ODER DES PATIENTEN DURCH ELEKTRISCHE SCHLÄGE, MECHANISCHE ODER SONSTIGE GEFAHREN KOMMEN.

**AVISO**

- ESTE MANUAL DE SERVICIO SOLO EXISTE EN INGLES
- SI ALGÚN PROVEEDOR DE SERVICIOS AJENO A GEMS SOLICITA UN IDIOMA QUE NO SEA EL INGLÉS, ES RESPONSABILIDAD DEL CLIENTE OFRECER UN SERVICIO DE TRADUCCIÓN.
- NO SE DEBERÁ DAR SERVICIO TÉCNICO AL EQUIPO, SIN HABER CONSULTADO Y COMPRENDIDO ESTE MANUAL DE SERVICIO.
- LA NO OBSERVANCIA DEL PRESENTE AVISO PUEDE DAR LUGAR A QUE EL PROVEEDOR DE SERVICIOS, EL OPERADOR O EL PACIENTE SUFRAN LESIONES PROVOCADAS POR CAUSAS ELÉCTRICAS, MECÁNICAS O DE OTRA NATURALEZA.

**AVVERTENZA**

- IL PRESENTE MANUALE DI MANUTENZIONE È DISPONIBILE SOLTANTO IN INGLESE.
- SE UN ADDETTO ALLA MANUTENZIONE ESTERNO ALLA GEMS RICHIEDE IL MANUALE IN UNA LINGUA DIVERSA, IL CLIENTE È TENUTO A PROVVEDERE DIRETTAMENTE ALLA TRADUZIONE.
- SI PROCEDA ALLA MANUTENZIONE DELL'APPARECCHIATURA SOLO DOPO AVER CONSULTATO IL PRESENTE MANUALE ED AVERNE COMPRESO IL CONTENUTO.
- NON TENERE CONTO DELLA PRESENTE AVVERTENZA POTREBBE FAR COMPIERE OPERAZIONI DA CUI DERIVINO LESIONI ALL'ADDETTO ALLA MANUTENZIONE, ALL'UTILIZZATORE ED AL PAZIENTE PER FOLGORAZIONE ELETTRICA, PER URTI MECCANICI OD ALTRI RISCHI.

**警告**

- ・このサービスマニュアルは英語版しかありません。
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- 未详细阅读和完全了解本手册之前，不得进行维修。
- 忽略本注意事项会对维修员，操作员或病人造成触电，机械伤害或其他伤害。

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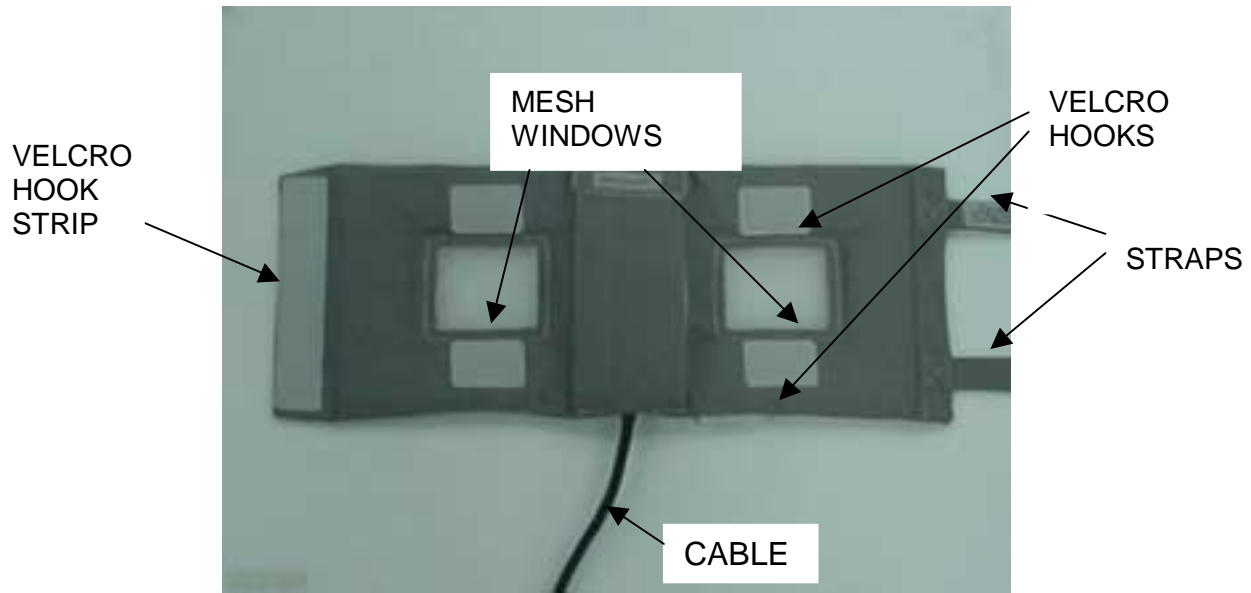
**SECTION 1 - INTRODUCTION**

**1-1 Product Identification and Shipping List**

The coil consists of one major assembly (see Illustration 1-1). The unit is 56 cm long (not including straps) by 22 cm wide. It has two mesh "windows" which indicate the open center of the two coils and which aid in positioning.

Two 76 cm (30 in) long straps are attached to one end of the coil fabric. The undersides of these straps are covered with Velcro, which attach to a Velcro hook strip at the other end of the coil and to four Velcro hooks located above and below the mesh windows

A 183 cm (72 in) long RF cable exits the material on one of the long sides and has a BNC connection that attaches to the *Surface Coil* quick-disconnect box.



GP FLEX COIL  
ILLUSTRATION 1-1

**SHIPPING LIST – TABLE 1-1**

Description	GE Part#	Qty
1.5T GP Flex Coil	2320288	1
Service Manual	2336152	1
Operator Manual	2336151	1

**1-2 Compatibility**

This coil is compatible with the following hardware configuration:

- Signa Horizon 1.5T
- Signa Horizon LX 1.5T
- Signa Twin Speed 1.5T
- Signa Infinity 1.5T
- Signa Infinity Twin Speed 1.5T
- Signa CV/i 1.5T
- Signa MR/i 1.5T

### 1-3 Related Documentation

- Signa LX Service Methods CD, 2160623-1
- 1.5T GP Flex Coil Operator Manual, 2336151

### 1-4 Environmental Requirements

#### Storage Requirements

Coil should be stored in the Scanner Room.

#### Dimensions

Dimensions: 56cm (22in) x 22cm (8.66 in) x 4cm(1.57in)

#### Weight

Coil Weight: 520gms (1.15lb)

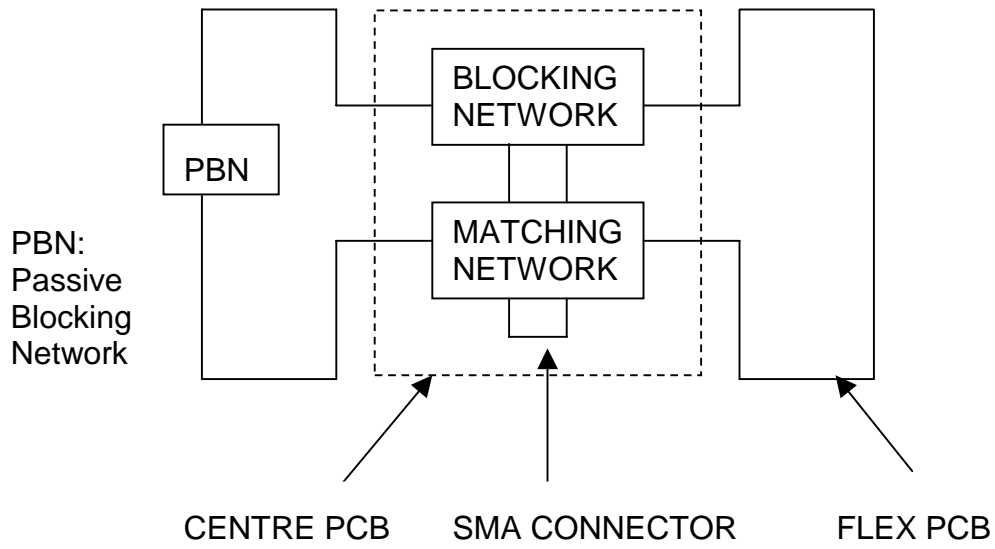
### 1-5 Theory of Operation

The Signa General Purpose (GP) Flex coil design is a linear, receive-only flexible coil. The GP Flex Coil consists of two 13 cm x 17 cm (5 in x 6.5 in) loops that are serially connected to create a corotating "saddle coil" pair. When aligned properly, this "saddle" design provides exceptional uniformity across the sensitive volume of the coil and a minimum of bright spots or high-intensity areas. If the loops are positioned in a more open fashion (i.e., they move farther away from each other, toward a planar, or flat configuration), the image uniformity decreases. For close positioning do not overlap the coil ends. Doing so will not damage the coil, but the performance will suffer. For optimal positioning the circular shape should be maintained with the two-mesh windows 10 cm (4 in) apart and the coil ends 5 cm (2 in) apart. Some deviation from the optimal position will not significantly degrade the uniformity. Therefore, this coil can be used in anatomical areas such as the hip, brachial plexus, larger knees and ankle.

The coil consists of one major assembly (see Illustration 1-1). The two loops are in a flexible material, covered with fabric. This allows the GP Flex Coil to bend in one direction, making it easy to wrap around the anatomy of interest.

The Functional Block Diagram of the antenna electronics is shown in Illustration 1-2. The two flex PCB wings on either side of the rigid PCB form the loops. The rigid PCB has a matching network that matches the loaded antenna to 50 ohms, and an active blocking network.

The blocking network consists of a single PIN diode and a tuned LC network. The diode is forward biased whenever the body coil transmits. The external cable is connected to the antenna via a right angle SMA jack. The flex PCB has a passive blocking network, which consists of a Schottky Diode, and a tuned LC network.



GP FLEX COIL FUNCTIONAL BLOCK DIAGRAM  
ILLUSTRATION 1-2

## **SECTION 2 - SETUP AND CALIBRATION**

### **2-1 Coil Installation**

#### **2-1-1 Special Install Notes**

None

#### **2-1-2 Installing the Coil**

The name for this coil is: GPFLEX

Add the coil using the Configuration File Manager. Refer to: Service Methods CD; System Level Procedures; Software Utilities.

If the coil does not exist in Coil Config File refer to the Adding New Coils to Config File Manager procedure and use the coil configuration information in Section 7-3 of this manual.

### **2-2 Installation Functional Checks**

1. Perform system level Signal to Noise Check. Refer to Service Methods CD; System Level Procedures; Functional Checks; Signal to Noise Check.
2. Perform Section 3 - Coil Imaging Performance Verification.

### **2-3 Periodic Quality Assurance Check**

On a periodic basis, such as during planned maintenance, perform the quality assurance checks as outlined below to ensure the coils is operating properly.

1. Check external cable for cracks or cuts.
2. Perform Section 3 - Coil Imaging Performance Verification and record data values in Data Sheet.

## SECTION 3 - FUNCTIONAL CHECKS

### 3-1 Scanner Verification

Perform system level Signal to Noise Check. Refer to Service Methods CD; System Level Procedures; Functional Checks; Signal to Noise Check.

### 3-2 Coil Imaging Performance Verification

#### 3-2-1 Tools Required

**TOOLS REQUIRED – TABLE 3-2-1**

Description	GE Part#	Qty
Head TLT Sphere	46-265826G6	1
Head Loader	46-287899G1	1

#### 3-2-2 Explanation of Procedure

SNR measurements for the GPFLEX coil require sets of signal and noise scans. Refer to the Data Sheet in Appendix 7-1 to understand the data required to calculate the SNR. All ROI measurements are made on the individual element images, **not** on the composite image.

The image quality check uses two different protocols for signal and noise image acquisition. The signal scan is an **FSE** sequence used to minimize susceptibility and B<sub>0</sub> inhomogeneity effects. The noise scan is a **GRE** sequence that has a Control Variable (do\_noise) to eliminate the transmit RF completely during the scan. The signal scan **must** be run prior to the noise scan as the R1, R2, and TG values from the signal scan are used for the noise scan.

#### 3-2-3 Signal Scan

The following procedure is specific to the LX platform but can be easily adapted for 5.x systems.

1. The Quad Head Coil must be completely removed from the cradle before performing any body or surface coil scans. Failure to do this may result in damage to the Quad Head Coil T/R network.
2. At the magnet, press “**Alignment Light**” button to turn on the light. Move the cradle to align the coil to the alignment lights as shown in illustration 3-1. Press “**Landmark**” button to landmark the alignment.
3. Move the coil to scan position by pushing the “**Move to Scan**” button, ensuring cable does not get snagged.
4. At the console, set the protocols as mentioned below.

## SIGNAL PROTOCOL

### Patient/Exam. Information

ID: **geservice**  
Name: **GP Flex coil**  
Patient Weight: **111 lbs. (50 kg)**

### Patient Position

Patient position: **Supine**  
Patient entry: **Head First**  
Coil: **GP Flex**  
Series Description: **Signal**

### Imaging Parameters

Plane: **Axial**  
Mode: **2D**  
Pulse Seq.: **FSE**  
Imaging Options: **Fast**  
PSD Name: *leave blank*  
Protocol: *leave blank*

### Scan Timing

# of Echoes: **1**  
TE: **17**  
TR: **500**  
Echo Train Length: **4**  
Bandwidth: **15.63**

### Additional Parameters

*no entries required in this area*

### Acquisition Timing

Freq.: **256**  
Phase: **256**  
NEX: **1**  
Phase FOV: **1.00**  
Freq. DIR: **R/L**  
Auto Center Freq.: **Peak**  
Autoshim: **On**  
Phase Correct: **On**  
Contrast: **Off**

# of Reps B4 Pause: **0**

**Scanning Range**

FOV: **24**

Slice Thickness: **5**

Spacing: **32.5**

A/P Center R/L Center: **0.00**

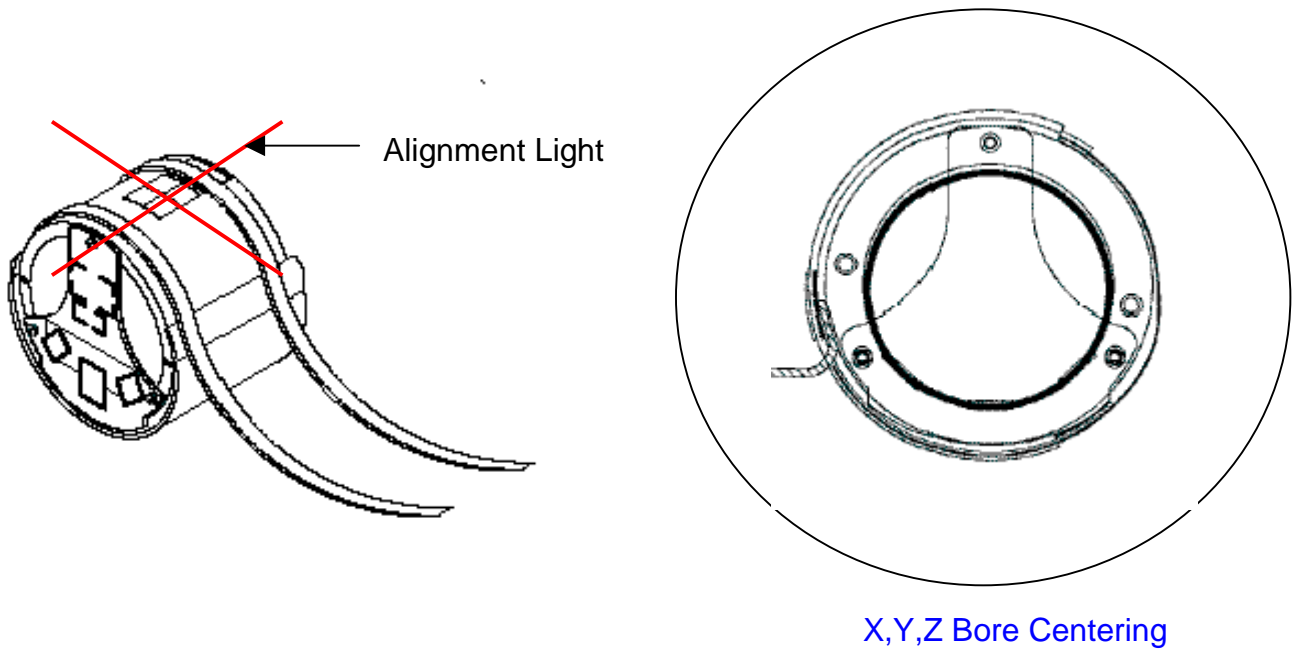
S/I Start: **S75**

S/I End: **I75**

# Slices: **5**

Table Delta: **0.00**

5. Click [**Save Series**] to download the protocols, then click [**Prepare to Scan**].
6. Run [**Auto Prescan**]. Record the R1, R2 and TG values on the SNR Data Sheet (found at the end of this manual).
7. Run [Scan]



LANDMARK AND ALIGNMENT  
Illustration 3-1

### 3-2-4 Noise Scan

A signal scan must be run **prior** to the noise scan as the same R1, R2 and TG values must be used for both the signal and noise scans. Do **not** run an Auto Prescan prior to the noise scan as the values will be changed.

1. Copy the signal scan series. Use [**Copy Series**] (highlight signal series and click right mouse button) and [**Paste Series**] in **RX Manager**.
2. Click [**View Edit**] and set the protocols as mentioned in below.

#### **Patient Position**

Patient position: **Supine**  
Patient entry: **Head First**  
Coil: **GP Flex**  
Series Description: **Noise**

#### **Imaging Parameters**

Plane: **Axial**  
Mode: **2D**  
Pulse Seq: **GRE**  
Imaging Options: **None**  
PSD Name: *leave blank*  
Protocol: *leave blank*

#### **Scan Timing**

# of Echoes: **1**  
TE: **Min Full**  
TR: **34**  
Flip Angle: **1**  
Bandwidth: **15.63**

#### **Additional Parameters**

*no entries required in this area*

#### **Acquisition Timing**

Freq: **256**  
Phase: **256**  
NEX: **1**  
Phase FOV: **1.00**  
Freq DIR: **R/L**  
Auto Center Freq: **Peak**  
Autoshim: **On**

### Scanning Range

FOV: **24**  
Slice Thickness: **5**  
Spacing: **32.5**  
A/P Center R/L Center: **0.00**  
S/I Start: **S75**  
S/I End: **I75**  
# Slices **5**  
Table Delta: **0.00**

3. Click [**Save Series**] and click [**Prepare to Scan**].
4. Open [**Display CVs**] menu under [**Research Operations**]. Set the “**rhformat**” and “**do\_noise**” CVs to “**1**”.
5. Run [**Manual Prescan**], do **not** make any changes, and click [**Done**].
6. Run [**Scan**].

### 3-2-5 SNR Image Analysis

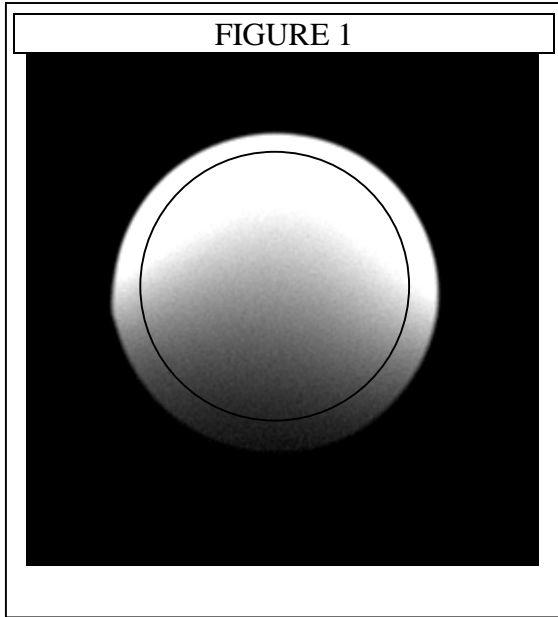
#### SNR Measurement

Regions of interest in both signal and noise images can be measured directly in the image browser. Click the user interface button *Measure*, select the circular or rectangular shape, and adjust its size and orientation when the shape is displayed in the selected image. Mean, standard deviation, and area of the ROI will appear in the lower right corner of the image.

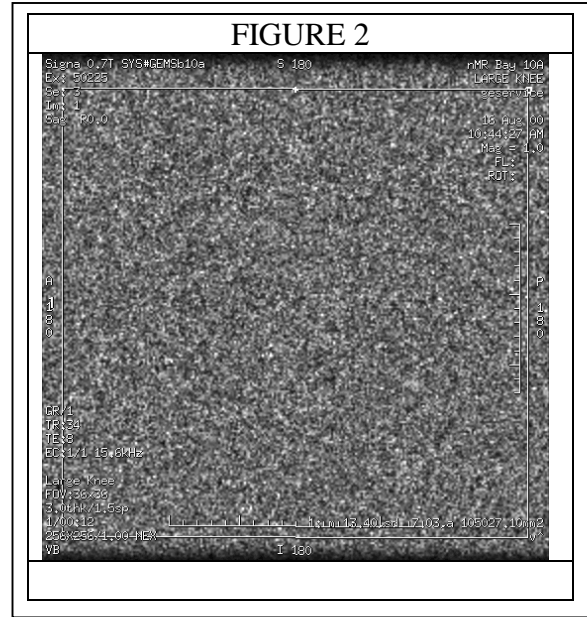
$$\text{SNR}_{\text{Element}} = \frac{\text{Mean of Signal Within ROI}}{\text{Std. Dev. of Noise Within ROI}}$$

Note: The SNR calculation uses the **MEAN** of the signal image and **STANDARD DEVIATION** of the noise image. SNR is measured for each **element**, not on the composite image.

For the signal measurement, choose an ROI covering approximately 80% of the phantom. Also measure the noise with an ROI covering 80% of the FOV. Examples of typical ROIs are shown in illustration 3-2 and 3-3 below.



SIGNAL SCAN  
ILLUSTRATION 3-2



NOISE SCAN  
ILLUSTRATION 3-3

### SNR Specification

The SNR measurements must be greater than or equal to the following specifications:

**SNR SPECIFICATIONS – TABLE 3-2-5**

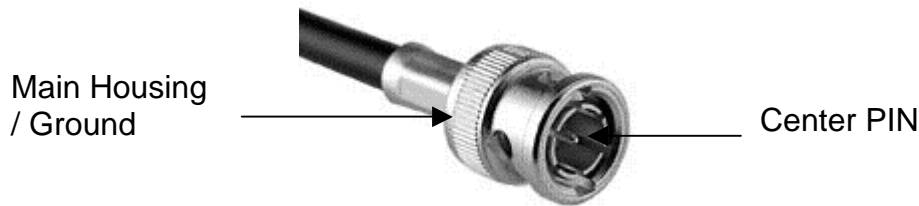
Slice Location	Image Number	SNR
S37.5	2	72.5
S0	3	106
I37.5	4	72

Note: Image 1 and image 5 are collected to verify that the phantom is correctly centered. For example, you would want images 1 and 5 to be the same size. If they are not the same size, then the phantom should be repositioned relative to the coil center.

### 3-3 External Cable Check

1. Select the DIODE TEST function on the DMM.
2. Connect the POSITIVE lead of the DMM to the center pin of the BNC on the external cable. Connect the NEGATIVE lead to the main housing/ground of the BNC.
3. Flex the external cable, especially near the connectors and the strain relief, and observe that a reading of 0.400 to 0.600 should remain on the DMM, with no instability or fluctuations.
4. Connect the POSITIVE lead of the DMM to the main housing/ground of the BNC on the external cable. Connect the NEGATIVE lead to the center pin of the BNC.

- Flex the external cable, especially near the connectors and the strain relief, and observe that a reading of INFINITY should remain on the DMM, with no instability or fluctuations.
- If the cable fails any of the above tests, replace it. Refer to **Section 5-2 External Cable Replacement**.



BNC CONNECTOR  
ILLUSTRATION 3-4

### 3-4 PIN Diodes Check

Note: There is only one PIN diode in this antenna. This procedure will indicate if the PIN diode is defective.

- Select the DIODE TEST function on the Digital Multimeter (DMM).
- Connect the POSITIVE lead of the DMM to the center pin of the BNC on the external cable. Connect the NEGATIVE lead to the main housing/ground of the BNC.
- A reading of 0.400 to 0.600 should be observed on the DMM.
- If a reading below 0.400 is observed in either direction, either the output cable is shorted or the PIN diode is bad.
- If a reading above 0.600 is observed in step 3, the PIN diode is defective.
- Connect the POSITIVE lead of the DMM to the main housing/ground of the BNC on the external cable. Connect the NEGATIVE lead to the center pin of the BNC.
- A reading of INFINITY should be observed on the DMM.
- If a reading of INFINITY is observed in both directions, either the output cable is open or the PIN diode is open.
- If any of the above conditions fails, replace the PIN diode. Refer to Section 5-4 Replacing the PIN Diode.

## SECTION 4 - MAINTENANCE

### 4-1 Coil Care



**Detach coil connector from scanner before attempting to clean. Do not reattach after cleaning until coil has dried completely. Having the coil attached to the system during cleaning or when it is wet may result in electrical shock.**



**Do not spray or pour cleaning solution directly on coil. Do not submerge coil in solution. The coil contains sensitive electronics components that could be damaged by the solution.**

If necessary, a 10% bleach solution can be used for more rigorous cleaning; however, some discoloration of the strap, cover or pad may occur.

### 4-2 Special Care Requirements (if applicable)

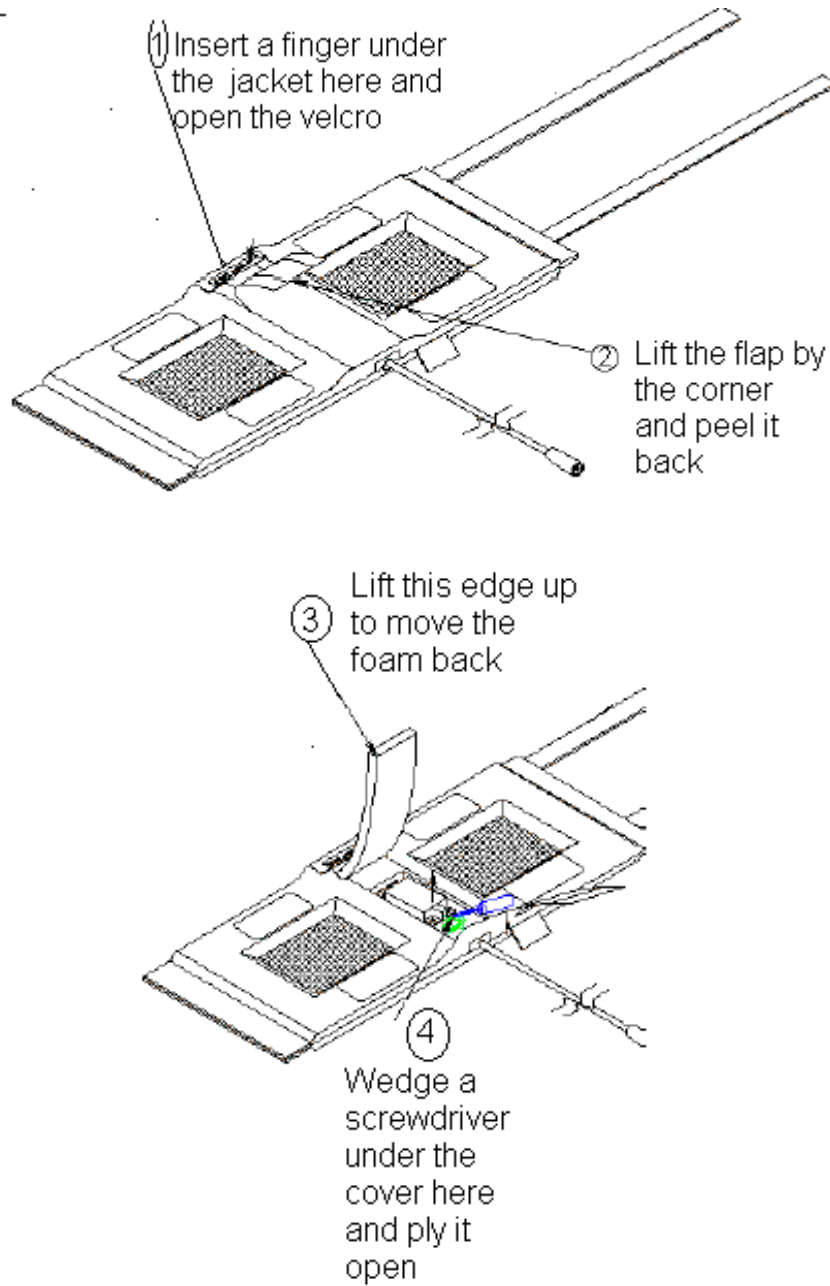
Contact the GE authorized service personnel for disposing the coil at the end of product life.

## SECTION 5 - REPLACEMENT

Simple removals that are clearly obvious are not described here.

Unless otherwise noted, the steps for re-assembly are simply the reverse order of the steps described for disassembly.

### 5-1 Assembly/ Disassembly of Coil

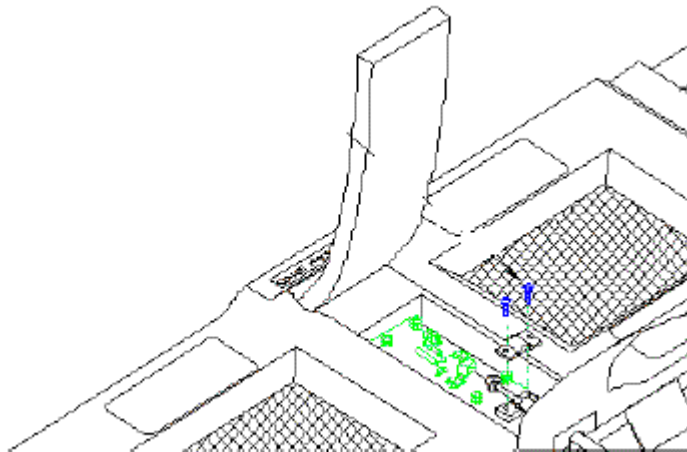


**COIL ASSEMBLY / DISASSEMBLY**  
ILLUSTRATION 5-1

To re-assemble **put the cover back on** the posts and press on it till it snaps back into place. Push the foam flap under the jacket. Carefully put the fabric flap into place making sure that the Velcro on the edges lines up with the Velcro on the jacket. Tuck the end of the flap under the jacket. Press over the Velcro while making sure that **no edges are left open**.

### 5-2 External Cable Replacement

1. Disassemble the coil as per Section 5-1 Disassembly/ Assembly of Coil. Unscrew the two nylon screws and remove the strain relief upper cover
2. Unscrew (use two 8mm wrenches, one on the circuit board female connector and one on the male cable connector) and remove the male SMA cable connector from the circuit board. Be careful not to twist the female SMA connector from the circuit board.
3. Put the external cable out of the coil.
4. Install the new cable. Stabilize the circuit board and the connector on the circuit board. Too much torque (>8inch-lbs) can cause damage.
5. Put the strain relief back on. Reassemble the coils as per section 4-1 Disassembly/ Assembly of GP Flex Coil

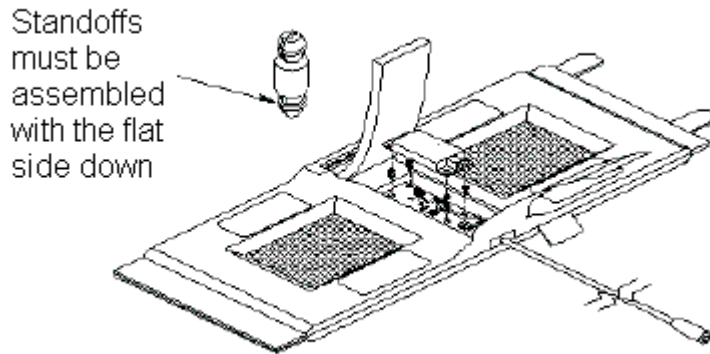


**REPLACING EXTERNAL CABLE**  
ILLUSTRATION 5-2

### 5-3 Mechanical Hardware Replacement

1. Refer to **Section 6 Renewal Parts** for the hardware kit part number.
2. To replace the cover assembly refer to Section 5-1 Disassembly/Assembly of Coil.

3. To replace the upper strain relief block and the two screws refer to **Section 5-2 Replacing the External Cable**.
4. If a plastic standoff breaks it can be pulled out using a needle nose plier. Insert a new standoff in its place while making sure that the flat end goes in first. See Illustration



REPLACING MECHANICAL HARDWARE  
ILLUSTRATION 5-3

#### 5-4 Replacing the PIN Diode

Note: Antenna is tuned at the factory to provide the proper input impedance. Circuit board is **not** field replaceable. PIN diode is the only field replaceable component on the circuit board.

1. Disassemble the coil as per section 5-1 Disassembly/Assembly of GP Flex Coil
2. Use an antistatic wristband when touching the circuit board.
3. Replace the PIN diode only with an exact replacement diode. (See section 6, Renewal Parts)
4. Reassemble the coil as per section 5-1 Disassembly/ Assembly of GP Flex Coil

**SECTION 6 - RENEWAL PARTS**

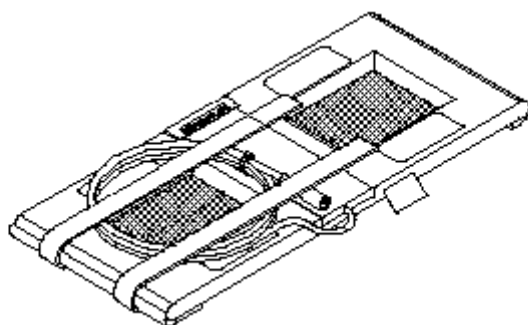
**6-1 Field Replaceable Units**

**FIELD REPLACEABLE UNITS LIST – TABLE 6-1**

Description	GE Part#
1.5T GP Flex Coil	2320288
CABLE KIT	2337313
HARDWARE KIT	2337313-2
PIN DIODE	46-221735P1

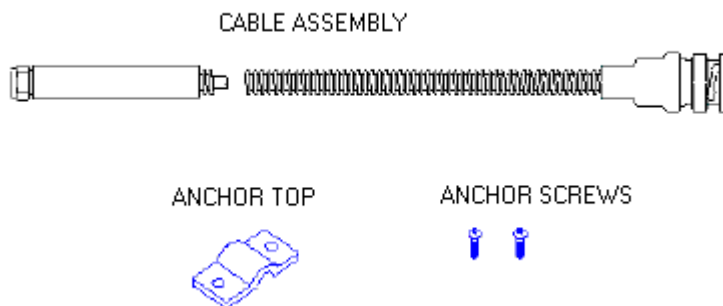
**1.5T SIGNA GP FLEX COIL WITH CABLE**

**2320288**



**1.5T SIGNA GP FLEX COIL CABLE KIT**

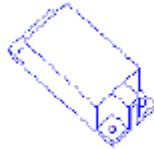
**2337313**



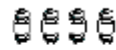
1.5T SIGNA GP FLEX COIL HARDWARE KIT

2337313-2

PWB Cover



Standoffs



Nylon Screws



**SECTION 7 - APPENDIX**

**7-1 SNR Data Sheet**

Use the table provided below to record the calculated signal to noise ratio (SNR) data obtained from the Functional Checks section.

**GP Flex Coil SNR Datasheet**

Date	Comments						
Slice Location	R1	R2	TG	Signal Mean (A)	Noise Std. Dev. (B)	SNR (A/B)	SNR Spec Limit
S37.5							72.5
S0							106
I37.5							72

Date	Comments						
Slice Location	R1	R2	TG	Signal Mean (A)	Noise Std. Dev. (B)	SNR (A/B)	SNR Spec Limit
S37.5							72.5
S0							106
I37.5							72

Date	Comments						
Slice Location	R1	R2	TG	Signal Mean (A)	Noise Std. Dev. (B)	SNR (A/B)	SNR Spec Limit
S37.5							72.5
S0							106
I37.5							72

**7-2 Coil Configuration**

Parameter	1.5T CRM CONFIGURATION	1.5T BRM CONFIGURATION
Coil Name	GPFLEX	GPFLEX
Coil Type	3	3
Extremity Coil	No	No
Cable Loss	1.2	1.05
Coil Loss	0.952	1.72
Recon Scale Factor	0.75	0.75
Linear vrs Quadrature	1	1
Multiple Receiver Coil?	No	No
Number of Receivers	0	0
Starting Receiver ID	0	0
Ending Receiver ID	0	0
Multi-Coil Port Enable	0	0
Multi-Coil Part Error Enable	0	0
Additional Transmit Attenuation	0	0
Number of Fast Receivers	1	1
Starting Fast Receiver ID	4	4
Ending Fast Receiver ID	4	4
Start TA Value	90	90
Start RG Value	12	12
Multi-Coil Recon Enable	0	0
Head Default Freq. Direction	0	0
SCIC Axial	0	0
SCIC Saggital	0	0
SCIC Coronal	0	0
Auto Shim Receiver	-1	-1

## REVISION HISTORY

Rev	Date	Author	Primary Reason for Change
0	Mar. 28, 2002	G. Shajan	Initial Release
1	Apr. 12, 2002	G. Shajan	GE Catalogue Part No. changed from M1089GP to M1085GF (Sheet 1)
2	May 7, 2002	G.Shajan	<ol style="list-style-type: none"><li>1. Changed the header reference</li><li>2. System references updated in front page</li><li>3. Section 1-2: Updated system compatibility</li><li>4. Section 7-2: CRM Configuration updated</li></ol>