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1- OVERVIEW

The RF body coil cartridge is a field-replacable unit (FRU) that mounts inside the gradient body coil (also a FRU). It is available in 1.0T and 1.5T versions. If the RF coil fails, it must be removed from within the gradient body coil, and replaced. Since the replacement procedures for the RF and gradient body coils are closely related, references are made below to the epoxy-filled gradient coil replacement procedure where the instructions for removal of alike parts (bridge removal, for example) can be found.

While some of the following procedure can be accomplished by one person (connecting/disconnecting various cables, etc.), replacing a failed RF body coil is not a job for one person.

2- DISASSEMBLY

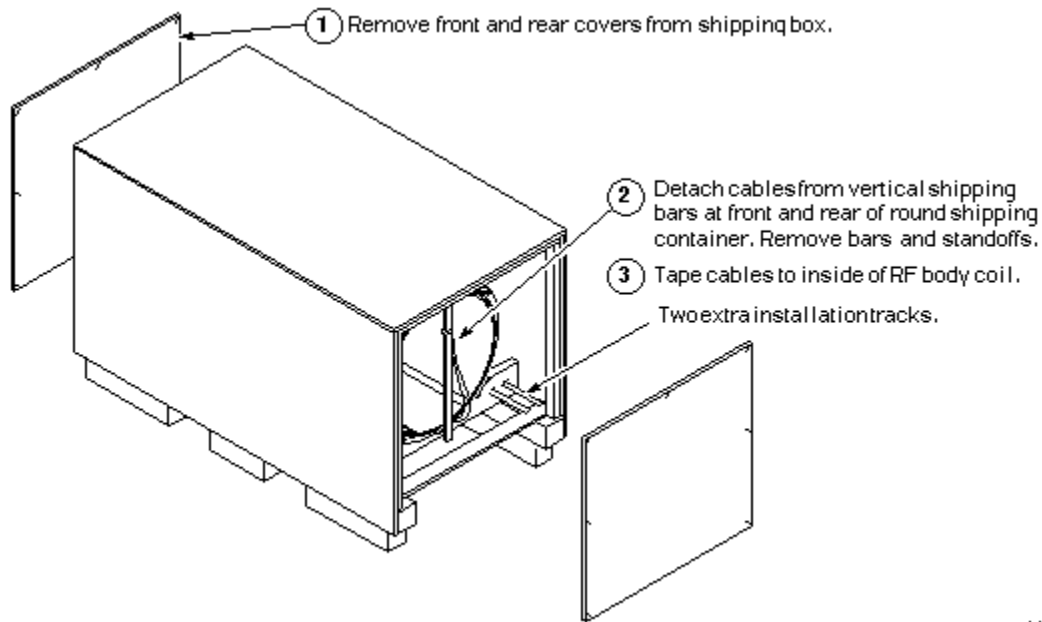
For the steps preliminary to the actual RF coil replacement for systems **with Non-Cx magnets**, see section 2, Tools Required, in the procedure for “Replacing the gradient body coil for Non-Cx magnets”.

For the steps preliminary to the actual RF coil replacement for systems **with a Cx or LCC magnet**, see section 3, Tools Required, in the procedure for “Gradient coil replacement for (BRM & CRM) in CX & LCC magnets.

3- REPLACING BRM RF BODY COIL

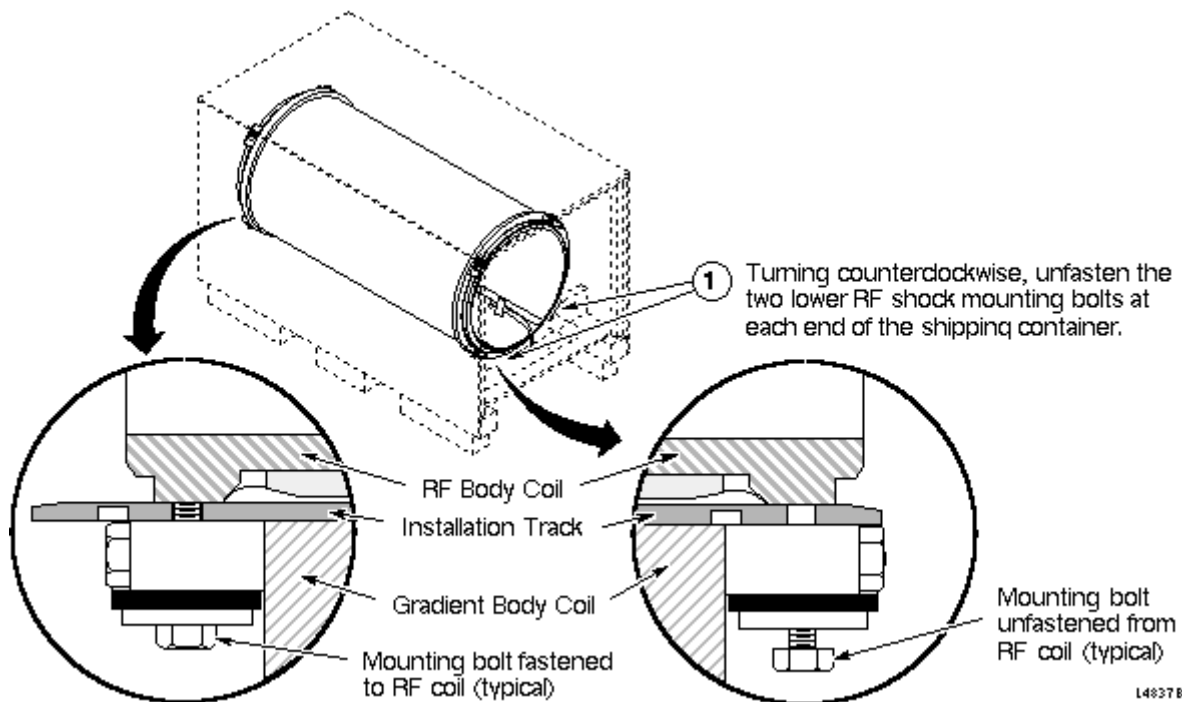
3-1 Unpacking BRM RF Body Coil

1. A new RF body coil is packed in a cylindrical shipping container that is strapped inside a combination pallet and outer shipping box. It rests on a pair of installation tracks. The shipping container never leaves the box; the RF body coil is removed from this combination. Included are two extra installation tracks that are used in the gradient body coil to help you make the RF coil change. To perform all necessary steps for this part of the procedure, work from Illustration 3-1 through Illustration 3-10.



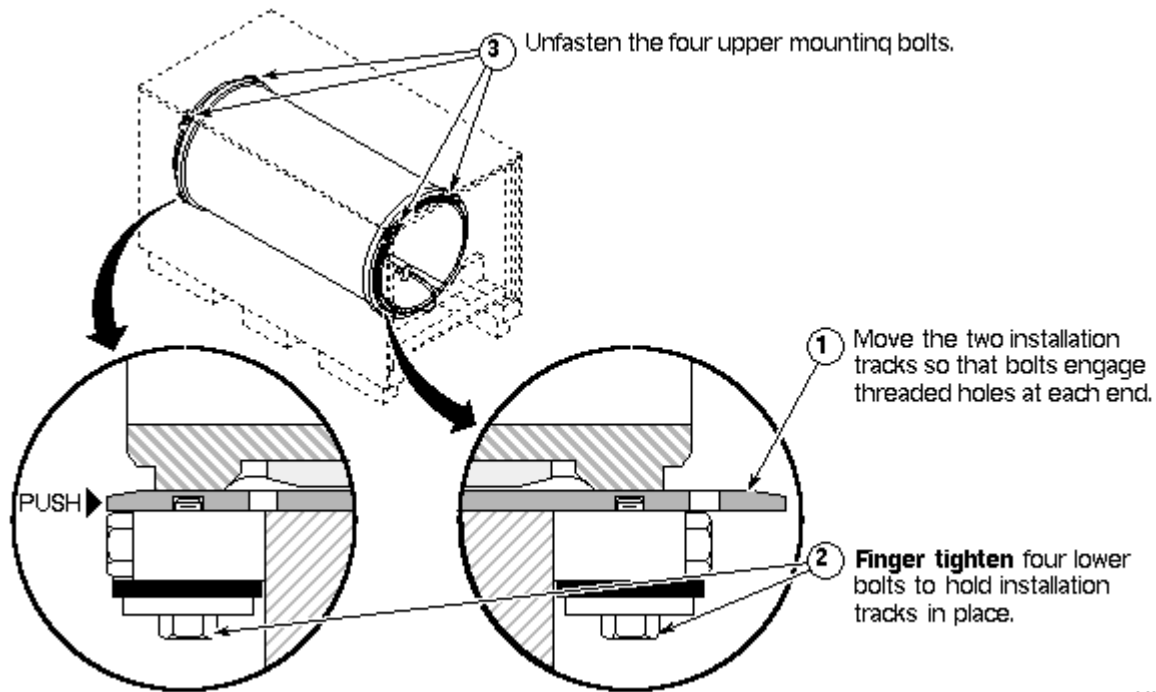
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ILLUSTRATION 3-1
UNPACKING THE NEW BRM RF BODY COIL



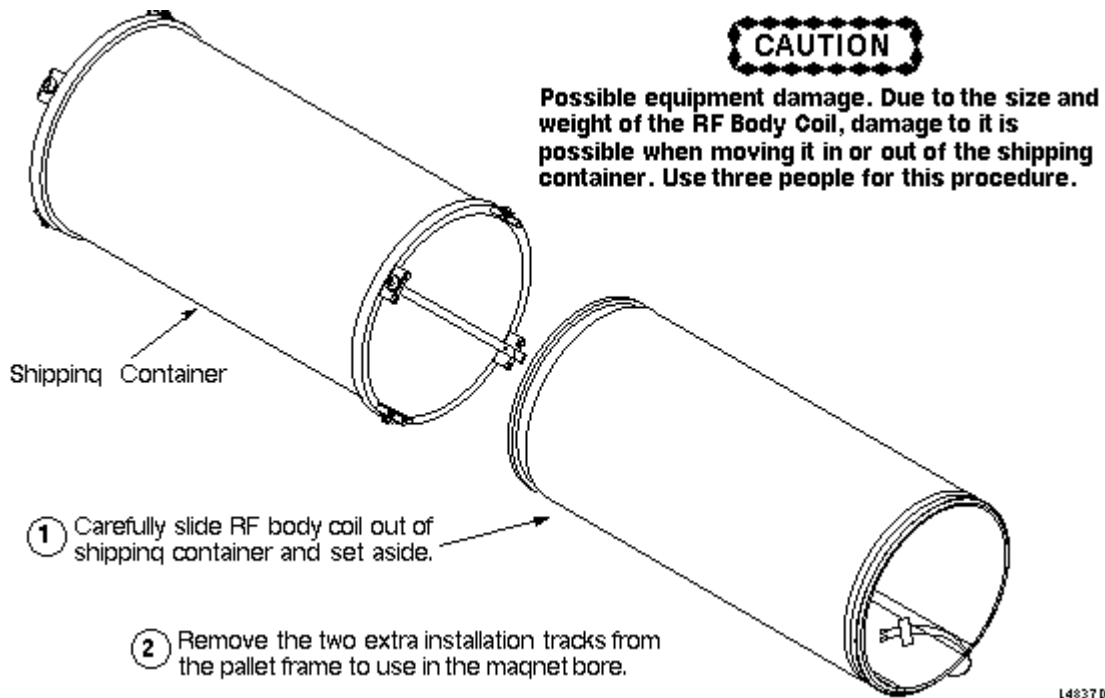
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SEPERATING BRM RF BODY COIL FROM SHIPPING CONTAINER
ILLUSTRATION 3-2



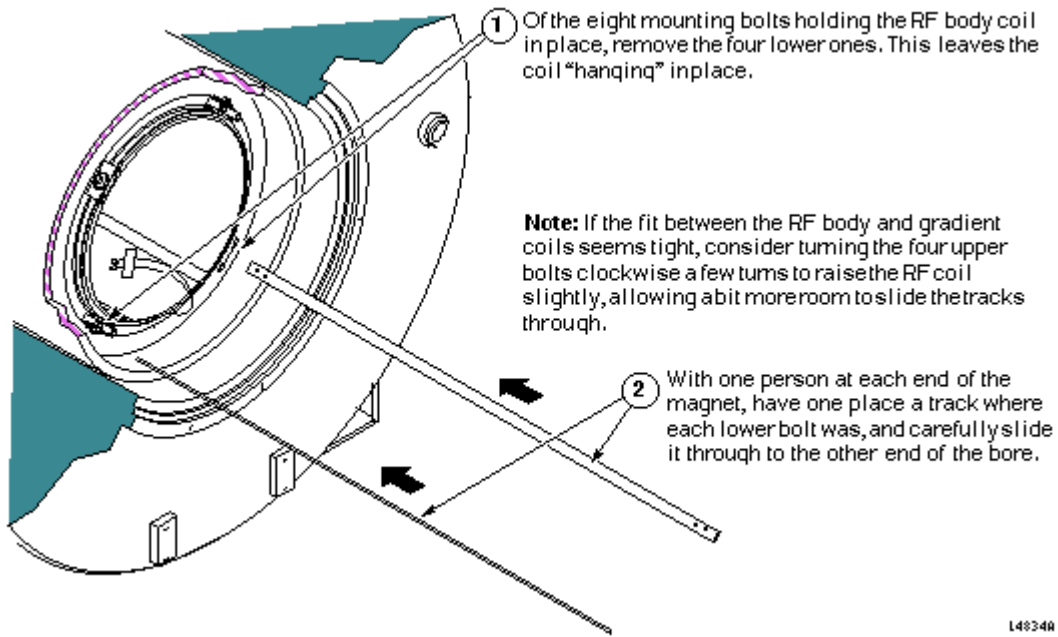
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SHIFTING INSTALLATION TRACKS IN BRM SHIPPING CONTAINER
ILLUSTRATION 3-3

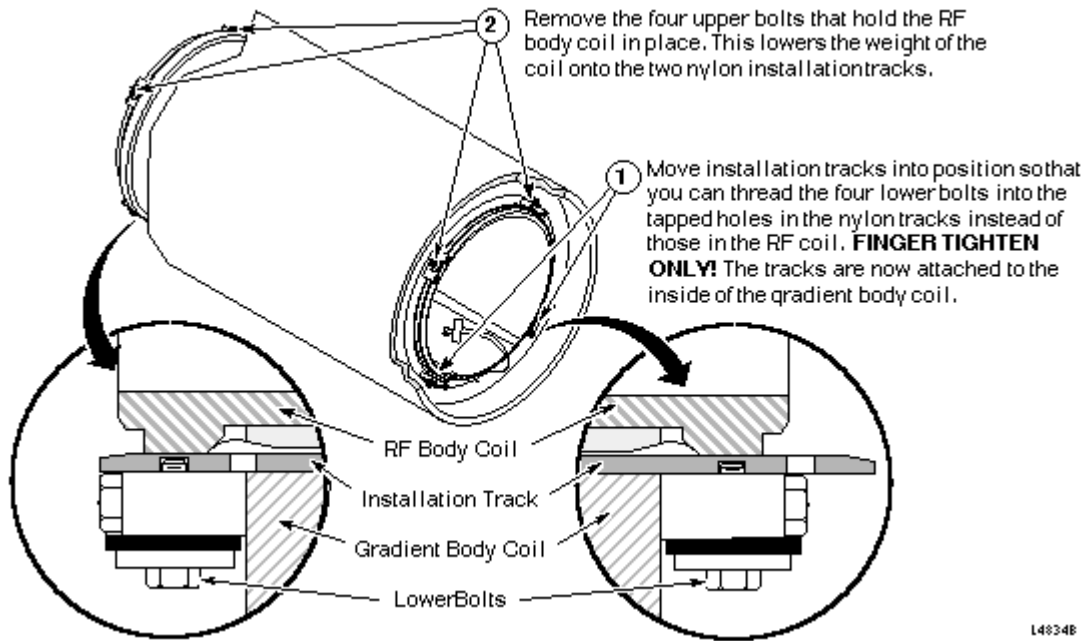


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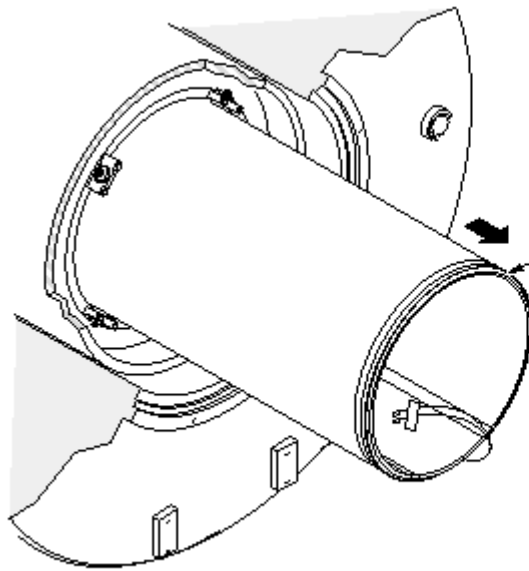
REMOVING BRM RF BODY COIL FROM SHIPPING CONTAINER
ILLUSTRATION 3-4



**PLACING EXTRA INSTALLATION TRACKS UNDER THE BRM RF COIL
ILLUSTRATION 3-5**



**ATTACHING TRACKS TO GRADIENT BODY COIL
ILLUSTRATION 3-6**



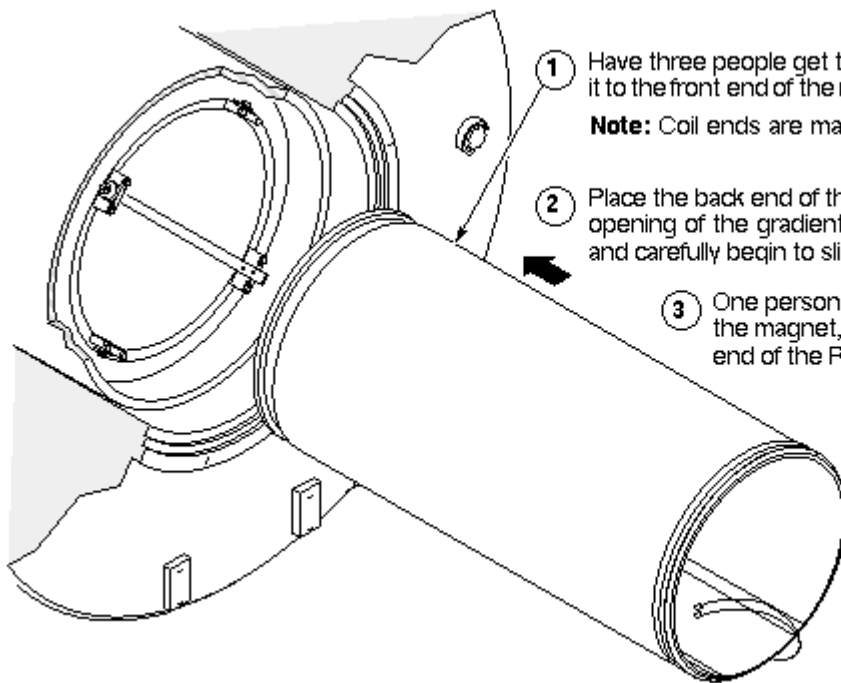
CAUTION

Possible equipment damage. Due to the size and weight of the RF Body Coil, damage to the coil or the RF shielding is possible when moving the coil in or out of the magnet. Use three people to handle this procedure.

- 1 With two people in front, and one waiting for rear of coil to come through, slowly and carefully slide the RF body coil out of the gradient coil; the nylon installation tracks remain in the gradient coil.
- 2 Place the RF body coil in a safe position nearby.
- 3 Remove the eight mounting bolts and the installation tracks from the failed gradient coil and set aside.

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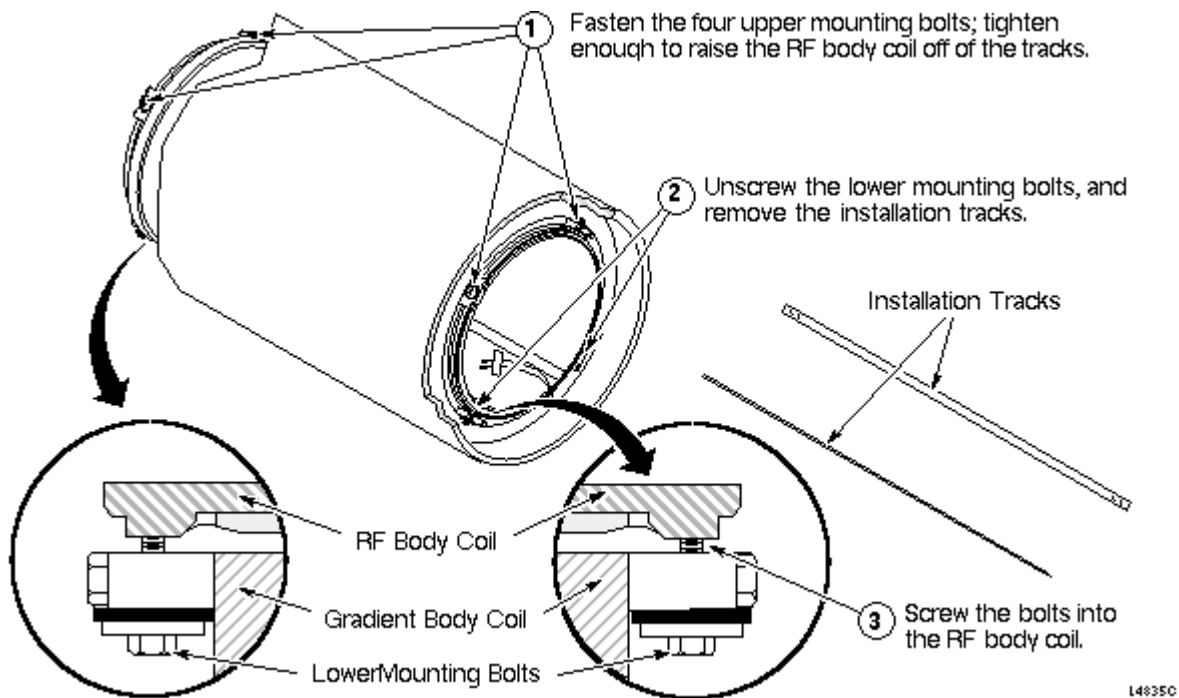
SLIDING OUT RF BODY COIL ON TRACKS
ILLUSTRATION 3-7



- 1 Have three people get the RF body coil and bring it to the front end of the magnet.
Note: Coil ends are marked FRONT and BACK.
- 2 Place the back end of the RF body coil inside the opening of the gradient coil, on the tracks. Slowly and carefully begin to slide it into the bore.
- 3 One person should go to the other end of the magnet, and prepare to receive that end of the RF coil.

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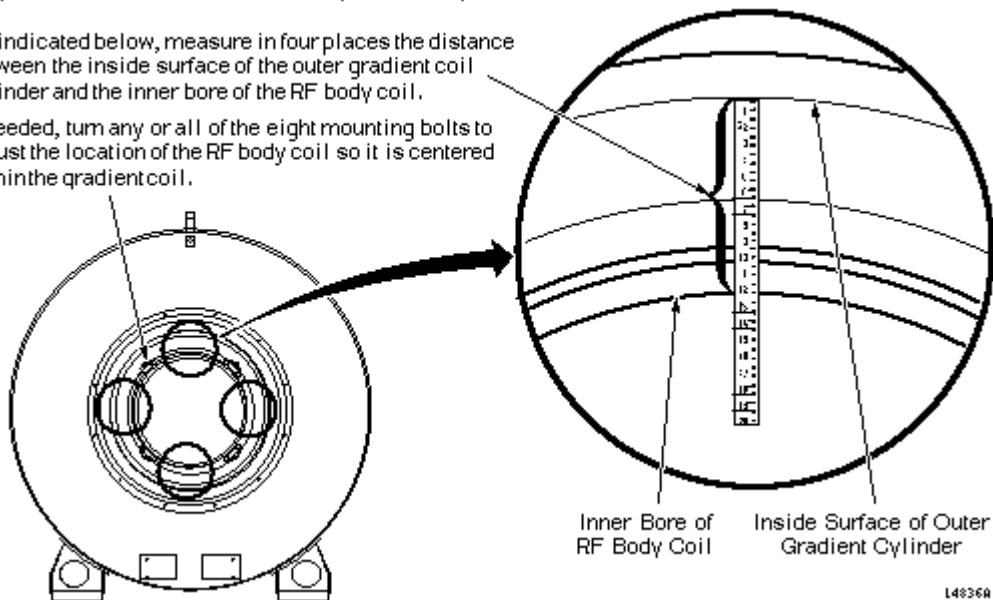
SLIDING NEW RF COIL INTO PLACE
ILLUSTRATION 3-8



RF COIL ATTACHMENT AND TRACK REMOVAL
ILLUSTRATION 3-9

RF body coil must be centered within the gradient body coil.

- 1 As indicated below, measure in four places the distance between the inside surface of the outer gradient coil cylinder and the inner bore of the RF body coil.
- 2 If needed, turn any or all of the eight mounting bolts to adjust the location of the RF body coil so it is centered within the gradient coil.

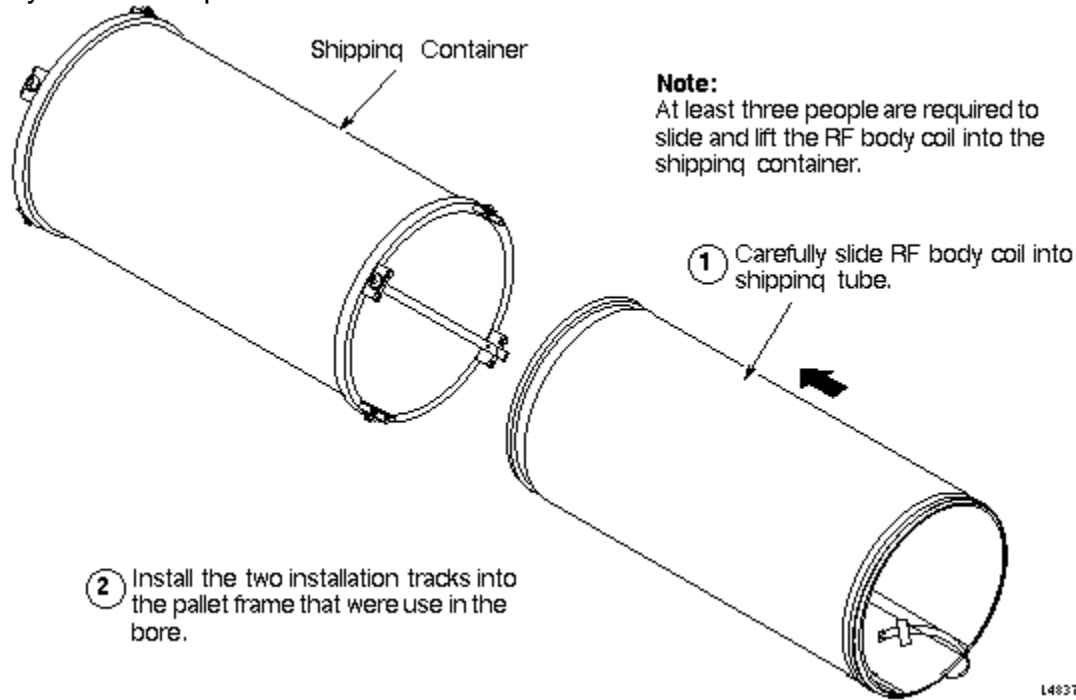


CENTERING BRM RF COIL IN GRADIENT COIL
ILLUSTRATION 3-10

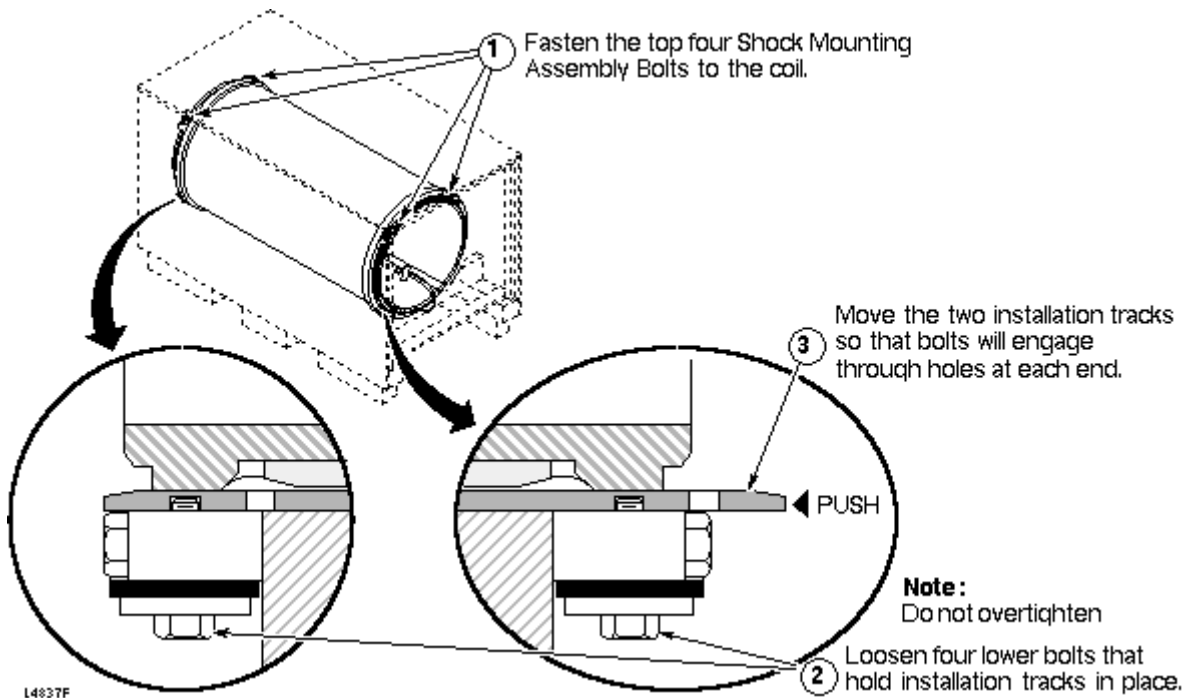
2. Complete remaining installation steps per the existing “Epoxy-Filled Gradient Coil Replacement Cx” procedure for the BRM Gradient.

3-2 PREPARING FAILED BRM RF BODY COIL FOR SHIPMENT

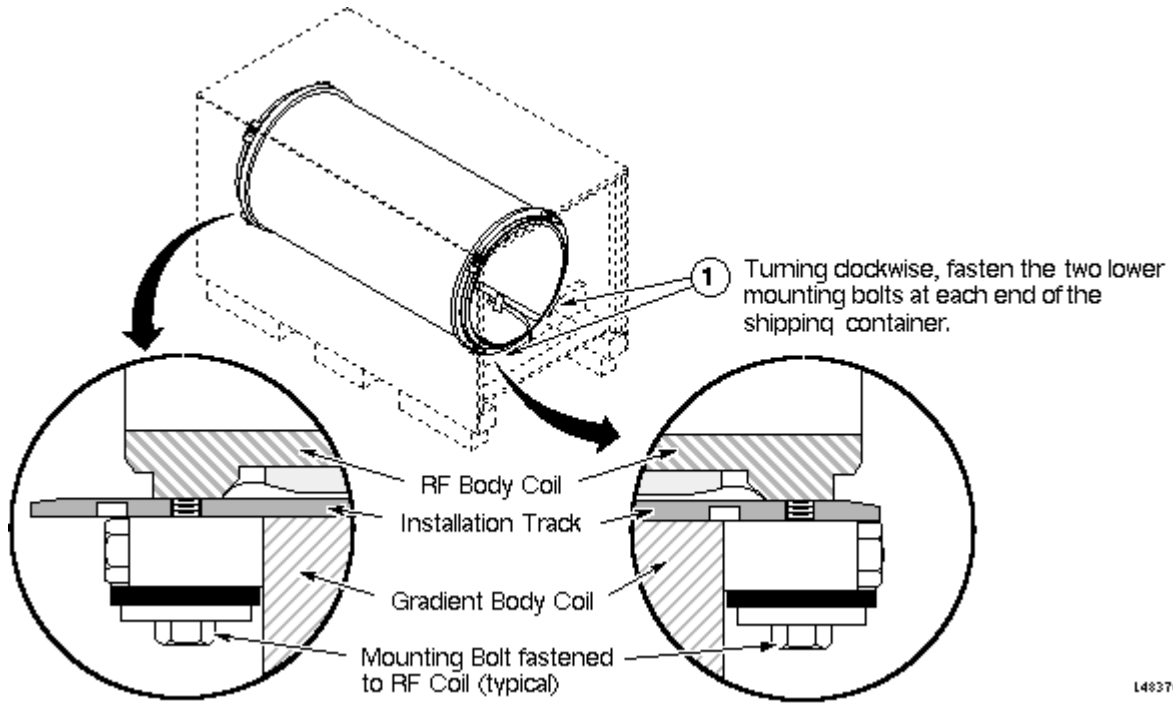
Illustrations 3-11 through 3-14 provide instructions explaining the packing of the failed BRM RF Body Coil for shipment.



FAILED RF COIL INTO SHIPPING CONTAINER
ILLUSTRATION 3-11

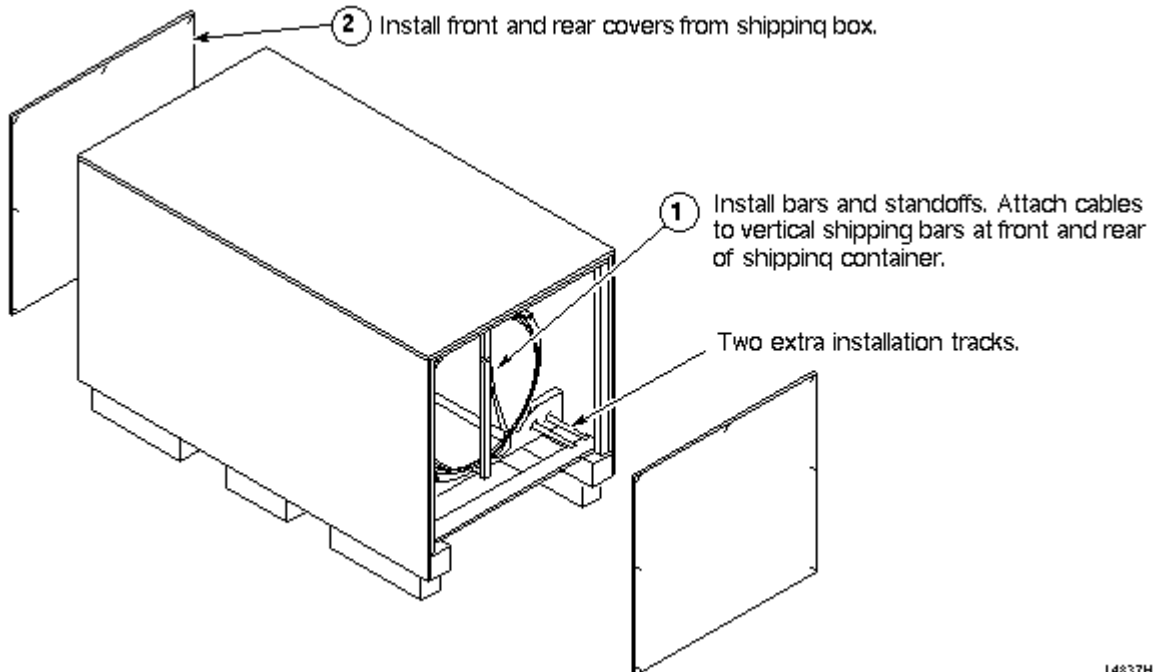


ATTACH BRM RF COIL TO SHIPPING CONTAINER - 1
ILLUSTRATION 3-12



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ATTACH BRM RF COIL TO SHIPPING CONTAINER - 2
ILLUSTRATION 3-13



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CLOSING BRM RF SHIPPING CONTAINER AND BOX
ILLUSTRATION 3-14

4- REPLACING CARDIAC RF BODY COIL

4-1 Unpacking CRM RF Body Coil

A new Cardiac RF body coil is packed in a shipping container (trunk) that is strapped to a pallet. The shipping container is unstrapped from the pallet and the RF body coil is removed from the trunk, the process is reversed when preparing the defective RF body coil for return. See Illustrations 4-1 through 4-3.



TILT RF COIL CASE AND ROLL OFF PALLET
ILLUSTRATION 4-1



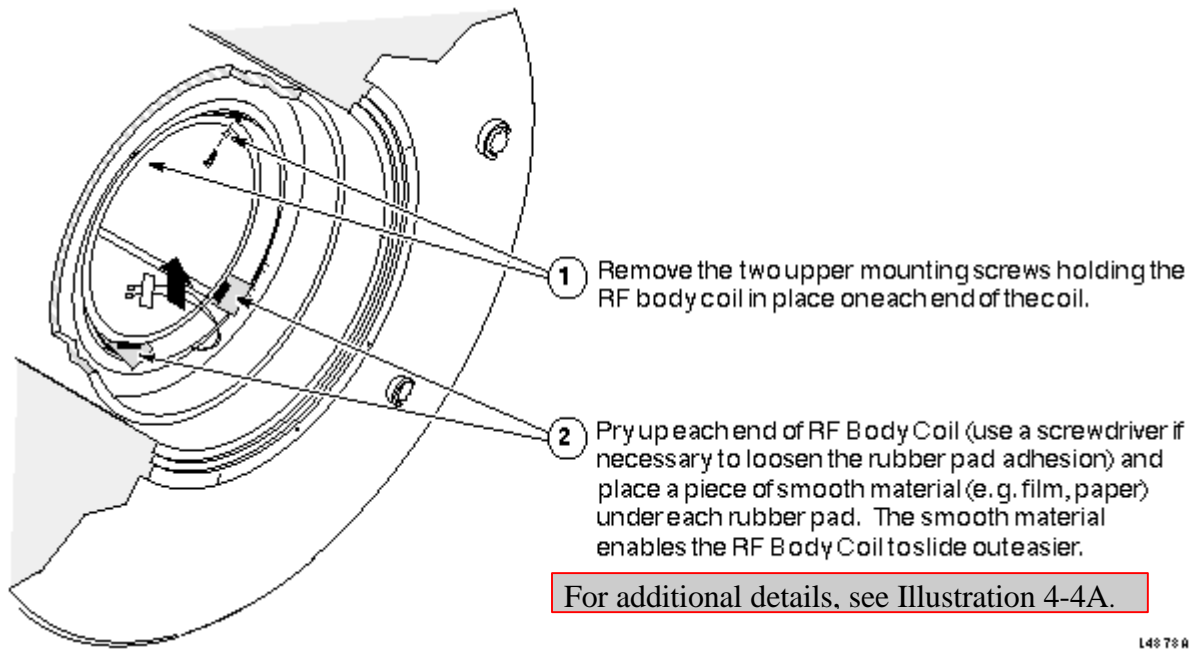
MOVE RF COIL CASE TO FINAL LOCATION: SET CASE HORIZONTAL
ILLUSTRATION 4-2



OPEN RF COIL CASE. REMOVE NEW COIL
ILLUSTRATION 4-3

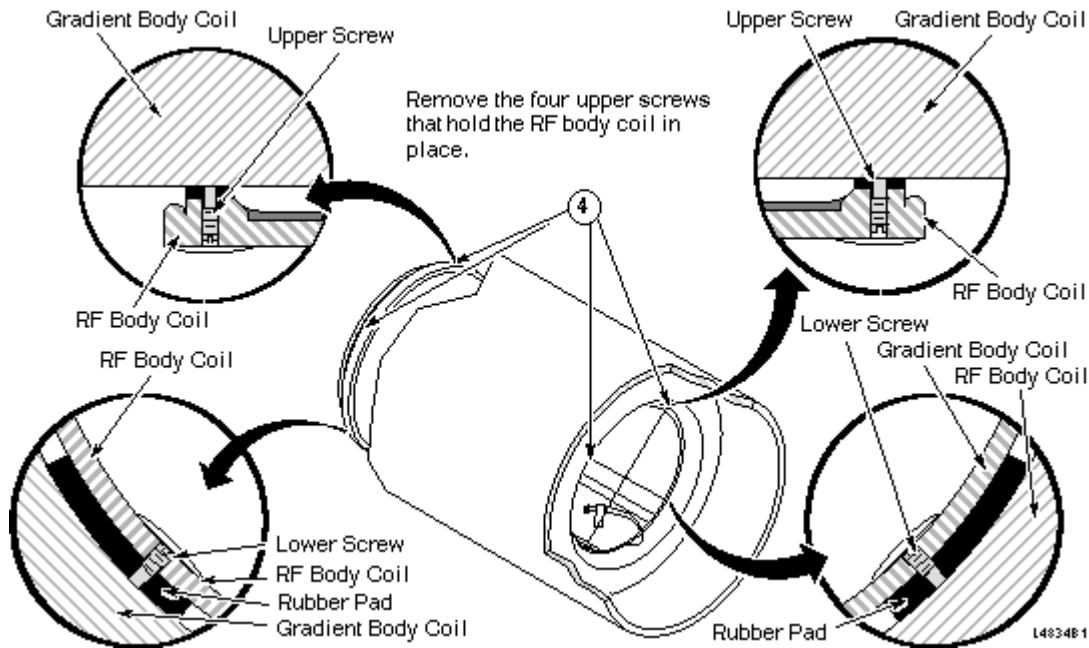
4-1- Replacing CRM RF Body Coil

1. The RF Body coil is removed from the CRM without using the RF tracks (they are too thick to use). Instead, pieces of smooth, stiff material (sheets of film work well) can be used to easily slide the RF coil out of the Gradient Coil. To perform all necessary steps for this part of the procedure, work from Illustration 4-4 through Illustration 4-8 for removing and replacing the CRM RF Body Coil.

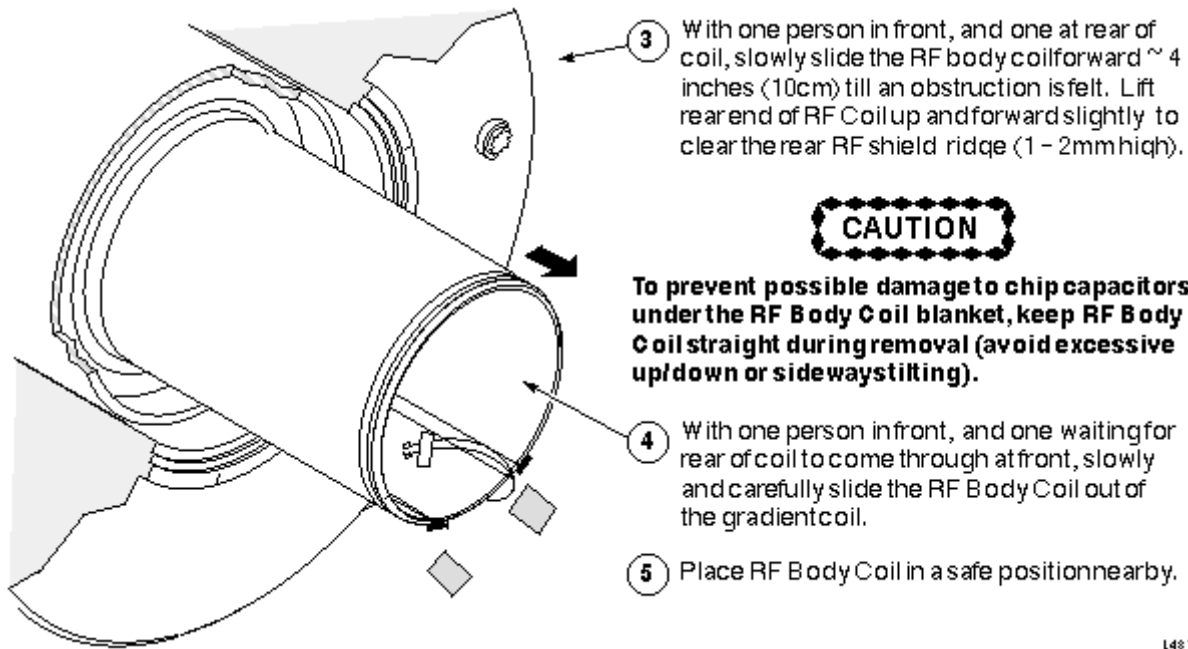


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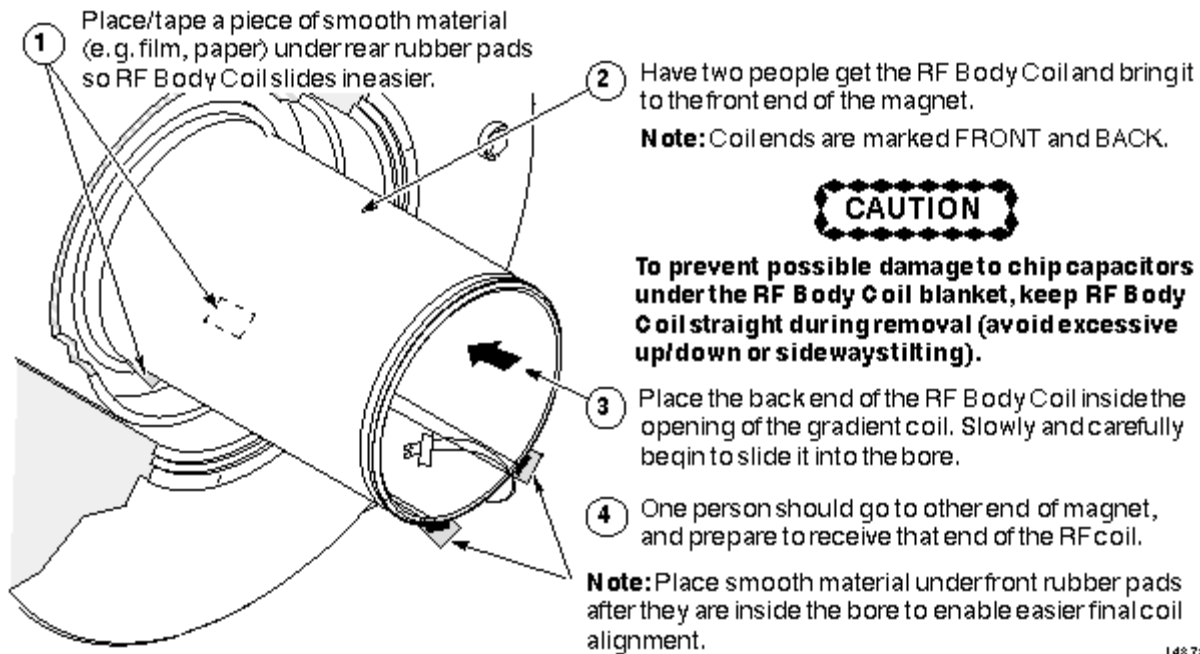
LOOSENING CRM RF BODY COIL
ILLUSTRATION 4-4



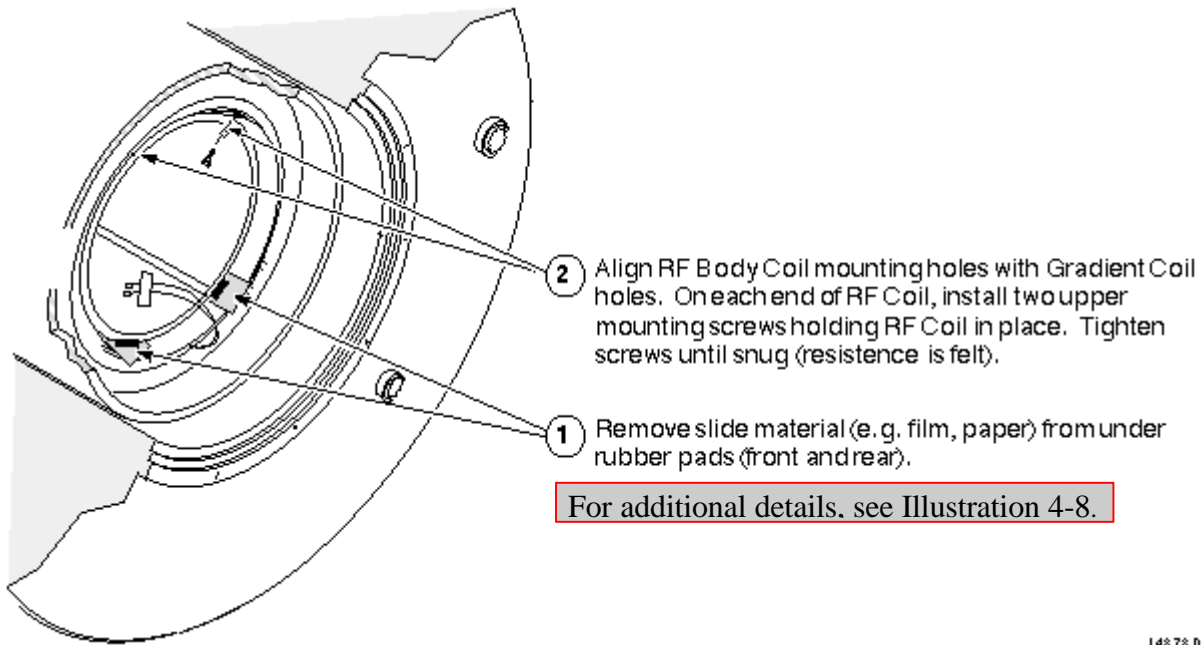
LOOSENING CRM RF BODY COIL (DETAIL)
ILLUSTRATION 4-4A



REMOVING CRM RF BODY COIL
ILLUSTRATION 4-5

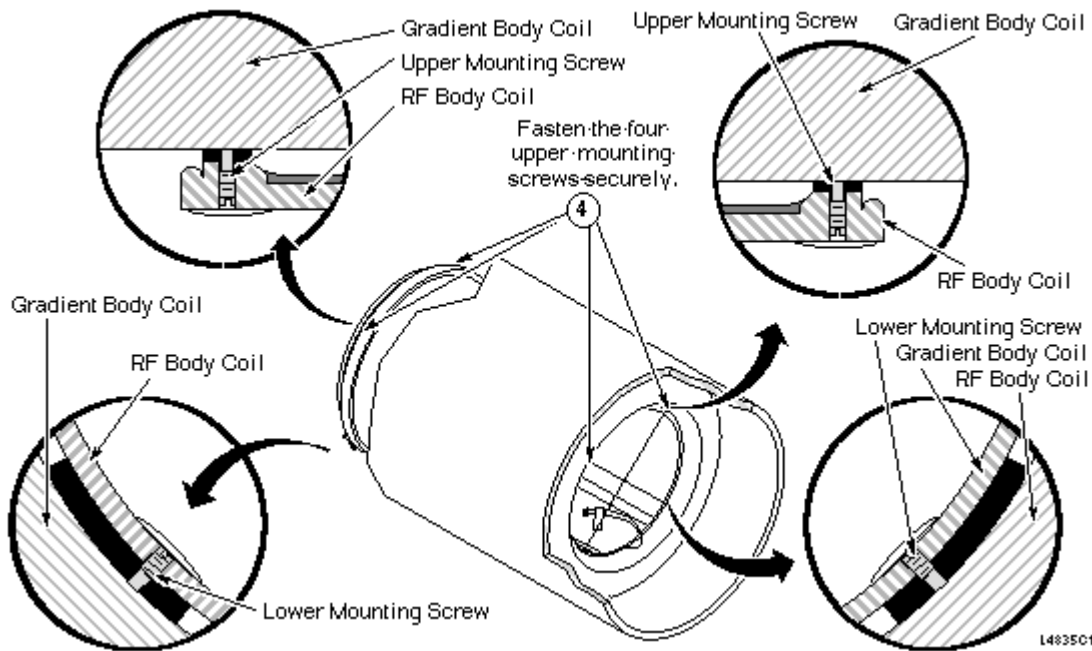


INSTALLING CRM RF BODY COIL
ILLUSTRATION 4-6



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SECURING CRM RF BODY COIL
ILLUSTRATION 4-7



SECURING CRM RF BODY COIL (DETAIL)
ILLUSTRATION 4-8

2. Complete remaining installation steps per the existing "Epoxy-Filled Gradient Coil Replacement Cx" procedure for the CRM Gradient.

REVISION HISTORY

REV	DATE	AUTHOR	PRIMARY REASONS FOR CHANGE
0	May 10, 1996	W. Kapplemann	Initial version released in toolbook format.
1	May 11, 1998	R. Schmidt	Converted to Word, added Illustrations for BRM RF Coil replacement, added CRM RF Coil replacement Illustrations and procedure.