Optima MR360

Optima MR360 System Installation

OPERATING DOCUMENTATION

5364440-1EN
Revision 5

WARNING

STRONG MAGNETIC FIELD

NO PACEMAKERS*
NO NEUROSTIMULATORS*
NO CONDUCTIVE/METALLIC IMPLANTS*

Persons with pacemakers, neurostimulators or metallic implants must not enter this area.

Serious injury may result.

* In general, patients with conductive (e.g. metallic) implants are contraindicated for MR scans. For patients with implants that are labeled as 'MR Safe' or 'MR Conditional', consult the implant device manufacturer's documentation.

* WARNING: Only use quadrature transmit for 'MR Conditional' devices.

5457590

Important Information

LANGUAGE

ПРЕДУПРЕЖДЕНИЕ (BG)

Това упътване за работа е налично само на английски език.

- Ако доставчикът на услугата на клиента изиска друг език, задължение на клиента е да осигури превод.
- Не използвайте оборудването, преди да сте се консултирали и разбрали упътването за работа.
- Неспазването на това предупреждение може да доведе до нараняване на доставчика на услугата, оператора или пациента в резултат на токов удар, механична или друга опасност.

警告 (ZH-CN)

本维修手册仅提供英文版本。

- 如果客户的维修服务人员需要非英文版本，则客户需自行提供翻译服务。
- 未详细阅读和完全理解本维修手册之前，不得进行维修。
- 忽略本警告可能对维修服务人员、操作人员或患者造成电击、机械伤害或其他形式的伤 害。

警告 (ZH-HK)

本服務手冊僅提供英文版本。

- 倘若客戶的服務供應商需要英文以外之服務手冊，客戶有責任提供翻譯服務。
- 除非已參閱本服務手冊及明白其內容，否則切勿嘗試維修設備。
- 不遵從本警告或會令服務供應商、網絡供應商或病人受到觸電、機械性或其他的危險。

警告 (ZH-TW)

本維修手冊僅有英文版。

- 若客戶的維修廠商需要英文版以外的語言，應由客戶自行提供翻譯服務。
- 請勿試圖維修本設備，除非 您已查閱並瞭解本維修手冊。
- 若未留意本警告，可能導致維修廠商、操作員或病患因觸電、機械或其他危險而受傷。

UPOZORENJE (HR)

Ovaj servisni priručnik dostupan je na engleskom jeziku.

- Ako davatelj usluge klijenta treba neki drugi jezik, klijent je dužan osigurati prijevod.
- Ne pokušavajte servisirati opremu ako niste u potpunosti pročitali i razumjeli ovaj servisni priručnik.
- Zanemarite li ovo upozorenje, može doći do ozljede davatelja usluge, operatera ili pacijenta uslijed strujnog udara, mehaničkih ili drugih rizika.

VÝSTRAHA (CS)

Tento provozní návod existuje pouze v anglickém jazyce.

- V případě, že externí služba zákazníkům potřebuje návod v jiném jazyce, je zajištění překladu do odpovídajícího jazyka úkolem zákazníka.
- Nesnažte se o údržbu tohoto zařízení, aniž byste si přečetli tento provozní návod a pochopili jeho obsah.
- V případě nedodržování této výstrahy může dojít k poranění pracovníka prodejního servisu, obslužného personálu nebo pacientů vlivem elektrického proudu, respektive vlivem mechanických či jiných rizik.

ADVARSEL (DA)

Denne servicemanual findes kun på engelsk.

- Hvis en kundes tekniker har brug for et andet sprog end engelsk, er det kundens ansvar at sørge for oversættelse.
- Forsøg ikke at servicere udstyret uden at læse og forstå denne servicemanual.
- Manglende overholdelse af denne advarsel kan medføre skade på grund af elektrisk stød, mekanisk eller anden fare for teknikeren, operatøren eller patienten.

WAARSCHUWING (NL)

Deze onderhoudshandleiding is enkel in het Engels verkrijgbaar.

- Als het onderhoudspersoneel een andere taal vereist, dan is de klant verantwoordelijk voor de vertaling ervan.
- Probeer de apparatuur niet te onderhouden alvorens deze onderhoudshandleiding werd geraadpleegd en begrepen is.
- Indien deze waarschuwing niet wordt opgevolgd, zou het onderhoudspersoneel, de operator of een patiënt gewond kunnen raken als gevolg van een elektrische schok, mechanische of andere gevaren.

WARNING (EN)

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.
- Do not attempt to service the equipment unless this service manual has been consulted and is understood.
- Failure to heed this warning may result in injury to the service provider, operator or patient from electric shock, mechanical or other hazards.

HOIATUS (ET)

See teenindusjuhend on saadaval ainult inglise keeles.

- Kui klienditeeninduse osutaja nõuab juhendit inglise keelest erinevas keeles, vastutab klient tõlketeenuse osutamise eest.
- Ärge üritage seadmeid teenindada enne eelnevalt käesoleva teenindusjuhendiga tutvumist ja sellest aru saamist.
- Käesoleva hoiatuse eiramine võib põhjustada teenuseosutaja, operaatori või patsiendi vigastamist elektrilöögi, mehaanilise või muu ohu tagajärjel.

VAROITUS (FI)

Tämä huolto-ohje on saatavilla vain englanniksi.

- Jos asiakkaan huoltohenkilöstö vaatii muuta kuin englanninkielistä materiaalia, tarvittavan käännöksen hankkiminen on asiakkaan vastuulla.
- Älä yritä korjata laitteistoa ennen kuin olet varmasti lukenut ja ymmärtänyt tämän huolto-ohjeen.
- Mikäli tätä varoitusta ei noudateta, seurauksena voi olla huoltohenkilöstön, laitteiston käyttäjän tai potilaan vahingoittuminen sähköiskun, mekaanisen vian tai muun vaaratilanteen vuoksi.

ATTENTION (FR)

Ce manuel d’installation et de maintenance est disponible uniquement en anglais.

- Si le technicien d'un client a besoin de ce manuel dans une langue autre que l'anglais, il incombe au client de le faire traduire.
- Ne pas tenter d'intervenir sur les équipements tant que ce manuel d’installation et de maintenance n'a pas été consulté et compris.
- Le non-respect de cet avertissement peut entraîner chez le technicien, l'opérateur ou le patient des blessures dues à des dangers électriques, mécaniques ou autres.

WARNUNG (DE)

Diese Serviceanleitung 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 diese Anlage zu warten, ohne diese Serviceanleitung gelesen und verstanden zu haben.
- Wird diese Warnung nicht beachtet, so kann es zu Verletzungen des Kundendiensttechnikers, des Bedieners oder des Patienten durch Stromschläge, mechanische oder sonstige Gefahren kommen.

ΠΡΟΕΙΔΟΠΟΙΗΣΗ (EL)

Το παρόν εγχειρίδιο σέρβις διατίθεται μόνο στα αγγλικά.

- Εάν ο τεχνικός σέρβις ενός πελάτη απαιτεί το παρόν εγχειρίδιο σε γλώσσα εκτός των αγγλικών, αποτελεί ευθύνη του πελάτη να παρέχει τις υπηρεσίες μετάφρασης.
- Μην επιχειρήσετε την εκτέλεση εργασιών σέρβις στον εξοπλισμό αν δεν έχετε συμβουλευτεί και κατανοήσει το παρόν εγχειρίδιο σέρβις.
- Αν δεν προσέξετε την προειδοποίηση αυτή, ενδέχεται να προκληθεί τραυματισμός στον τεχνικό σέρβις, στο χειριστή ή στον ασθενή από ηλεκτροπληξία, μηχανικούς ή άλλους κινδύνους.

FIGYELMEZTETÉS (HU)

Ezen karbantartási kézikönyv kizárólag angol nyelven érhető el.

- Ha a vevő szolgáltatója angoltól eltérő nyelvre tart igényt, akkor a vevő felelőssége a fordítás elkészíttetése.
- Ne próbálja elkezdeni használni a berendezést, amíg a karbantartási kézikönyvben leírtakat nem értelmezték.
- Ezen figyelmeztetés figyelmen kívül hagyása a szolgáltató, működtető vagy a beteg áramütés, mechanikai vagy egyéb veszélyhelyzet miatti sérülését eredményezheti.

AÐVÖRUN (IS)

Þessi þjónustuhandbók er aðeins fáanleg á ensku.

- Ef að þjónustuveitandi viðskiptamanns þarfnast annas tungumáls en ensku, er það skylda viðskiptamanns að skaffa tungumálaþjónustu.
- Reynið ekki að afgreiða tækið nema að þessi þjónustuhandbók hefur verið skoðuð og skilin.
- Brot á sinna þessari aðvörun getur leitt til meiðsla á þjónustuveitanda, stjórnanda eða sjúklings frá raflosti, vélrænu eða öðrum áhættum.

AVVERTENZA (IT)

Il presente manuale di manutenzione è disponibile soltanto in lingua inglese.

- Se un addetto alla manutenzione richiede il manuale in una lingua diversa, il cliente è tenuto a provvedere direttamente alla traduzione.
- Procedere alla manutenzione dell'apparecchiatura solo dopo aver consultato il presente manuale ed averne compreso il contenuto.
- Il mancato rispetto della presente avvertenza potrebbe causare lesioni all'addetto alla manutenzione, all'operatore o ai pazienti provocate da scosse elettriche, urti meccanici o altri rischi.

警告 (JA)

このサービスマニュアルには英語版しかありません。

- サービスを担当される業者が英語以外の言語を要求される場合、翻訳作業はその業者の責任で行うものとさせていただきます。
- このサービスマニュアルを熟読し理解せずに、装置のサービスを行わないでください。
- この警告に従わない場合、サービスを担当される方、操作員あるいは患者 さんが、感電や機械的又はその他の危険により負傷する可能性があります。

경고 (KO)

본 서비스 매뉴얼은 영어로만 이용하실 수 있습니다.

- 고객의 서비스 제공자가 영어 이외의 언어를 요구할 경우, 번역 서비스를 제공하는 것은 고객의 책임입니다.
- 본 서비스 매뉴얼을 참조하여 숙지하지 않은 이상 해당 장비를 수리하려고 시도하지 마십시오.
- 본 경고 사항에 유의하지 않으면 전기 쇼크, 기계적 위험, 또는 기타 위험으로 인해 서비스 제공자, 사용자 또는 환자에게 부상을 입힐 수 있습니다.

BRĪDINĀJUMS (LV)

Šī apkopes rokasgrāmata ir pieejama tikai angļu valodā.

- Ja klienta apkopes sniedzējam nepieciešama informācija citā valodā, klienta pienākums ir nodrošināt tulkojumu.
- Neveiciet aprīkojuma apkopi bez apkopes rokasgrāmatas izlasīšanas un saprašanas.
- Šī brīdinājuma neievērošanas rezultātā var rasties elektriskās strāvas trieciena, mehānisku vai citu faktoru izraisītu traumu risks apkopes sniedzējam, operatoram vai pacientam.

ĮSPĖJIMAS (LT)

Šis eksploatavimo vadovas yra tik anglų kalba.

- Jei kliento paslaugų tiekėjas reikalauja vadovo kita kalba – ne anglų, suteikti vertimo paslaugas privalo klientas.
- Nemėginkite atlikti įrangos techninės priežiūros, jei neperskaitėte ar nesupratote šio eksploatavimo vadovo.
- Jei nepaisysite šio įspėjimo, galimi paslaugų tiekėjo, operatoriaus ar paciento sužalojimai dėl elektros šoko, mechaninių ar kitų pavojų.

ADVARSEL (NO)

Denne servicehåndboken finnes bare på engelsk.

- Hvis kundens serviceleverandør har bruk for et annet språk, er det kundens ansvar å sørge for oversettelse.
- Ikke forsøk å reparere utstyret uten at denne servicehåndboken er lest og forstått.
- Manglende hensyn til denne advarselen kan føre til at serviceleverandøren, operatøren eller pasienten skades på grunn av elektrisk støt, mekaniske eller andre farer.

OSTRZEŻENIE (PL)

Niniejszy podręcznik serwisowy dostępny jest jedynie w języku angielskim.

- Jeśli serwisant klienta wymaga języka innego niż angielski, zapewnienie usługi tłumaczenia jest obowiązkiem klienta.
- Nie próbować serwisować urządzenia bez zapoznania się z niniejszym podręcznikiem serwisowym i zrozumienia go.
- Niezastosowanie się do tego ostrzeżenia może doprowadzić do obrażeń serwisanta, operatora lub pacjenta w wyniku porażenia prądem elektrycznym, zagrożenia mechanicznego bądź innego.

ATENÇÃO (PT-BR)

Este manual de assistência técnica encontra-se disponível unicamente em inglês.

- Se outro serviço de assistência técnica solicitar a tradução deste manual, caberá ao cliente fornecer os serviços de tradução.
- Não tente reparar o equipamento sem ter consultado e compreendido este manual de assistência técnica.
- A não observância deste aviso pode ocasionar ferimentos no técnico, operador ou paciente decorrentes de choques elétricos, mecânicos ou outros.

ATENÇÃO (PT-PT)

Este manual de assistência técnica só se encontra disponível em inglês.

- Se qualquer outro serviço de assistência técnica solicitar este manual noutro idioma, é da responsabilidade do cliente fornecer os serviços de tradução.
- Não tente reparar o equipamento sem ter consultado e compreendido este manual de assistência técnica.
- O não cumprimento deste aviso pode colocar em perigo a segurança do técnico, do operador ou do paciente devido a choques eléctricos, mecânicos ou outros.

ATENŢIE (RO)

Acest manual de service este disponibil doar în limba engleză.

- Dacă un furnizor de servicii pentru clienți necesită o altă limbă decât cea engleză, este de datoria clientului să furnizeze o traducere.
- Nu încercați să reparați echipamentul decât ulterior consultării și înțelegerii acestui manual de service.
- Ignorarea acestui avertisment ar putea duce la rănirea depanatorului, operatorului sau pacientului în urma pericolelor de electrocutare, mecanice sau de altă natură.

ОСТОРОЖНО! (RU)

Данное руководство по техническому обслуживанию представлено только на английском языке.

- Если сервисному персоналу клиента необходимо руководство не на английском, а на каком-то другом языке, клиенту следует самостоятельно обеспечить перевод.
- Перед техническим обслуживанием оборудования обязательно обратитесь к данному руководству и поймите изложенные в нем сведения.
- Несоблюдение требований данного предупреждения может привести к тому, что специалист по техобслуживанию, оператор или пациент получит удар электрическим током, механическую травму или другое повреждение.

UPOZORENJE (SR)

Ovo servisno uputstvo je dostupno samo na engleskom jeziku.

- Ako klijentov serviser zahteva neki drugi jezik, klijent je dužan da obezbedi prevodilačke usluge.
- Ne pokušavajte da opravite uređaj ako niste pročitali i razumeli ovo servisno uputstvo.
- Zanemarivanje ovog upozorenja može dovesti do povređivanja servisera, rukovaoca ili pacijenta usled strujnog udara ili mehaničkih i drugih opasnosti.

UPOZORNENIE (SK)

Tento návod na obsluhu je k dispozícii len v angličtine.

- Ak zákazníkov poskytovateľ služieb vyžaduje iný jazyk ako angličtinu, poskytnutie prekladateľských služieb je zodpovednosťou zákazníka.
- Nepokúšajte sa o obsluhu zariadenia, kým si neprečítate návod na obluhu a neporozumiete mu.
- Zanedbanie tohto upozornenia môže spôsobiť zranenie poskytovateľa služieb, obsluhujúcej osoby alebo pacienta elektrickým prúdom, mechanické alebo iné ohrozenie.

ATENCION (ES)

Este manual de servicio sólo existe en inglés.

- Si el encargado de mantenimiento de un cliente necesita un idioma que no sea el inglés, el cliente deberá encargarse de la traducción del manual.
- 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.

VARNING (SV)

Den här servicehandboken finns bara tillgänglig på engelska.

- Om en kunds servicetekniker har behov av ett annat språk än engelska, ansvarar kunden för att tillhandahålla översättningstjänster.
- Försök inte utföra service på utrustningen om du inte har läst och förstår den här servicehandboken.
- Om du inte tar hänsyn till den här varningen kan det resultera i skador på serviceteknikern, operatören eller patienten till följd av elektriska stötar, mekaniska faror eller andra faror.

OPOZORILO (SL)

Ta servisni priročnik je na voljo samo v angleškem jeziku.

- Če ponudnik storitve stranke potrebuje priročnik v drugem jeziku, mora stranka zagotoviti prevod.
- Ne poskušajte servisirati opreme, če tega priročnika niste v celoti prebrali in razumeli.
- Če tega opozorila ne upoštevate, se lahko zaradi električnega udara, mehanskih ali drugih nevarnosti poškoduje ponudnik storitev, operater ali bolnik.

DİKKAT (TR)

Bu servis kılavuzunun sadece ingilizcesi mevcuttur.

- Eğer müşteri teknisyeni bu kılavuzu ingilizce dışında bir başka lisandan talep ederse, bunu tercüme ettirmek müşteriye düşer.
- Servis kılavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz.
- Bu uyarıya uyulmaması, elektrik, mekanik veya diğer tehlikelerden dolayı teknisyen, operatör veya hastanın yaralanmasına yol açabilir.

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Revision History

Revision	Date	Description
1	Sep 29, 2009	Release for M2
2	Apr 23, 2010	Initial Release
3	Nov 2, 2010	Updated Block Diagram, Cable Installation, Cooling System Installation, Fixed Table Installation per SPRs (GEHmr04351, GEHmr04500, GEHmr04501, GEHmr04503, GEHmr04579)
4	Jul 8, 2011	Updated Getting Started per SPR HCSDM00078189 and Enclosure Installation per new item.
5	Feb 12,2015	1.Update Guided Mechanical Install Flow for Optima MR360 / Brivo MR355-> Illustration 1 and Getting Started Illustration 6 per SPR HCSDM00244373 2. Penetration Panel -->Illustration 1 and 2 per SPRHCSDM00220835 3. Enclosure Installation: Delete Section 11 Installation Of Hearing Loss Warning Sign per SPR HCSDM00197527 4.Update System Mechanical Checklist Completion -> section 2.1, step 3 5. Add Type B' in Cooling System Installation per SPR HCSDM00091547

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Chapter 1 Getting Started

1 Getting Started

1.1 Introduction

This manual provides instructions to complete the installation of Optima MR360/Brivo MR355 1.5T System. Additional options are installed according to the installation manual delivered with the option.

1.2 Site Ready Check For Mechanical Installation

Before equipment is delivered, the following must be complete to avoid delays and confusion.

- Pre-installation work must be complete. Refer to *Direction 5338503-1EN, Optima MR360/ Brivo MR355 1.5T Pre-installation*, Pre-installation Checklist tab.
- Magnet Delivery and Installation complete. Refer to *Direction 5475706 Magnet Handling for 1.5T R and HM Series Magnets and 3.0T W, WB and UA Series Magnets* .
- Magnet Subsystem should be installed. Refer to *Direction 5495019, GE 1.5T & 1.0T Active Shield Magnet and Cryogen Subsystem*, Section 1.

1.3 Required Tools

⚠WARNING

FERROUS MATERIAL HAZARD!
IF MAGNET IS ENERGIZED, THE CRIMP TOOL, BLOWER BOX, AND OTHER TOOLS AND PARTS REQUIRED FOR THIS INSTALLATION THAT CONTAIN FERROUS MATERIAL AND WILL BE STRONGLY ATTRACTED TO MAGNET AND MAY BECOME DANGEROUS PROJECTILES.
KEEP ALL FERROUS TOOLS AT LEAST 10 FEET AWAY FROM THE MAGNET.

Tools to install the Optima MR360/Brivo MR355 1.5T system are listed below:

Table 1-1: Installation Equipment

Item	GE Part Number	Description
1		Ramp for removing cabinets from pallets for International shipments (See Note 1)
2		Wrecking bar
3		Claw hammer, 3/4 lb
4	46-271138G1	Restricted Access Control Kit. Contains two plastic warning signs for posting at site during installation and service activity.
5		4 foot or equivalent carpenter level
6	2319156	Aluminum platform ladder, 47.5 inches (1206.5mm) (See Note 1)
7	2134776	Gradient Cable Crimper/Stripper Kit (Note 2) consisting of:
		2134586 Cable stripping tool

Item	GE Part Number	Description
		2134586-2 Stripping tool replacement blade
		2134587 Cable slicer
		46-282853P1 Ratcheting crimper
		2135839 1/2 inch terminals
		2135839-2 3/8 inch terminals
8	46-320273G3 or G4	Non-Magnetic Tool Kit - Universal (See Note 2)
		Both metric and inch Non-Magnetic Tool Kits needed. May substitute both of the following kits:
		46-320273G1 Non-Magnetic Tool Kit - Metric
		46-320273G2 Non-Magnetic Tool Kit - Inch
9	46-301450G1	Fiber optic connector repair kit (See Note 2)
10	2384858	Times Microwave LMR 1200 Stripping Tool (See Note 1)
11	2352193	Times Microwave LMR 600 Stripping Tool (See Note 1)
12	5111565	Times Microwave cutting Tool (See Note 1)
13	46-198094P1	Wrist grounding strap
14		Volt Meter
15		Extension cords, with ground conductor
16		Power strip, grounded type, with minimum of five outlets
17		Plastic or aluminum flashlight
18		Assorted crimp tools.
19		Non-magnetic level
20		Non-magnetic tape rule, 12 ft
21		Assorted drill bits
22		Inspection mirror
23		Hobby and utility knives
Note	**1**	**Supplied as part of Signa.**
	2	**Supplied by GE until turnover of system to customer, then available as part of a GE Cryogen and/or Service Contract.**

1.4 Basic System

1.4.1 Basic System

The basic Optima MR360/Brivo MR355 1.5T system, Illustration 1-1Illustration 1-3, consists of the following major equipment:

- System cooling equipment
- 1.5T (15 kilogauss) LCC Magnet with Magnet Enclosure and Magnet Accessories
- Shield/Cryo Cooler Compressor Cabinet
- Body Resonance Module (BRM) and 1.5T General Purpose Head Coil

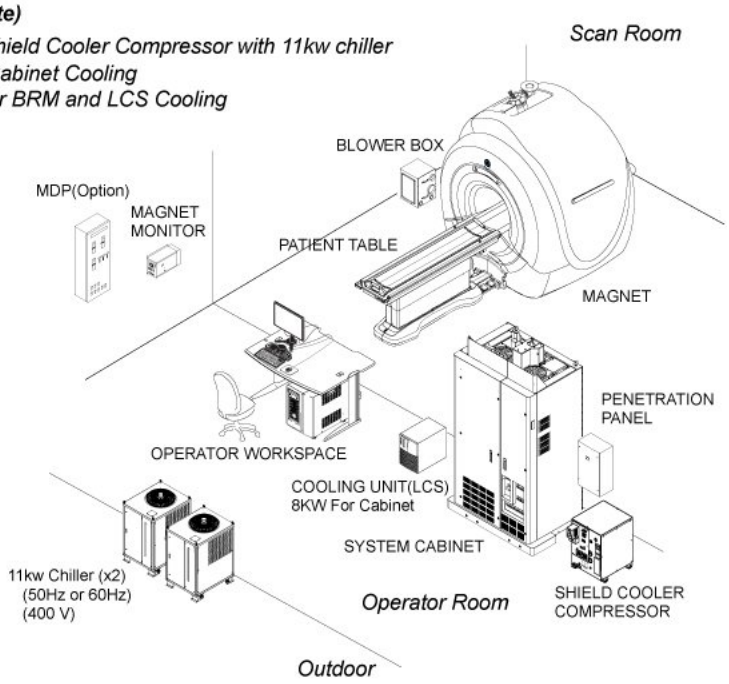
- Main Disconnect Panel (GE supplied or customer supplied)
- System Cabinet:
  - XFA Gradient drivers and XFD-PS module with unregulated transformer 200/208/400/415/480 Volt, 50/60 Hz with power filter
  - **C**onsolidated **A**SC **M**GD Lite(CAM-Lite) chassis, Exciter, SRFD3, Driver Module, ICN, Cabinet Monitor, and power supplies.
- Operator Workspace equipment: Simple OC Cabinet With Linux PC, Mouse and Mouse Pad, LCD panel, and chair
- Pneumatic Patient Alert System
- Patient Transport Table and cradle. Refer to Section 1.4.2.
- Patient accessories such as: a phantom kit, patient log book, head cushion and sponges, chin and forehead straps, body wedges, knee cushions, and security/restraint straps
- Gating accessories which include: patient cardiac leads, peripheral gating probe, and respiratory bellows

Illustration 1-1: Optima MR360/Brivo MR355 1.5T System Configuration without Equipment Room

Without Equipment Room

Type A (For 400V Site)

- Water Cooled Shield Cooler Compressor with 11kw chiller
- LCS(8KW) for Cabinet Cooling
- 11 KW Chiller for BRM and LCS Cooling



Type B (For 200V and 400V Site)

- Use Facility Water for Shield Cooler Compressor and two LCS
- LCS(8KW) for Cabinet Cooling
- LCS(4KW) for BRM Cooling

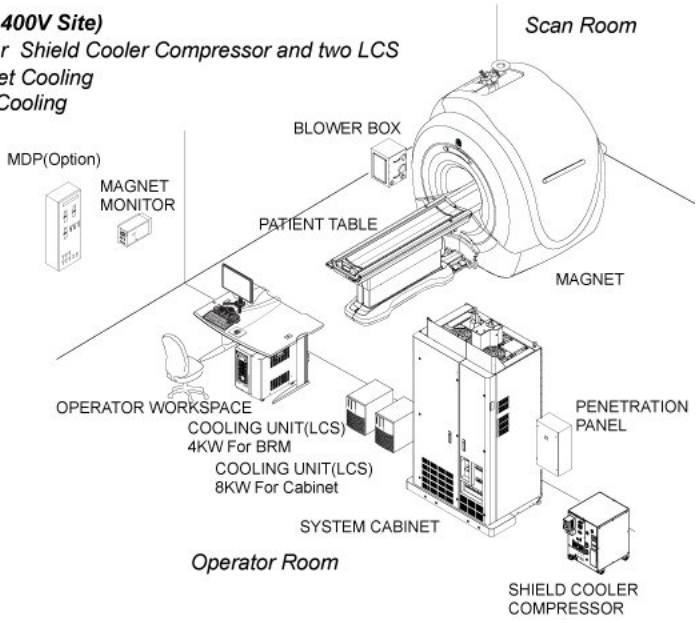


Illustration 1-2: Optima MR360 / Brivo MR355 System without Equipment Room (continued)

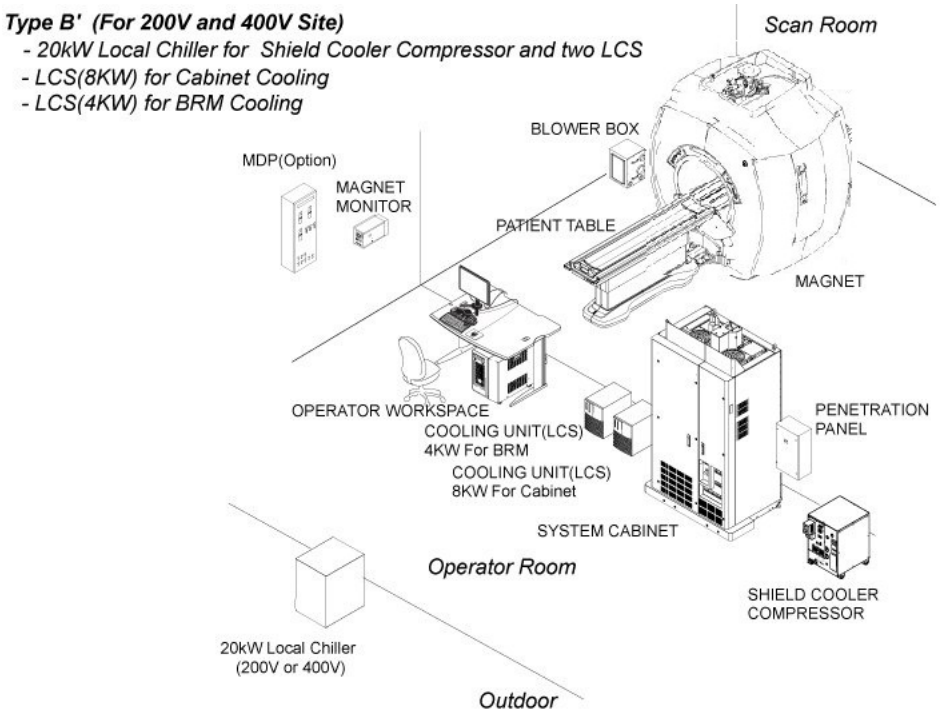


Illustration 1-3: Optima MR360/Brivo MR355 1.5T System with Equipment Room

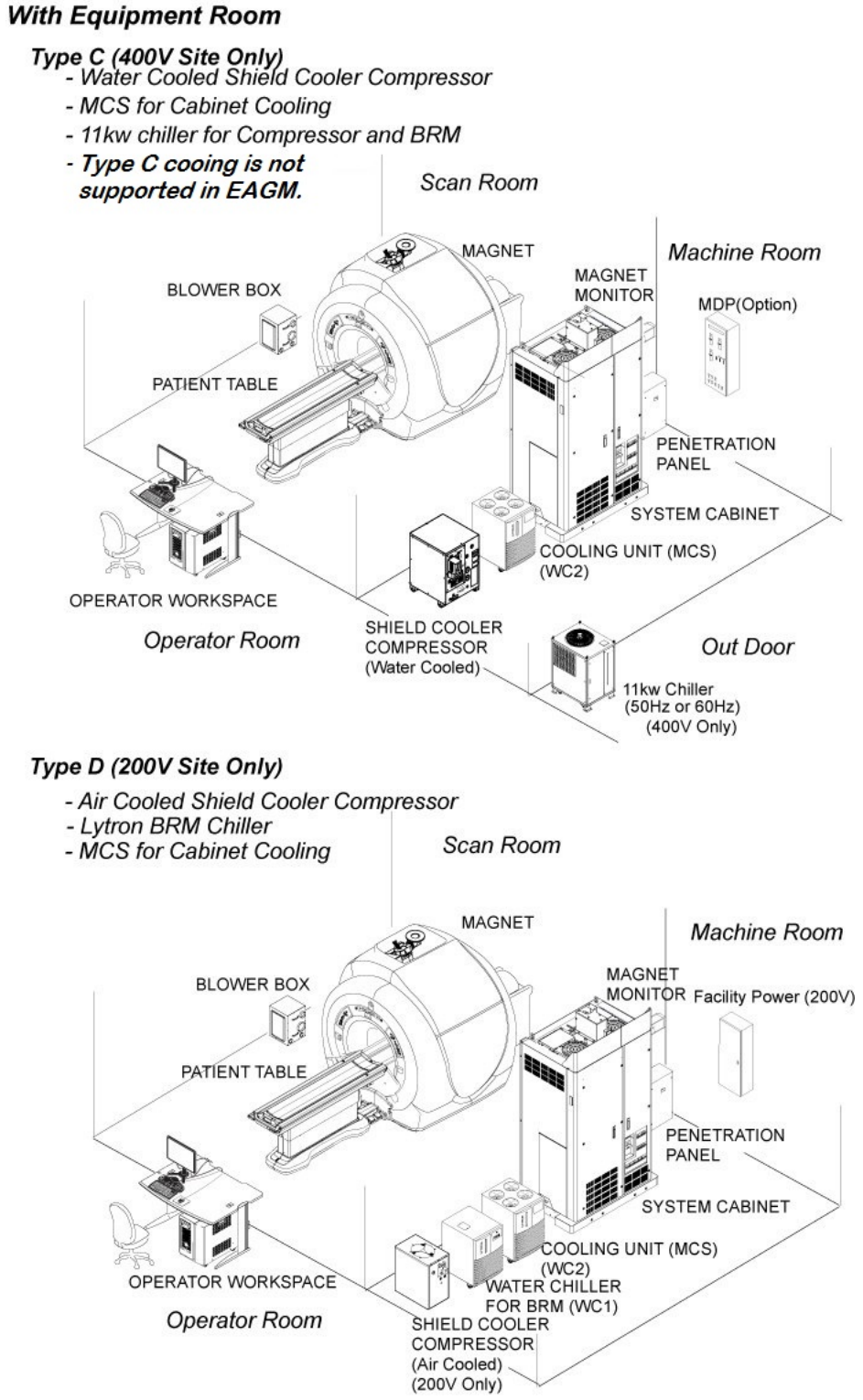
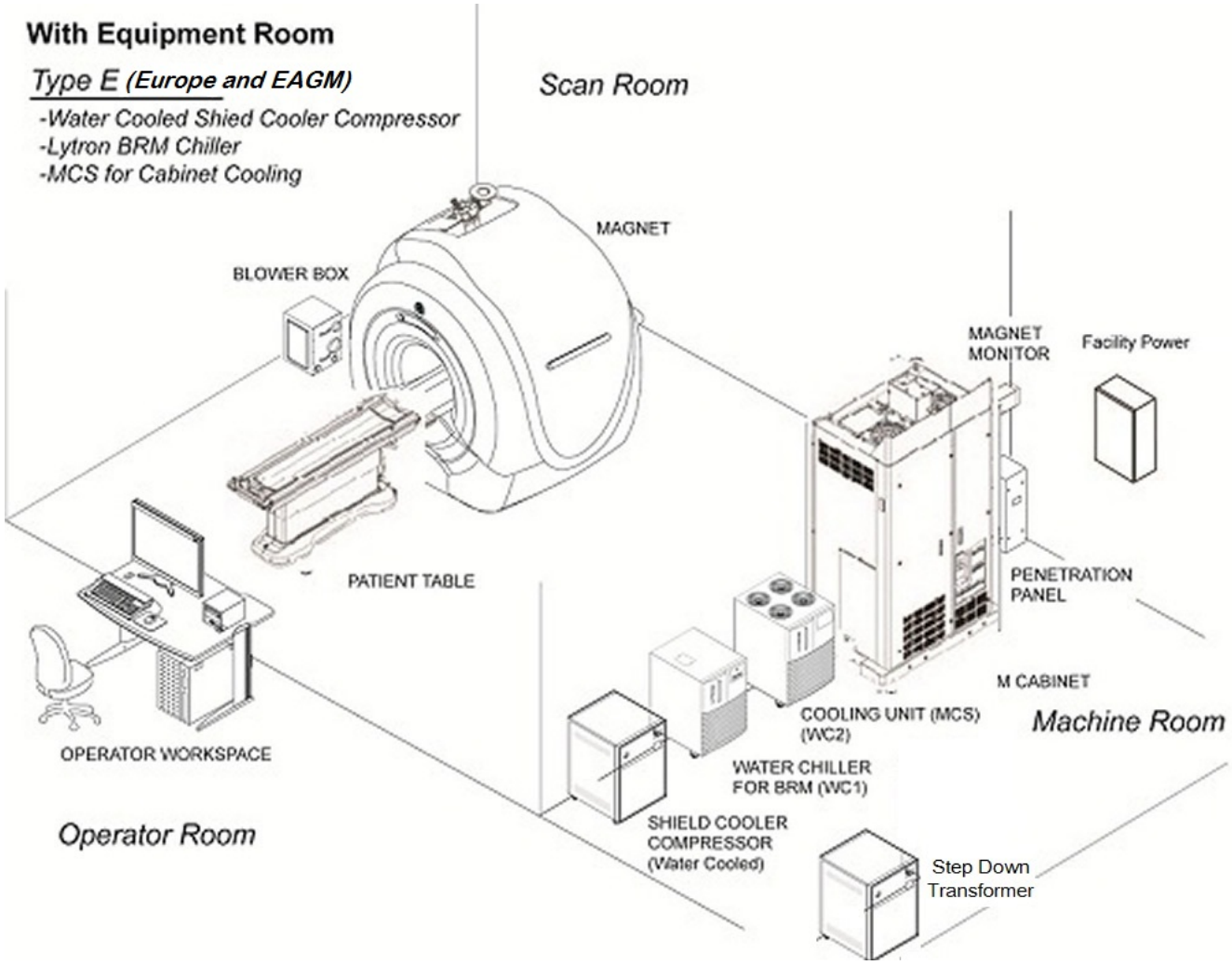


Illustration 1-4: Type E with Equipment Room

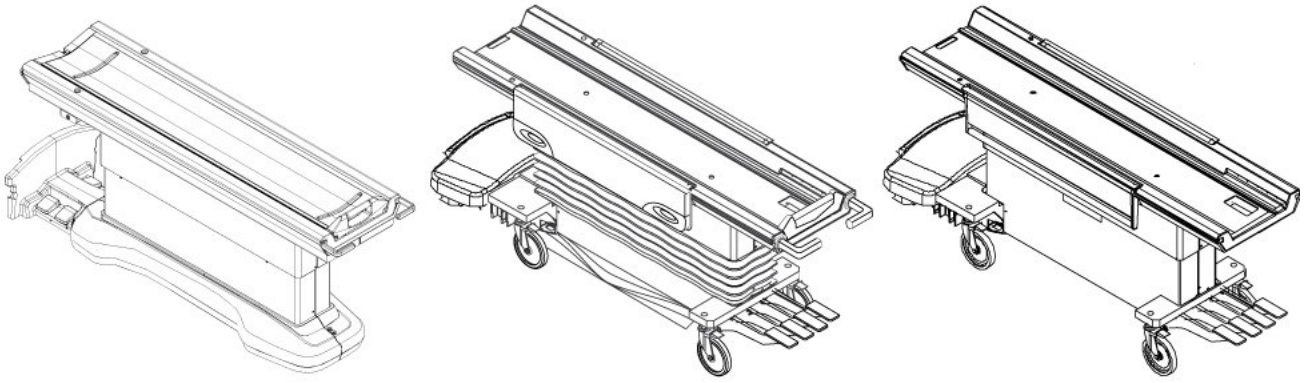


1.4.2 Patient Table

Patient Table is selectable from one of three selection.

Illustration 1-5: Patient Table

Patient Table



Fixed Table ***Lite Table*** ***Standard Table***

1.5 System Options

Purchased options may also be installed concurrently with the system upgrade. Flow charts provide steering to the Option Installation Direction that is delivered with the system.

Refer to manual shipped with the option for installation of Surface Coil, Advantage Window, Camera Options, and Hardware & Software options.

Refer to installation manual shipped with the option for the following:

- M1060KM - Oxygen Monitor: Direction 15336, Oxygen Monitor Subsystem
-

1.6 Facility Options

- MR Signa Main Disconnect Panel (E4503AT)
- Signa System Seismic Anchorage Service (R4390JA).

  NOTE: Magnet Seismic anchoring is the customer's responsibility to coordinate magnet mounting methods with the RF shielded room vendor to prevent RF leaks and secondary grounding problems.
- Oxygen Monitor Kit (M1060KM) which includes Oxygen Monitor and Remote Oxygen Monitor Module.

  NOTE: The Oxygen Monitor does not bear a CE monogram and therefore may not be acceptable in all European countries.

1.7 Product Delivery Instructions

The "Shipping Document" lists catalog numbers delivered. Review and confirm that order is delivered complete. Check impact on installation schedule if Catalogs and/or packing boxes are missing and/or noted as shipped short.

Labels that are attached to the outside of packing boxes summarize box contents. The labels are category coded is as follows:

- A - Accessory Group
- B - Blower Group
- C - Operator WorkSpace Group
- M - Magnet Group
- O - Post-installation Group (Phantoms, Coils)
- R - Rear Pedestal Group
- S - System Calibration Group
- Opt - Option Group (Chiller, Compressor, etc)
- Opt_C - Option Coil

“Product Delivery Instructions” (PDI) specify box contents, part numbers, and shipping procedure. The PDI is numbered according to the catalog number (for example, PDI -M3333TA is for the Fixed Site Installation Kit). Lists of items included with each box are detailed by separate checklists, or a separate sheet that provides a summery of that box contents. Refer to PDI and packing lists for information specific to your shipment.

A set of service and operator manuals is delivered with the Fixed Site Kit. Refer to checklists packed with “Technical Publication” boxes for a list of delivered documents.

1.8 Product Locator

The Global Install Base Database (also known as Product Locator System) tracks shipment, trans-shipment, and field location of the serialized models. There are now two methods for submitting Product Locator information.

1. At this time, for **U.S. ONLY**, the preferred method of submitting information is the FE Site Verification Web Site at: http://gein2.med.ge.com/gib

   The FE Site Verification consists of three components that are available on the web from the main menu. They are:

   - Install/deinstall product locator model and serial numbers
   - Add/modify ship to address information
   - Update CARES FE data for primary/secondary FEs

   To obtain a copy of the FE training tutorial for using this website, a downloadable copy is available at the following: Product Locator Support Central Page - http://supportcentral.ge.com/15563

2. One “Shipping Card” is filled out and submitted when shipped (extra cards are supplied for trans-shipments between storage and distribution points), and the “Installation Card” and extra shipment cards are attached.

   Verify that serial and model number on each rating plate matches installation card numbers before removing installation card. Note that there may be one or more shipment cards and

bar code labels with the installation card. These shipment cards are used to trace the transfer of serialized units between various inventory storage and distribution points until the product reaches its final installation destination. Process just the installation card and discard any extra shipment cards and labels.

1.9 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.

File a report with

- Call 1-800-548-3366 and use option 8.
- Contact your local service coordinator for more information on this process.

1.10 Installation Procedure

1.10.1 Installation Flow

NOTE: All on-site construction must be completed before equipment is delivered and installation starts. Attempting to install the system while construction is being completed will impact installation efficiency and further delay site completion. Making sure that all pre-installation and construction work is completed before equipment is delivered will usually result in an earlier turnover date.

The flow chart should be followed for an orderly and efficient installation of the Optima MR360/ Brivo MR355 1.5T system. Note that many procedures may be performed in parallel and may be performed in any order according to the specific situation of each site.

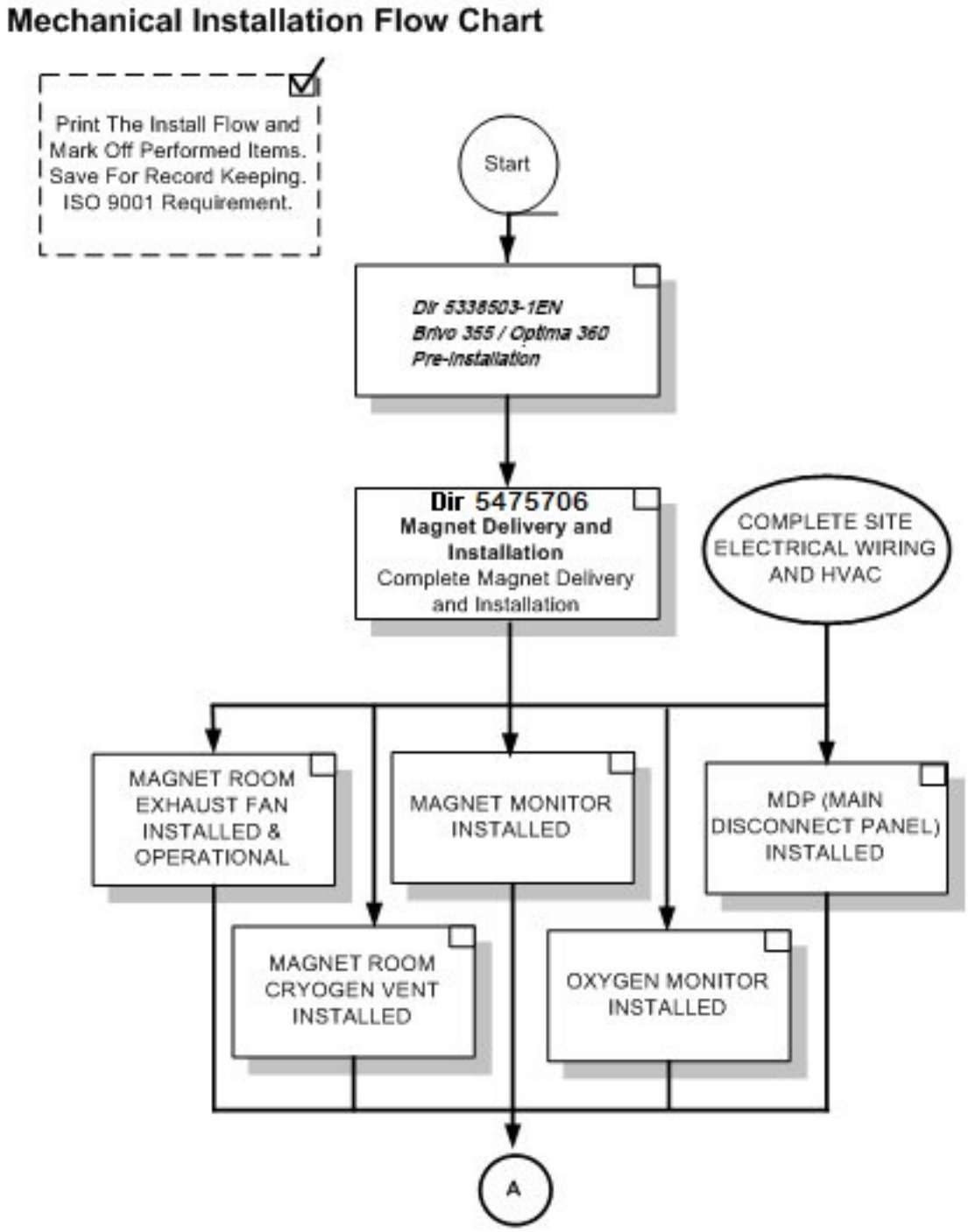
This installation flowchart has been developed assuming that all Optima MR360/Brivo MR355 1.5T equipment has been delivered together. Make sure that every part required is available before starting.

1.10.2 Installation Flowchart

1.11 Installation Flowchart

1.11.1 Prerequisites For System Installation

Illustration 1-6: Site Installations Required Prior To System Mechanical Installation



1.11.2 System Mechanical Installation

Illustration 1-7: Procedures To Be Completed By Mechanical Installers

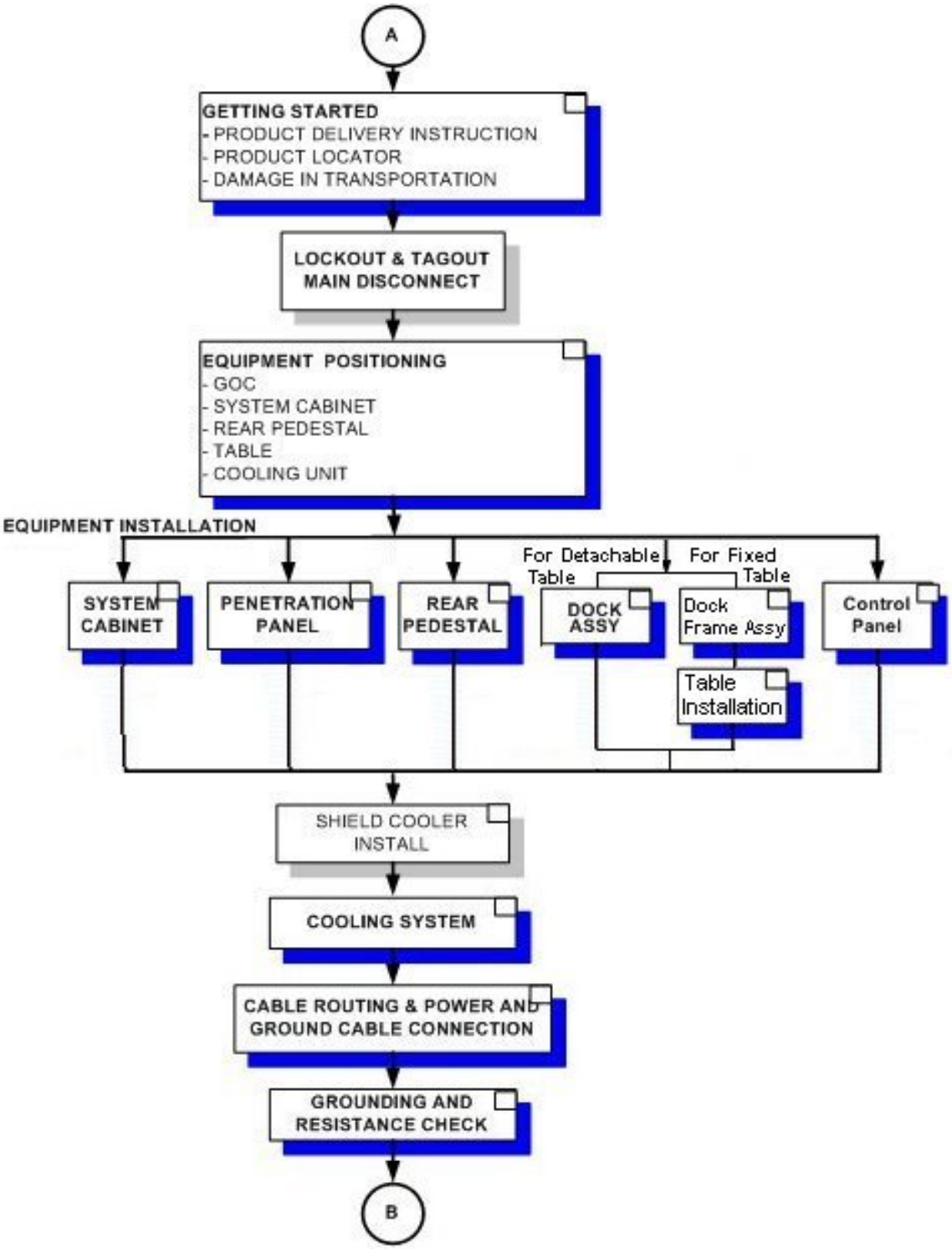
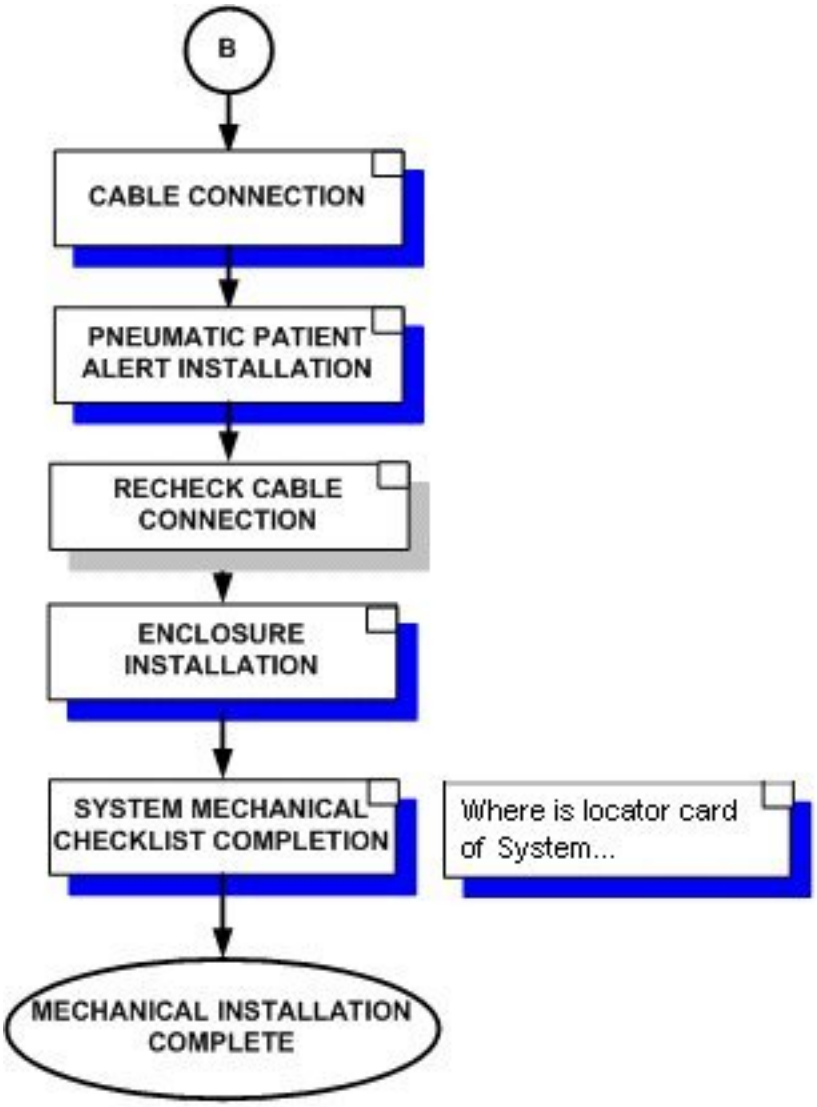


Illustration 1-8: Procedures To Be Completed By Mechanical Installers



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Chapter 2 Equipment Positioning

1 Equipment Positioning

1.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	120 mins	Not Applicable

1.2 Procedure

1.2.1 Equipment Positioning Overview

1. Place the each equipment according to the room layout plan. Refer to the following illustration as reference.

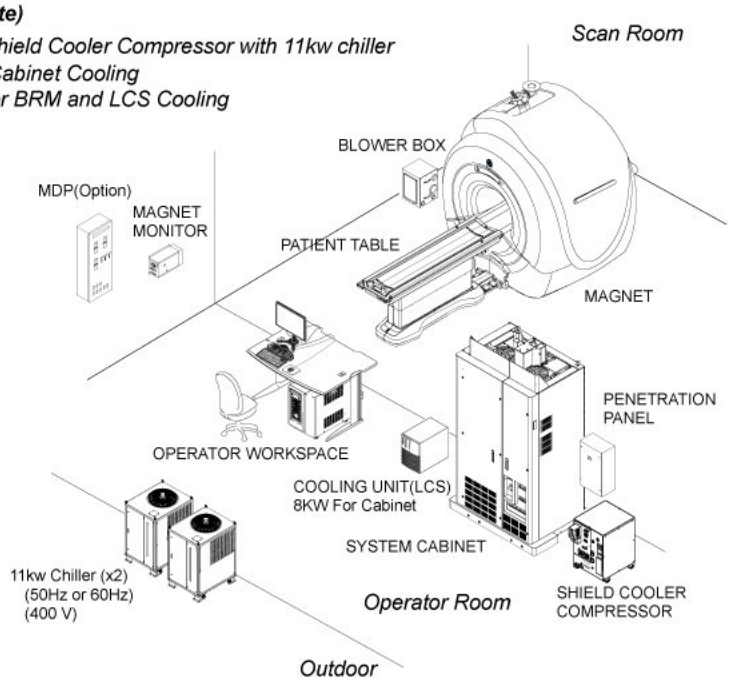
   NOTE: To keep the Installation space, Table, Blower Box, Rear pedestal can be placed at the proper location before cable routing.

Illustration 2-1: System Configuration without Equipment Room

Without Equipment Room

Type A (For 400V Site)

- *Water Cooled Shield Cooler Compressor with 11kw chiller*
- *LCS(8KW) for Cabinet Cooling*
- *11 KW Chiller for BRM and LCS Cooling*



Type B (For 200V and 400V Site)

- *Use Facility Water for Shield Cooler Compressor and two LCS*
- *LCS(8KW) for Cabinet Cooling*
- *LCS(4KW) for BRM Cooling*

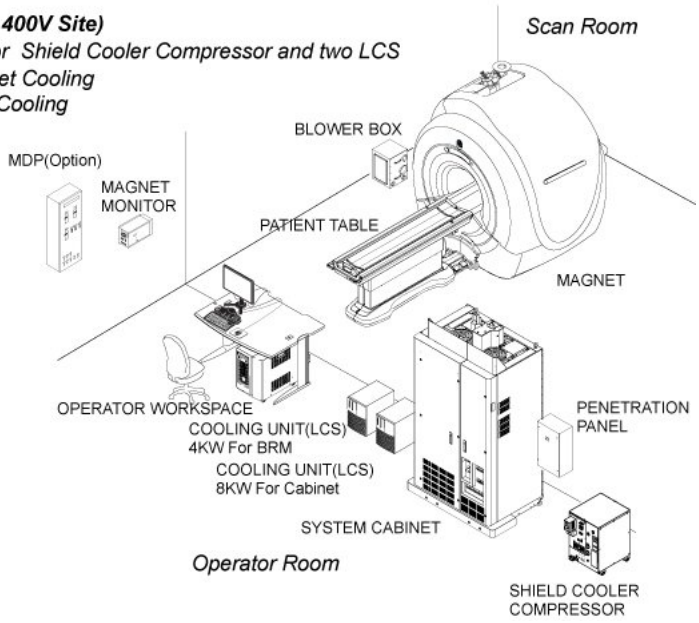


Illustration 2-2: Optima MR360 / Brivo MR355 System without Equipment Room (continued)

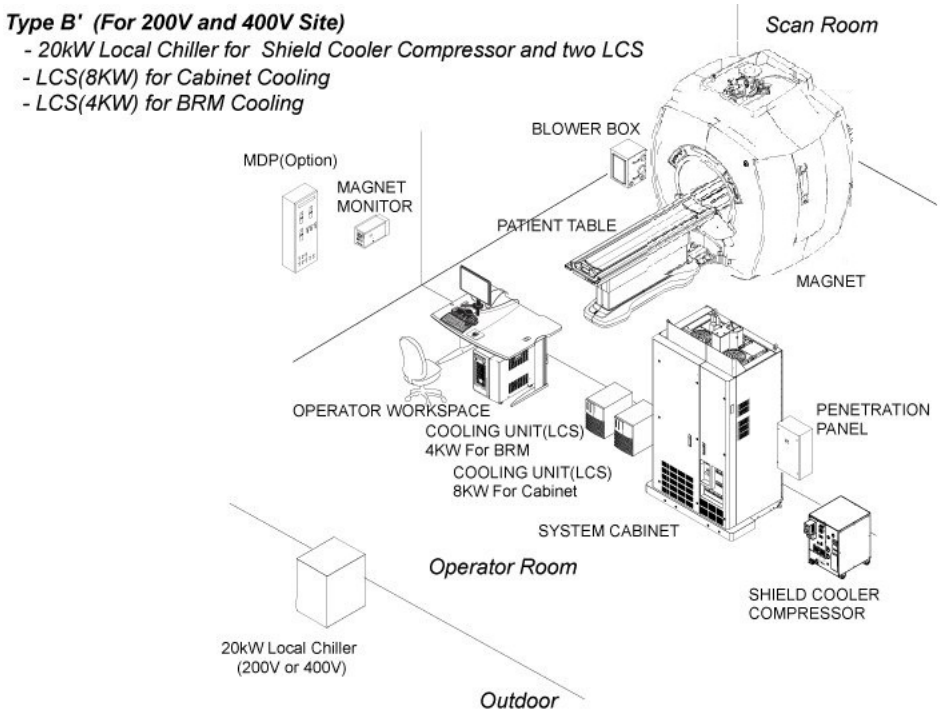
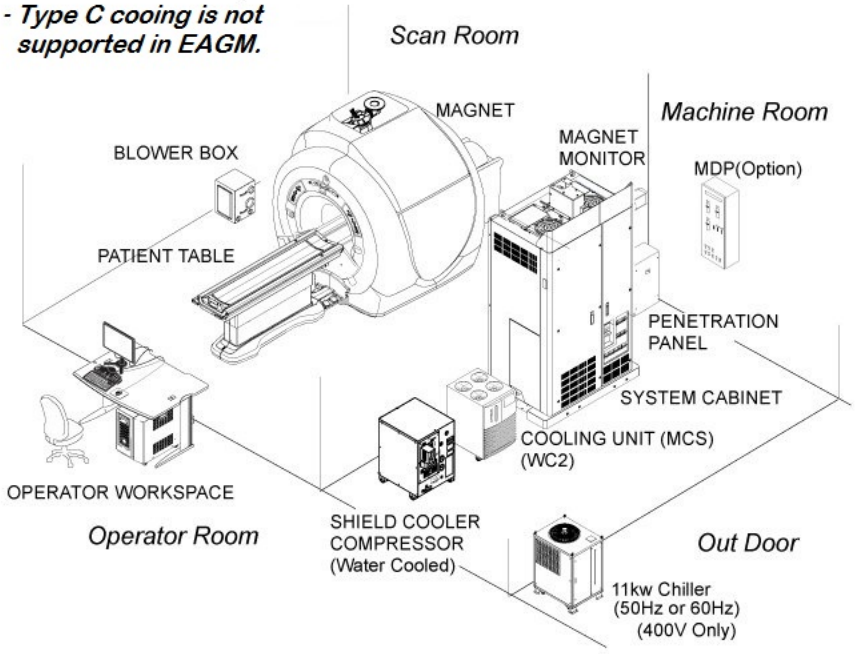


Illustration 2-3: System Configuration with Equipment Room

With Equipment Room

Type C (400V Site Only)

- Water Cooled Shield Cooler Compressor
- MCS for Cabinet Cooling
- 11kw chiller for Compressor and BRM
- Type C cooing is not supported in EAGM.



Type D (200V Site Only)

- Air Cooled Shield Cooler Compressor
- Lytron BRM Chiller
- MCS for Cabinet Cooling

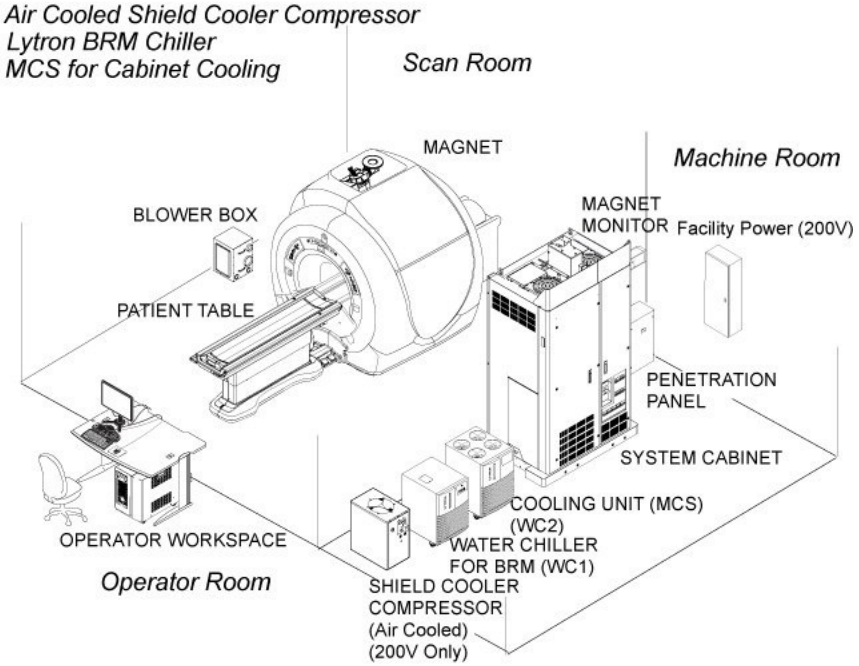
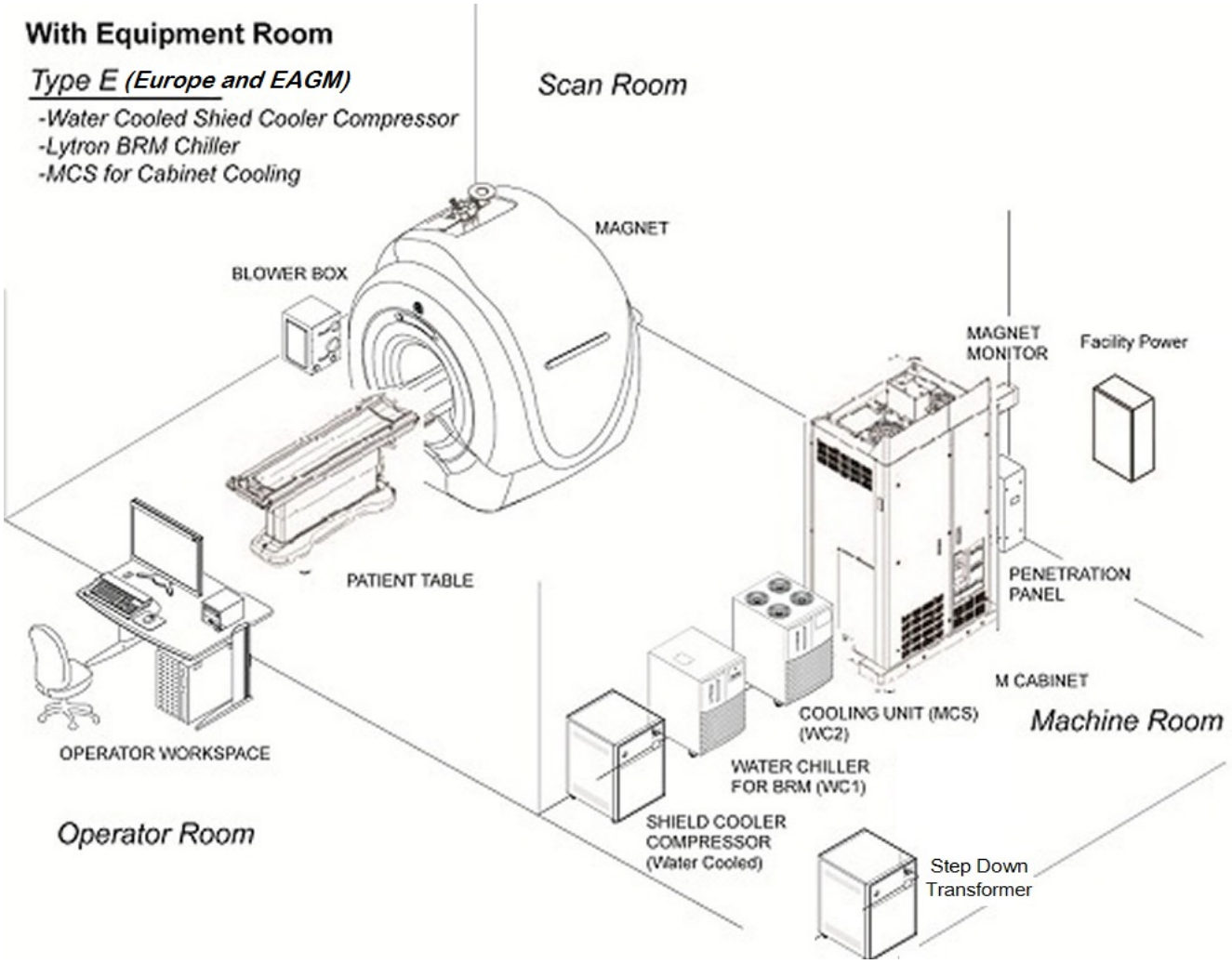


Illustration 2-4: Type E with Equipment Room

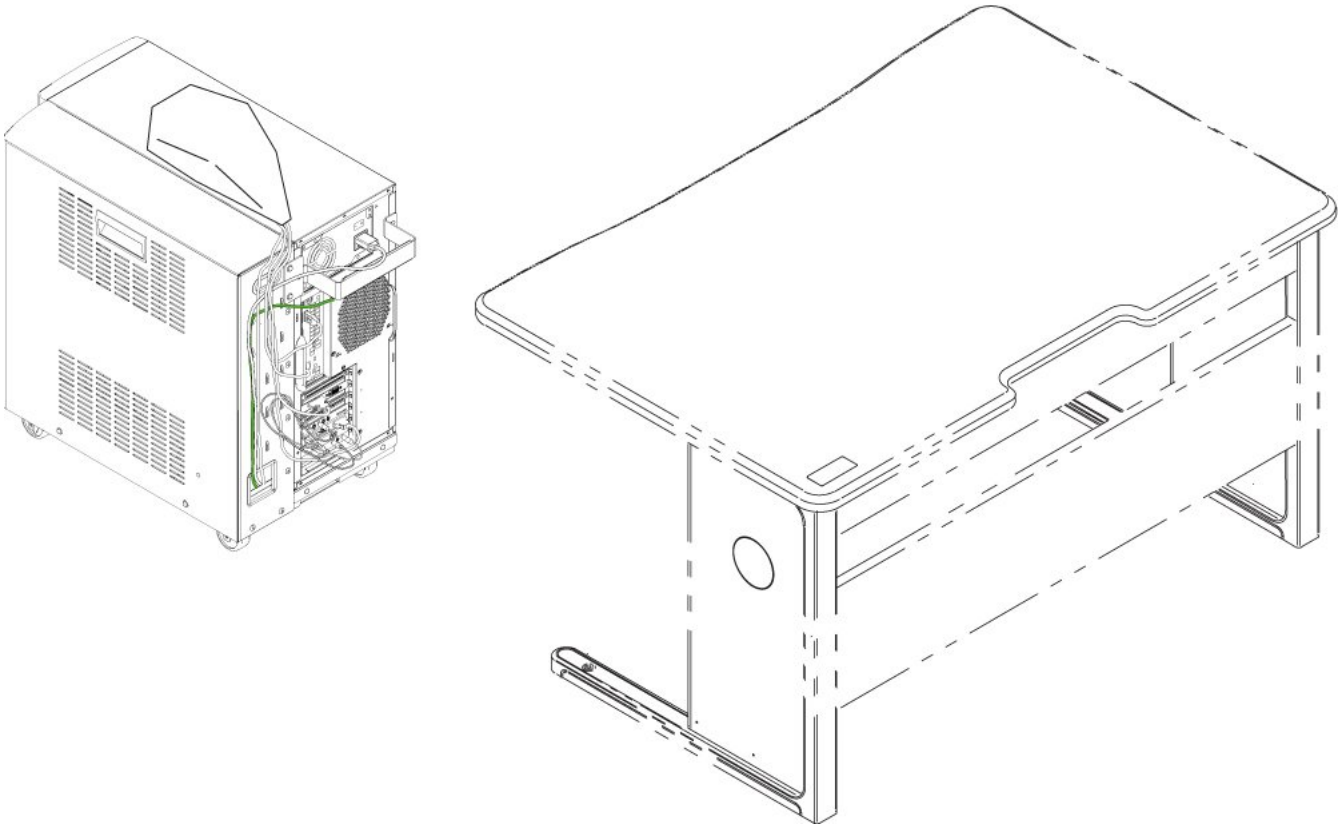


1.2.2 Simple OC

1.2.2.1 Simple OC positioning

1. Consult with Site customer for exact location of Operator Workspace Table and Simple Operator Cabinet (Simple OC). The location of Simple OC could be underneath the left or right side of the Operator Workspace table, or on the outside left or right side of the table.

Illustration 2-5: Position Computer Cabinet



2.

1.2.2.2 OW Table Anchoring

NOTICE

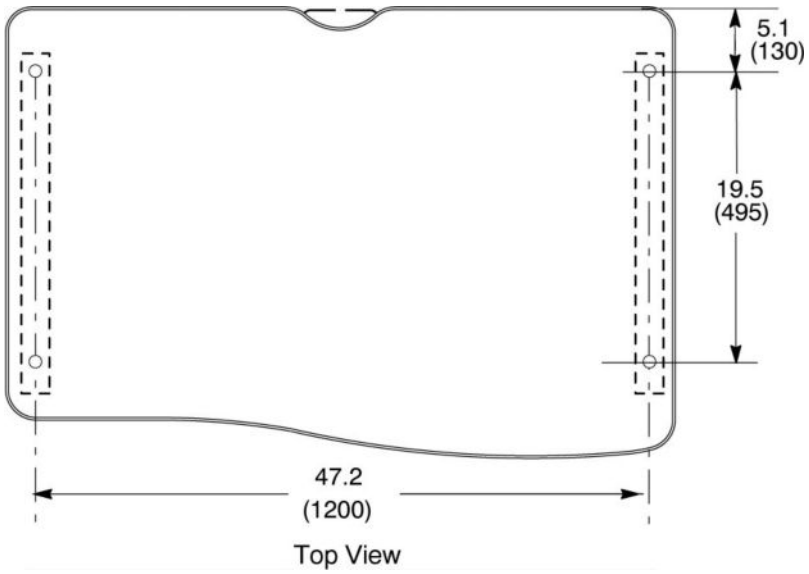
Two anchors are sufficient for the OW Table anchoring. If using two anchors, select diagonal anchor holes.

NOTICE

This procedure can be performed anytime during mechanical installation.

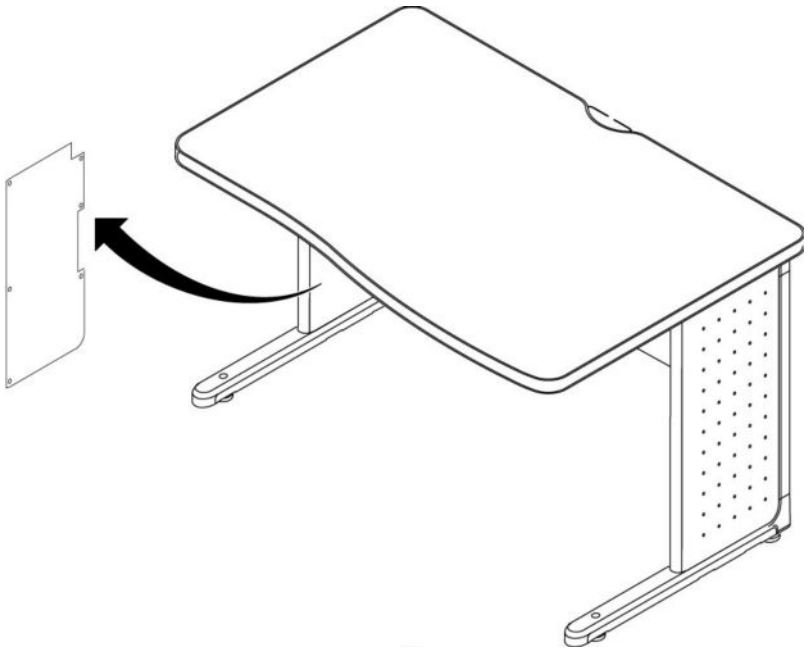
1. Drill a holes and insert anchors.

Illustration 2-6: Anchor Location



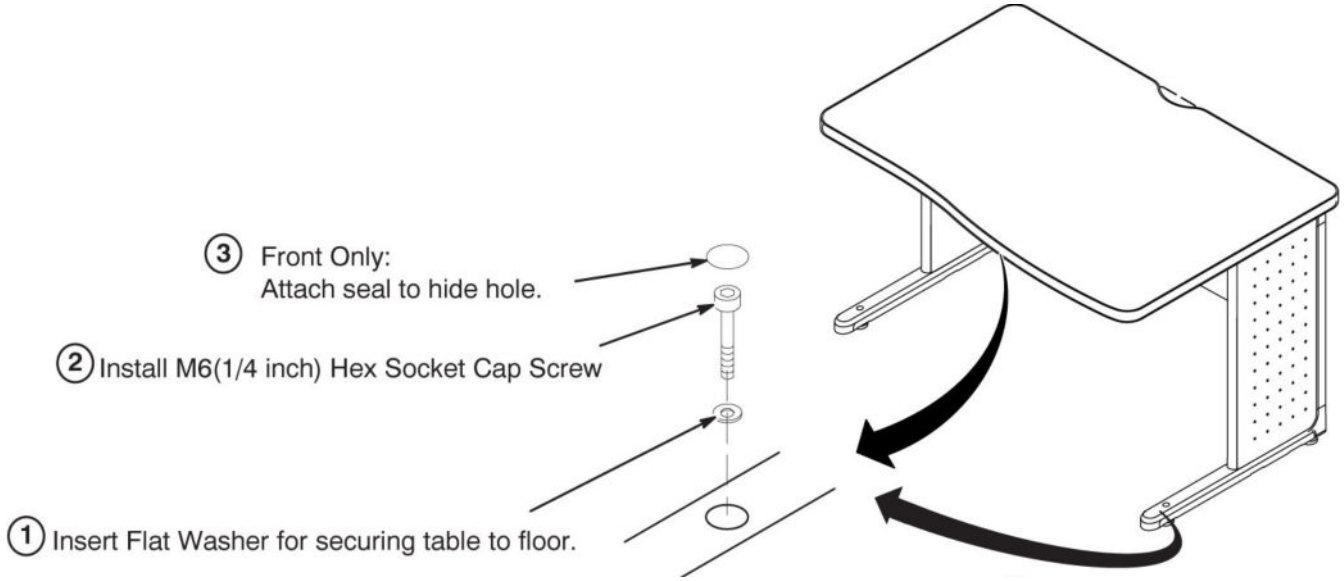
2. Remove inner cover for Table rear anchoring.

Illustration 2-7: Inner cover



3. Secure OW Table with Anchor Bolts. Refer to Illustration 2-8.

Illustration 2-8: Secure OW Table with Anchor Bolts



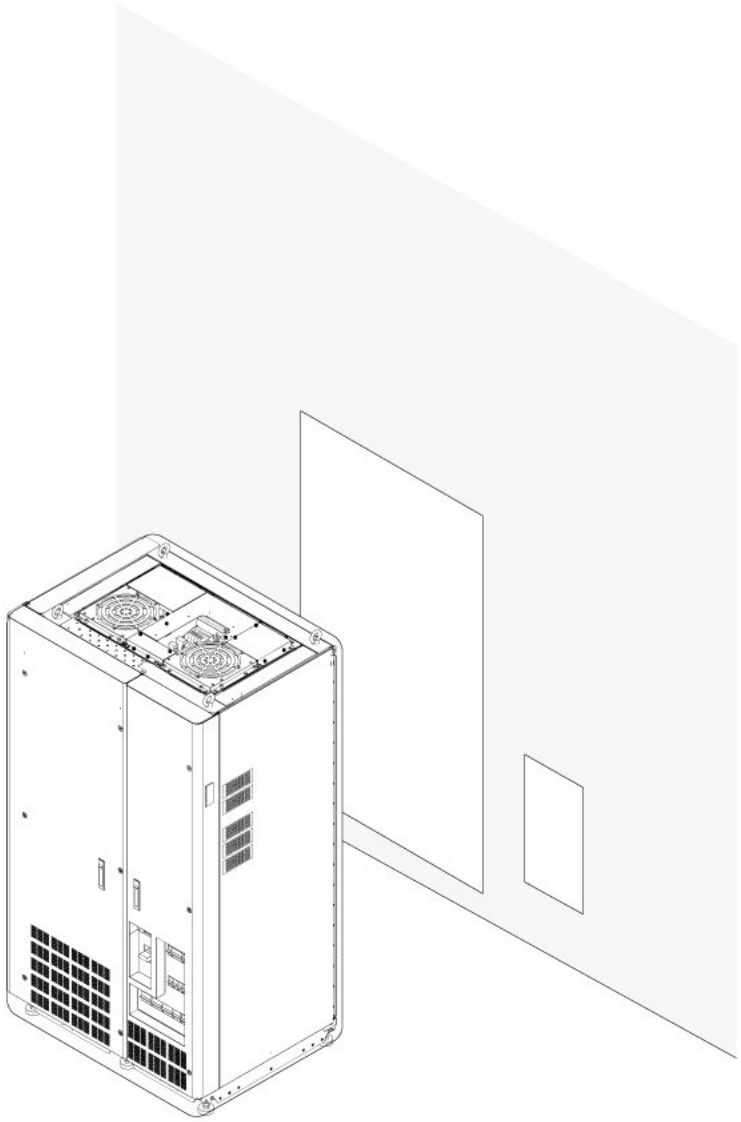
1.2.3 System Cabinet

⚠CAUTION

The weight of System Cabinet (900kg) requires at least four people to move the System Cabinet at the position.

1. Locate the System Cabinet at the in front of the wall opening for the system cabinet. The system cabinet has 6 casters which can rotate freely.

Illustration 2-9: System Cabinet Positioning



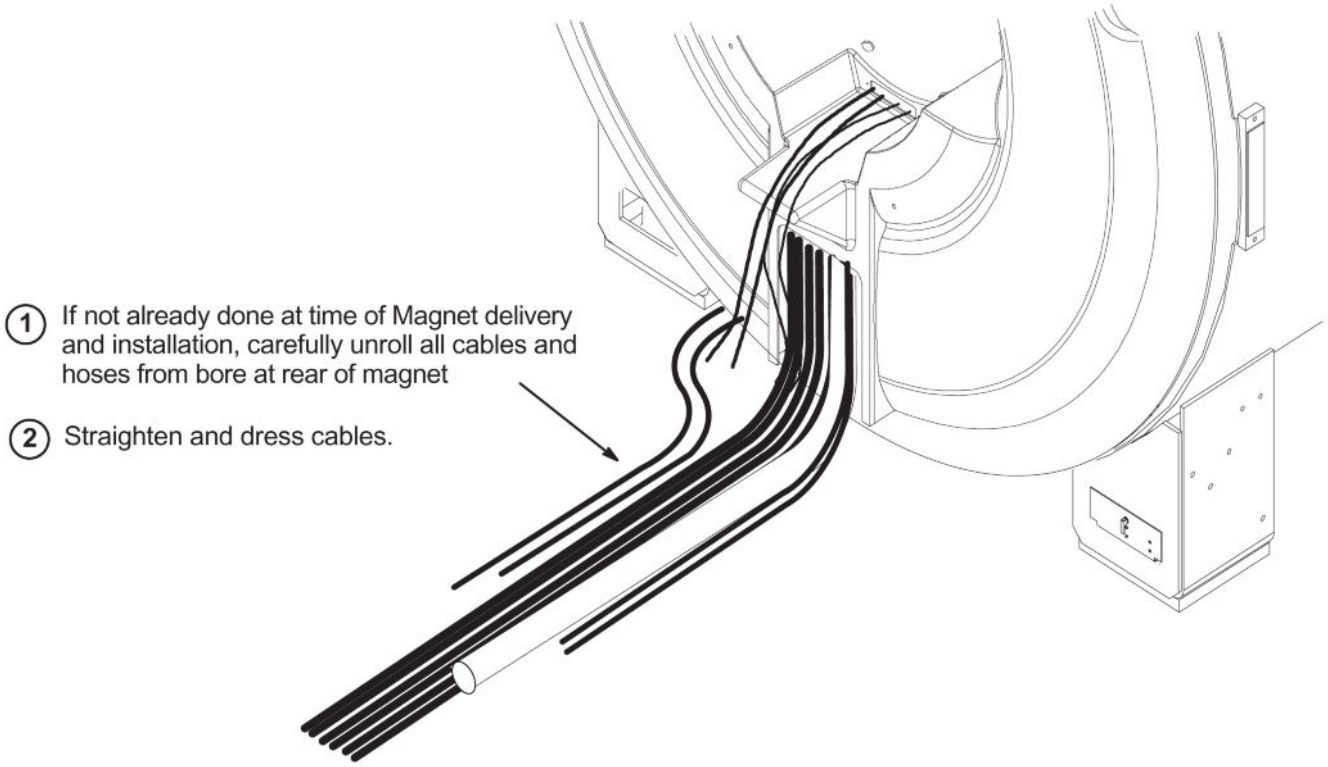
1.2.4 Rear Pedestal Positioning

This procedure can be performed later. But, it must be performed before Rear Pedestal/LPCA Installation

1.2.4.1 Cable Alignment before installing Rear pedestal

1. Carefully Unroll all cables and hoses from bore at rear of Magnet.
2. Straighten and dress cables.

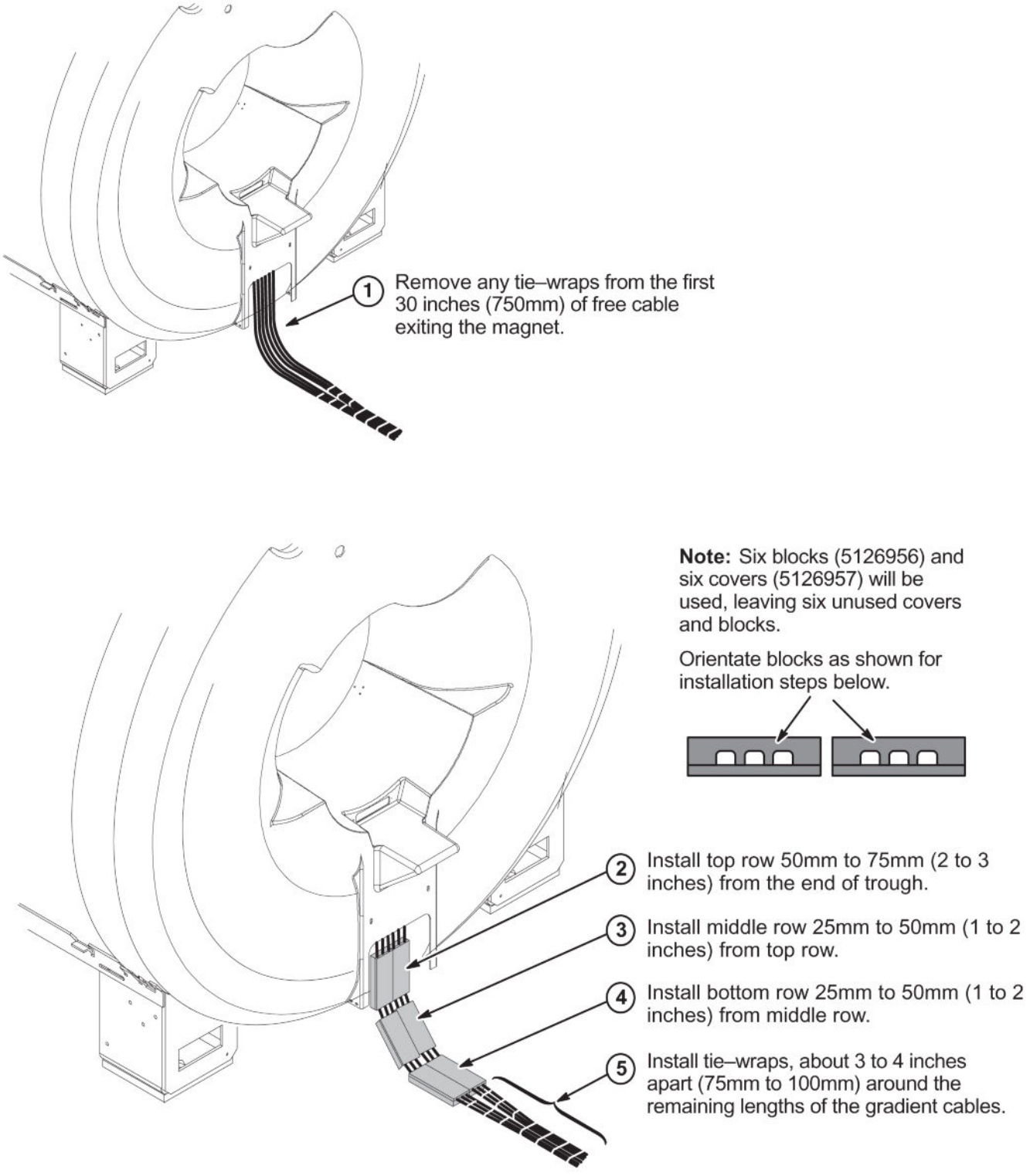
Illustration 2-10: Align Cables At Rear Of Magnet



1.2.4.2 INSTALL GRADIENT CABLE CLAMP BLOCK

1. Install Gradient Cramp according to the following illustration.

Illustration 2-11: Install Gradient Cable Clamp Blocks



2.

1.2.4.3 Rear Pedestal Positioning

NOTICE

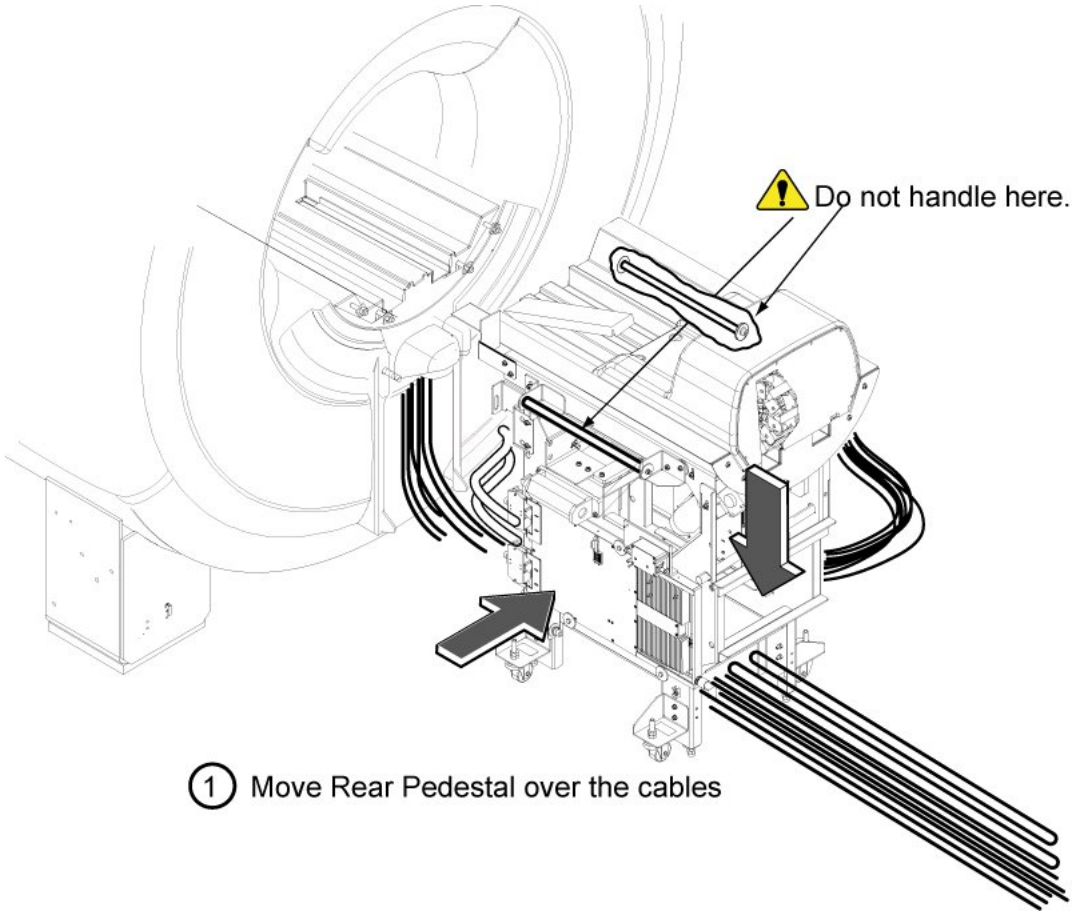
Do not remove dollies until the Rear Pedestal moves near the position at rear of magnet. Without dollies, the weight of the Rear Pedestal requires at least Two people.

NOTICE

The weight of the Rear Pedestal requires at least Two people.

1. Move the Rear Pedestal to the rear of Magnet.
2. Carry Rear Pedestal with two person and move it so that the cables from magnet run through the Rear Pedestal.

Illustration 2-12: Rear Pedestal



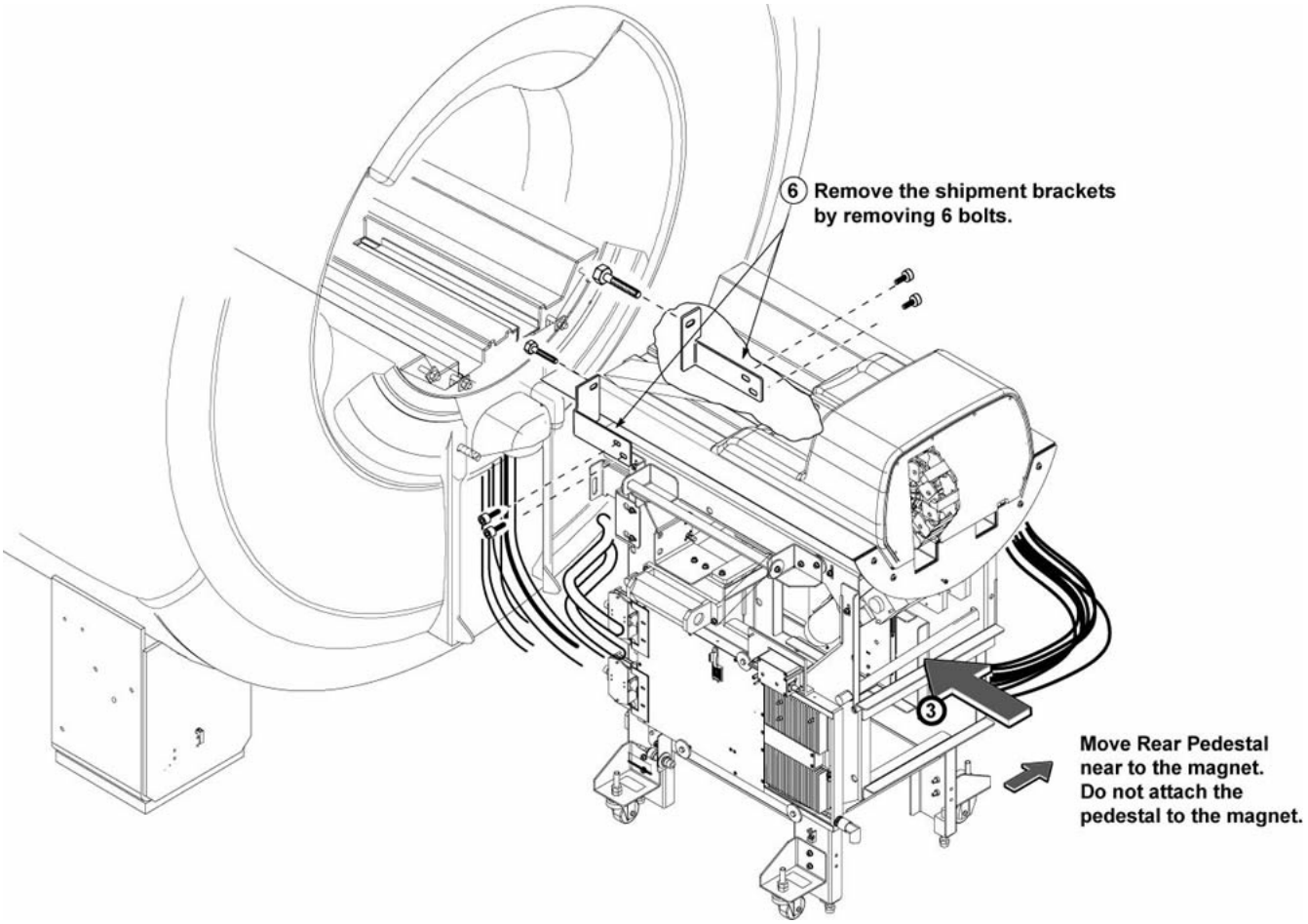
3. Move the Rear Pedestal near to the magnet. Do not attach the pedestal to the magnet.
4. Rotate the adjusters so that they reach to the floor.
5. Remove four dollies from rear pedestal by removing 8 bolts.

DANGER

THE DOLLIES CONTAIN FERROUS MATERIALS.
FERROUS MATERIALS CAN BECOME DANGEROUS PROJECTILES IF MAGNET IS RAMPED UP.
BE SURE TO PROCEED THIS PROCEDURE DARING MAGNET IS RAMPED DOWN.

6. Remove the shipment brackets by removing 6 bolts.

Illustration 2-13: Rear Pedestal positioning



1.2.5 Cooling Systems

1. Consult with Site customer for exact location of Cooling Systems and position them.

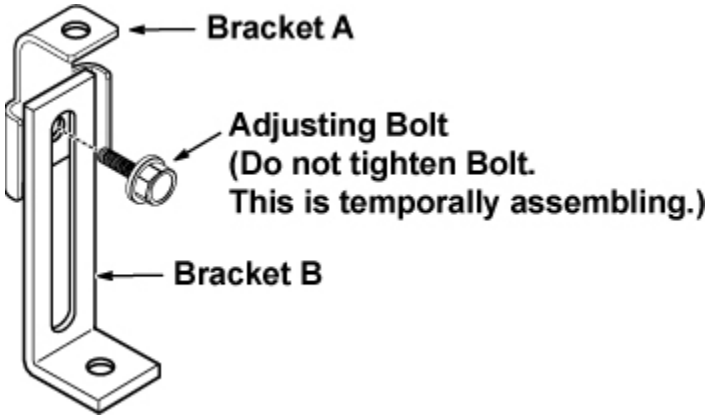
1.2.5.1 Anchoring for MCS

NOTE: This procedure can be performed anytime during mechanical installation.

NOTE: The anchor bracket kit is packaged for MCS. The anchor bracket kit does not include anchor bolt or nut to fix floor side. Use the anchor bolt or nut according to site condition.

1. Assemble the 4 brackets A and B using attached bolts. Do not tighten the bolt. This is temporally assembling.

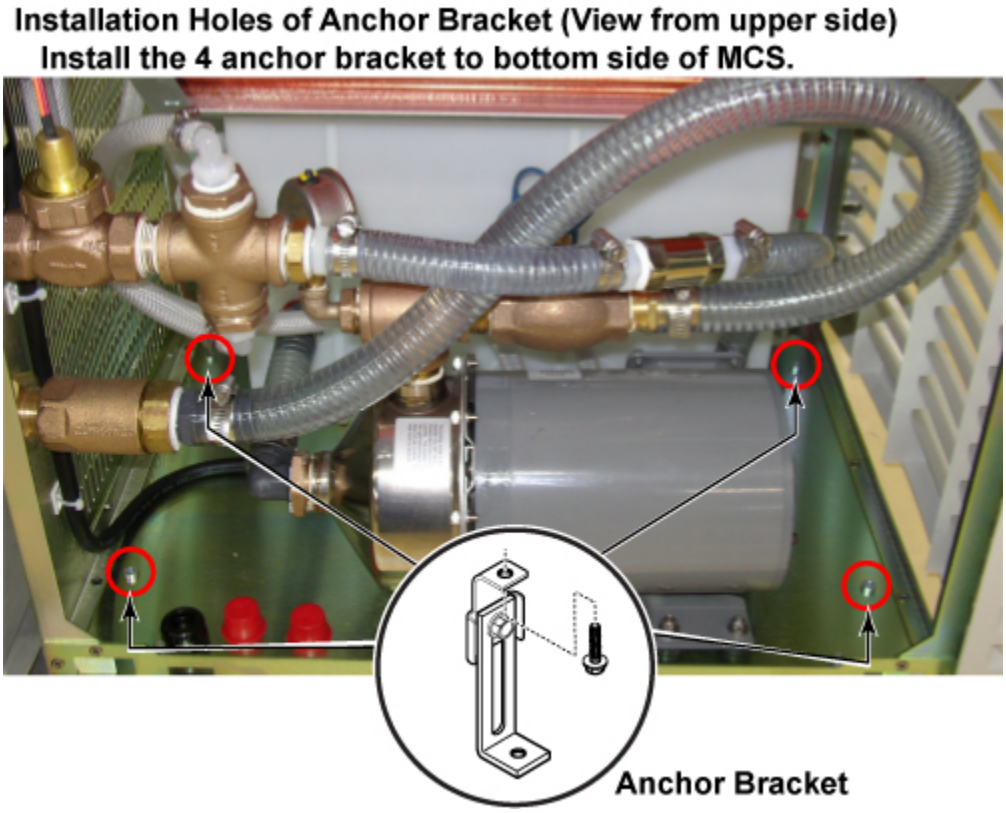
Illustration 2-14: Bracket A and B



2. Install the 4 assembled brackets to holes of bottom side of MCS with 4 attached bolts.

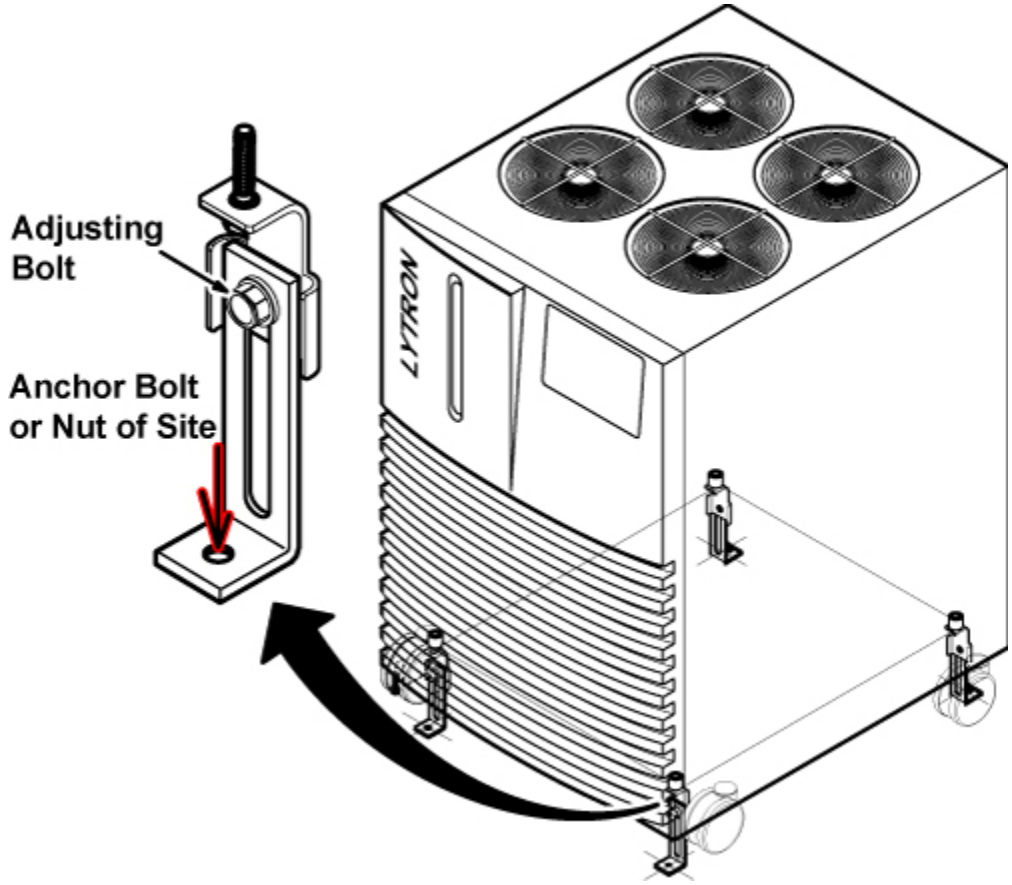
   NOTE: The illustration removing the side cover to clarify. The side cover removal is not need.

Illustration 2-15: Brackets Installation for MCS Bottom Side



3. Tighten the 4 adjusting bolts.
4. Fix the 4 anchor brackets using 4 anchor bolts or nuts according to site condition.

Illustration 2-16: Fixing Anchors



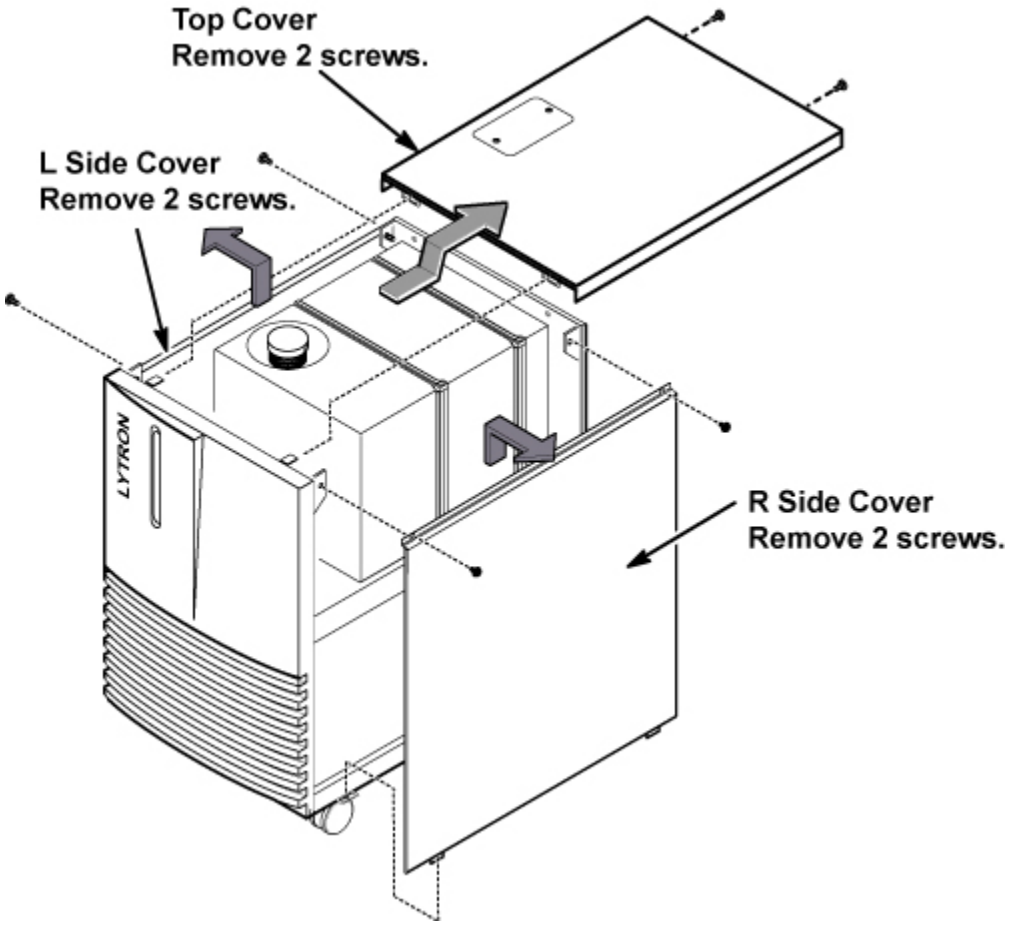
1.2.5.2 Anchoring for LCS

NOTE: This procedure can be performed anytime during mechanical installation.

NOTE: The anchor brackets are built in LCS. The anchor bolt or nut fixing to floor side does not include for LCS. Use the anchor bolt or nut according to site condition.

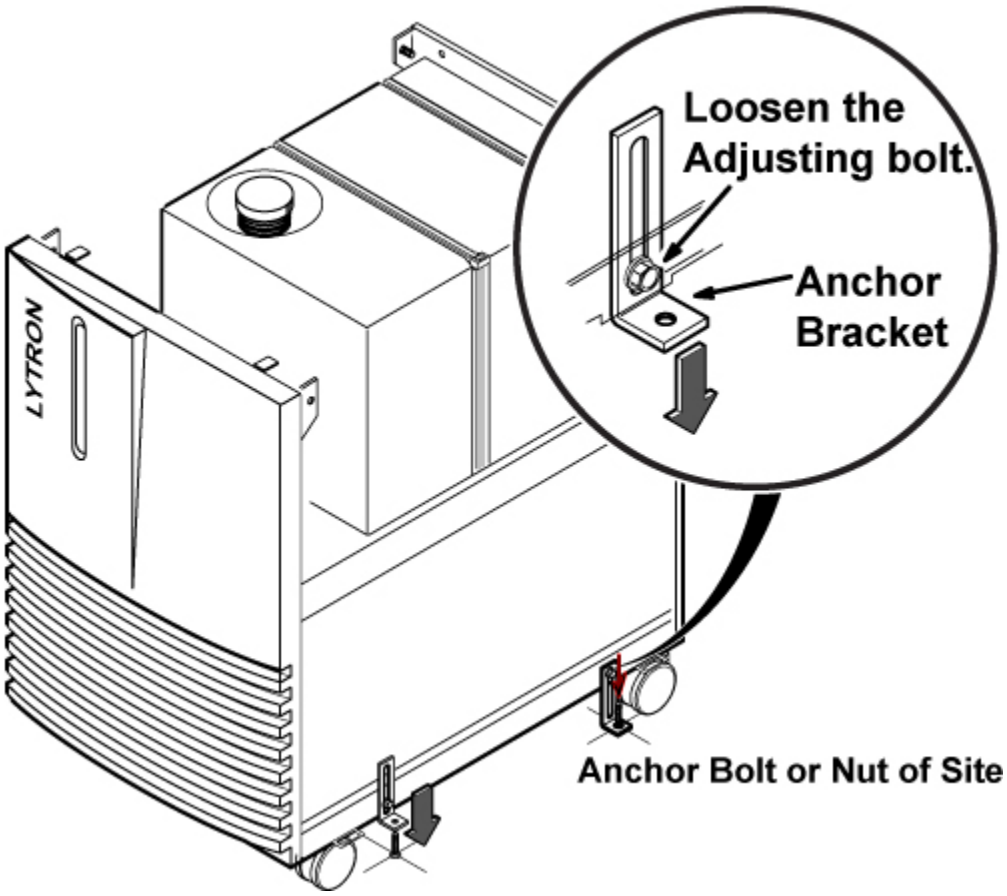
1. Remove the top cover by removing 2 screws.
2. Remove the R and L side covers by removing each 2 screws.

Illustration 2-17: Cover Removal



3. Loosen the 4 bolts fixing anchor brackets.
4. Put the 4 anchor brackets onto the floor and tighten the bolts.
5. Fix the 4 anchor brackets using 4 anchor bolts or nuts according to site condition.

Illustration 2-18: Anchor Brackets



1.3 Finalization

No finalization steps.

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Chapter 3 System Cabinet Installation

1 System Cabinet Installation

1.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	60 mins	Not Applicable

1.2 Preliminary Requirements

1.2.1 Tools and Test Equipment

Item	Qty	Effectivity	Part#	Manufacturer
Precision levels	1	-	-	-

1.2.2 Required Conditions

Condition	Reference	Effectivity
Anchor Holes for System Cabinet are drilled.	-	-

1.3 Procedure

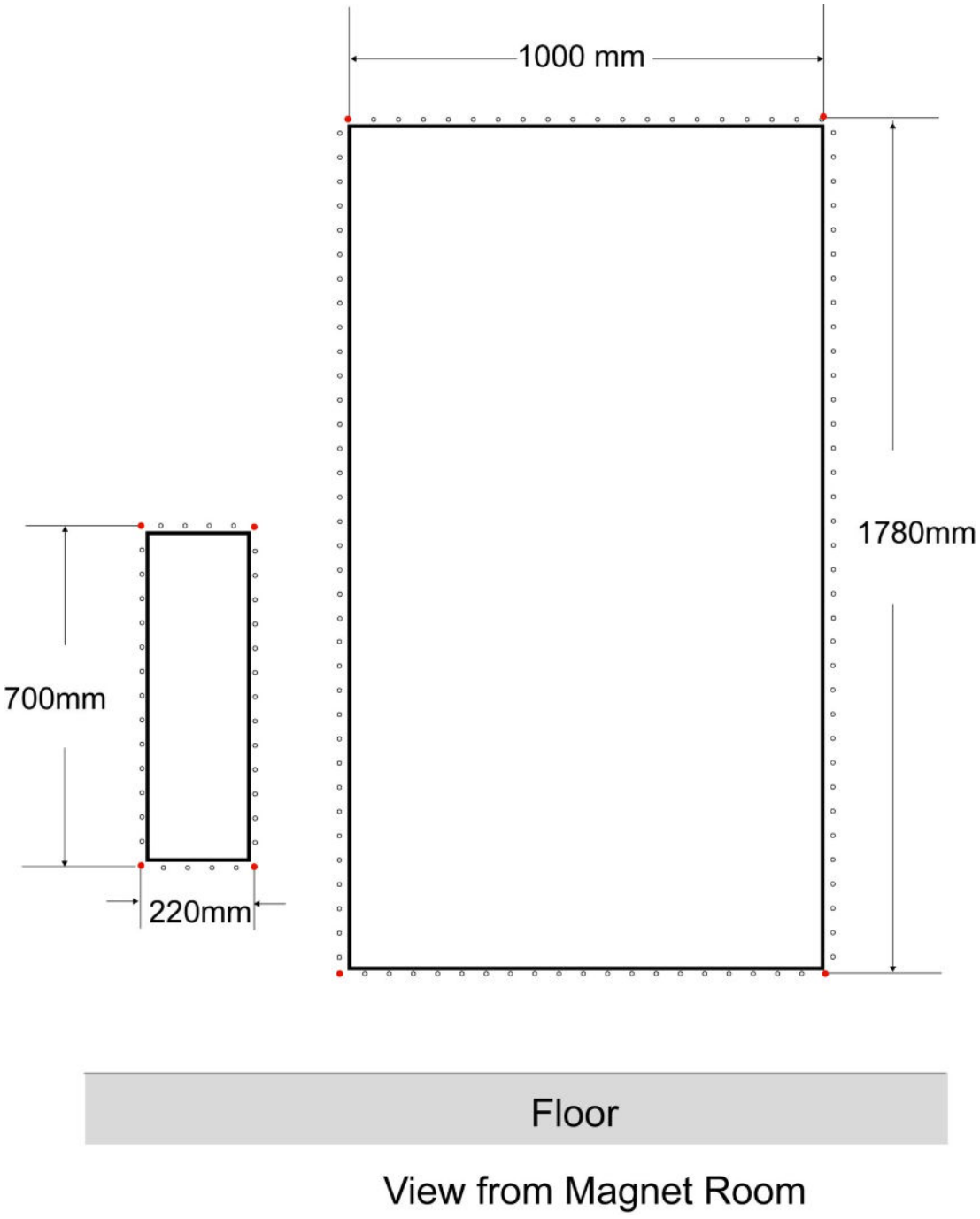
1.3.1 Prerequisite before installing system Cabinet

1. Anchor Holes for System Cabinet must be drilled by pre-installation vendor. See illustrationIllustration 3-9 for the anchor location.

1.3.2 Mesh Shield Installation

1. Mark the four corner screw positions of Mesh Shield and Penetration Panel for the alignment.

Illustration 3-1: Screw position Marking

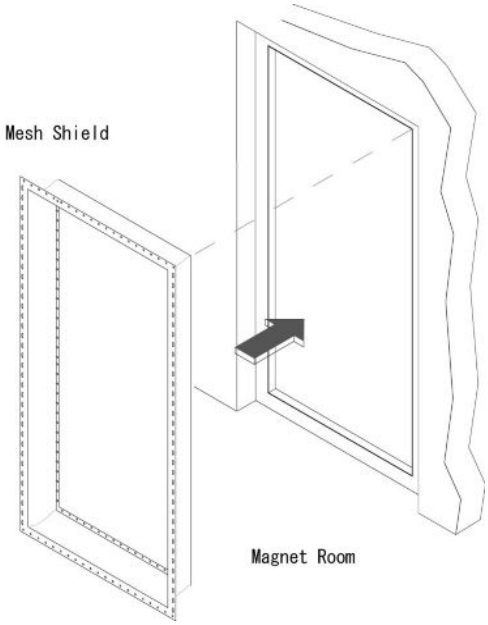


2. Install Mesh Shield to the opening for system Cabinet. Fix the four corner screws first.

   NOTE: 200 pieces of screws (U0035AA) are shipped with PP COVER RF PANEL SET (5333909).

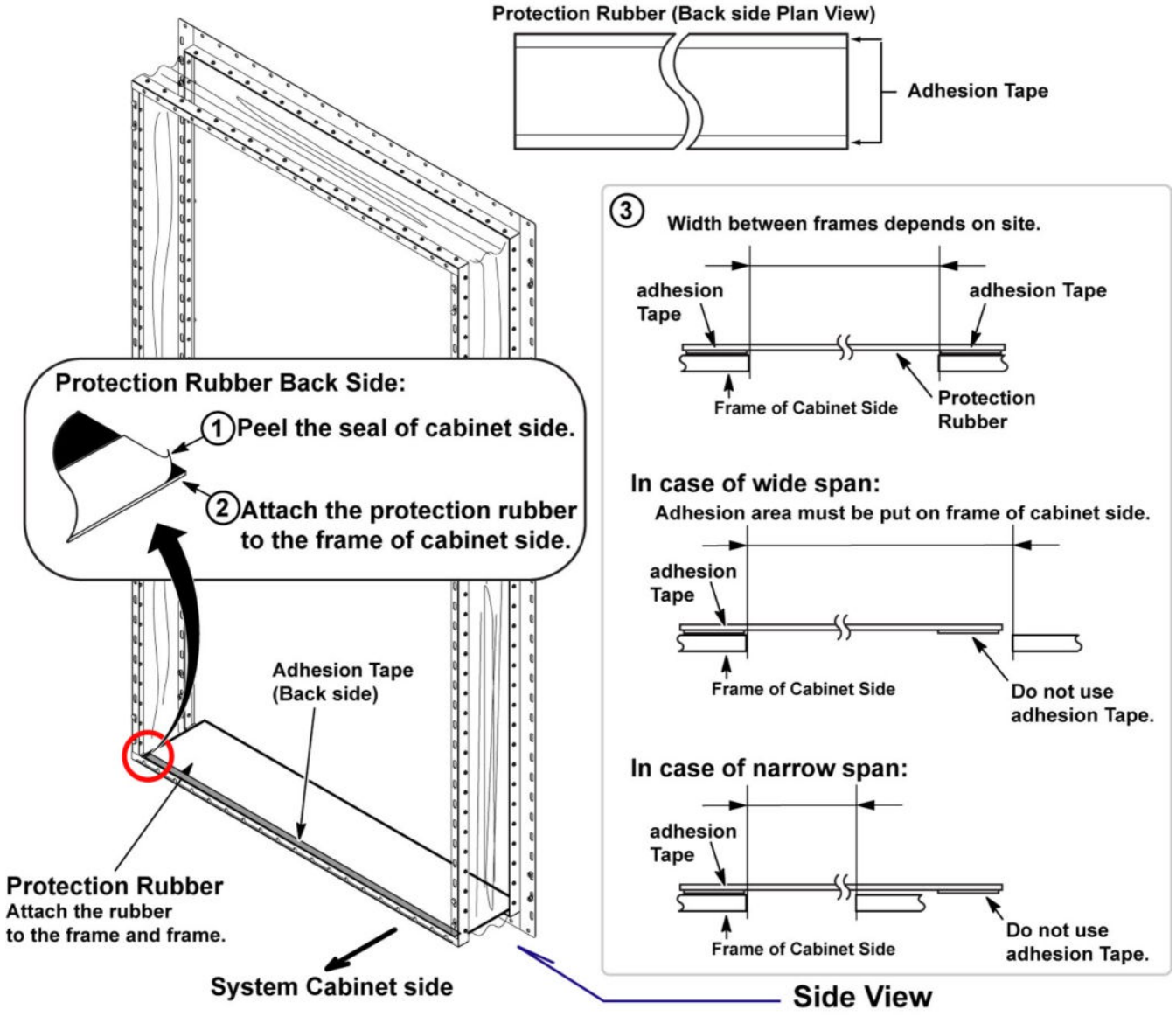
   You can use these screws to fix the Mesh Shield according to the site condition.

Illustration 3-2: Mesh shield installation



3. Attach the protection rubber on the lower mesh shield frame.

Illustration 3-3: PROTECTION RUBBER INSTALLATION



1.3.3 Install System Cabinet

1. Move the System Cabinet to satisfy the following conditions.
    - System Cabinet is parallel to the wall.
    - Screw holes of System Cabinet is aligned to the hole of Mesh Shield frame.

Illustration 3-4: System Cabinet positioning

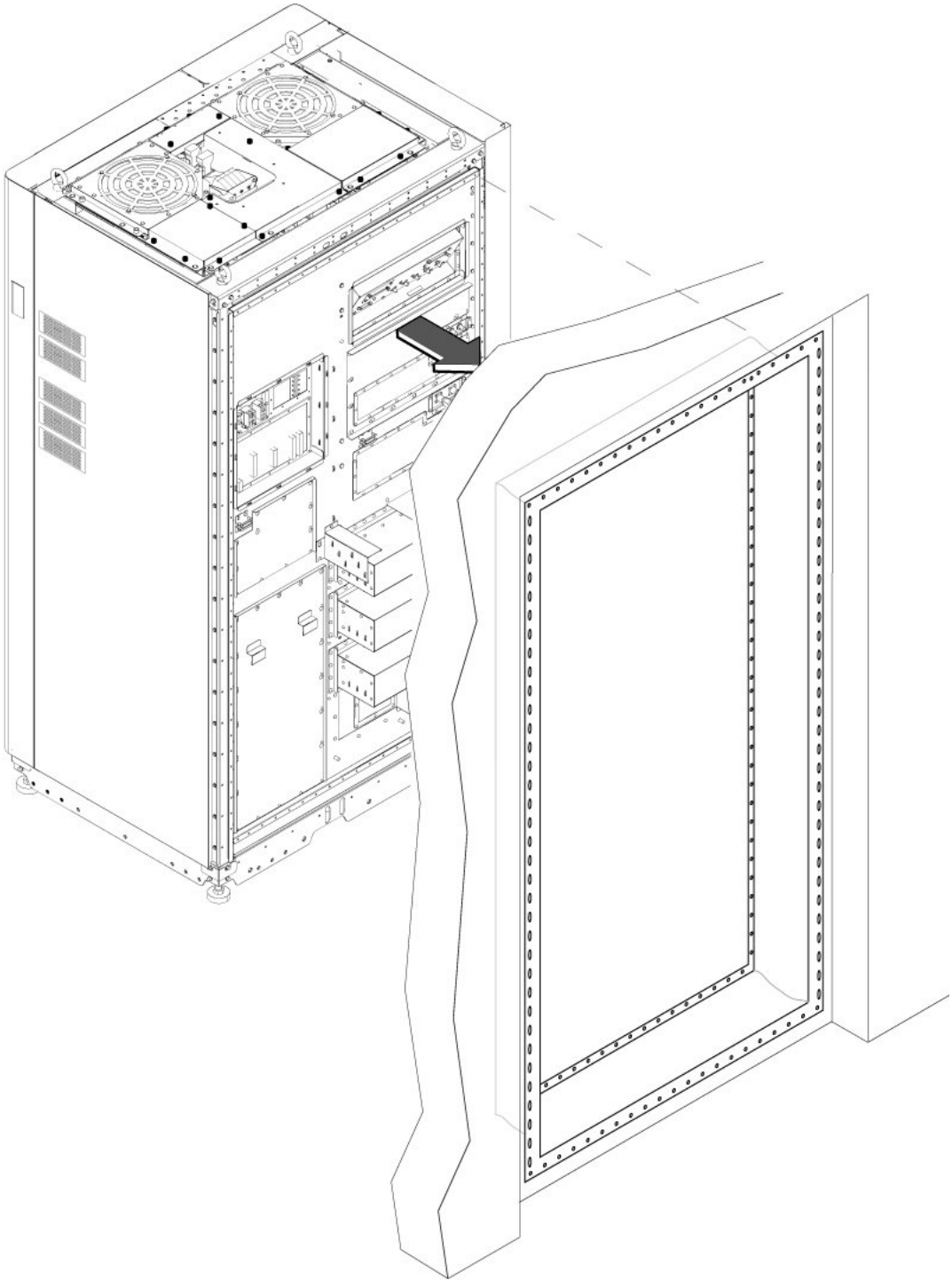
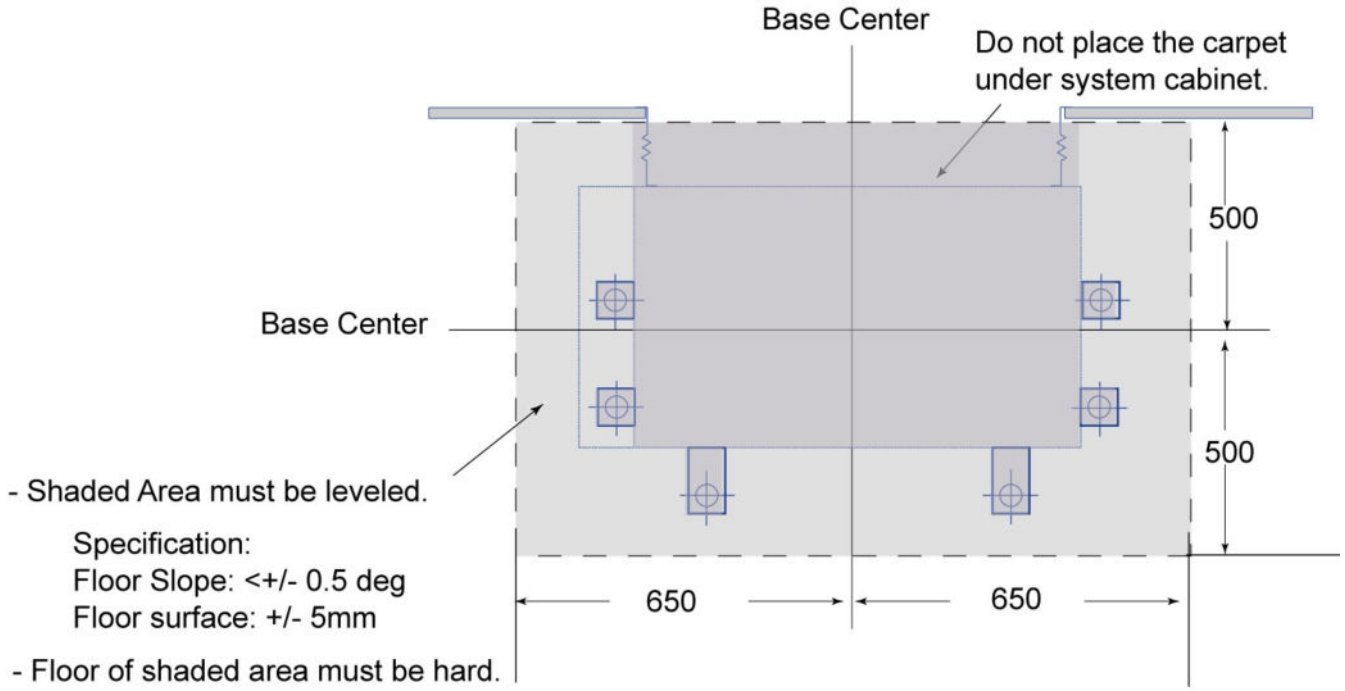
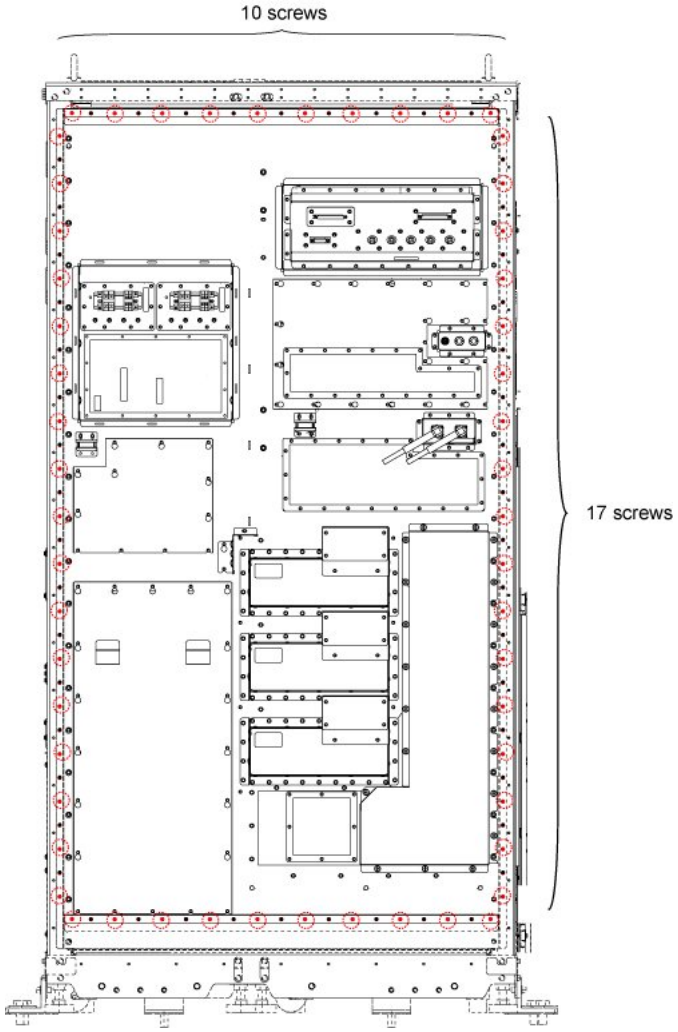


Illustration 3-5: System Cabinet Top View



2. Fix the System Cabinet with washer and screws at every two hole pitch. Do not install screw in every hole. (54 fixing screws.)

Illustration 3-6: System Cabinet (View from Magnet Room)



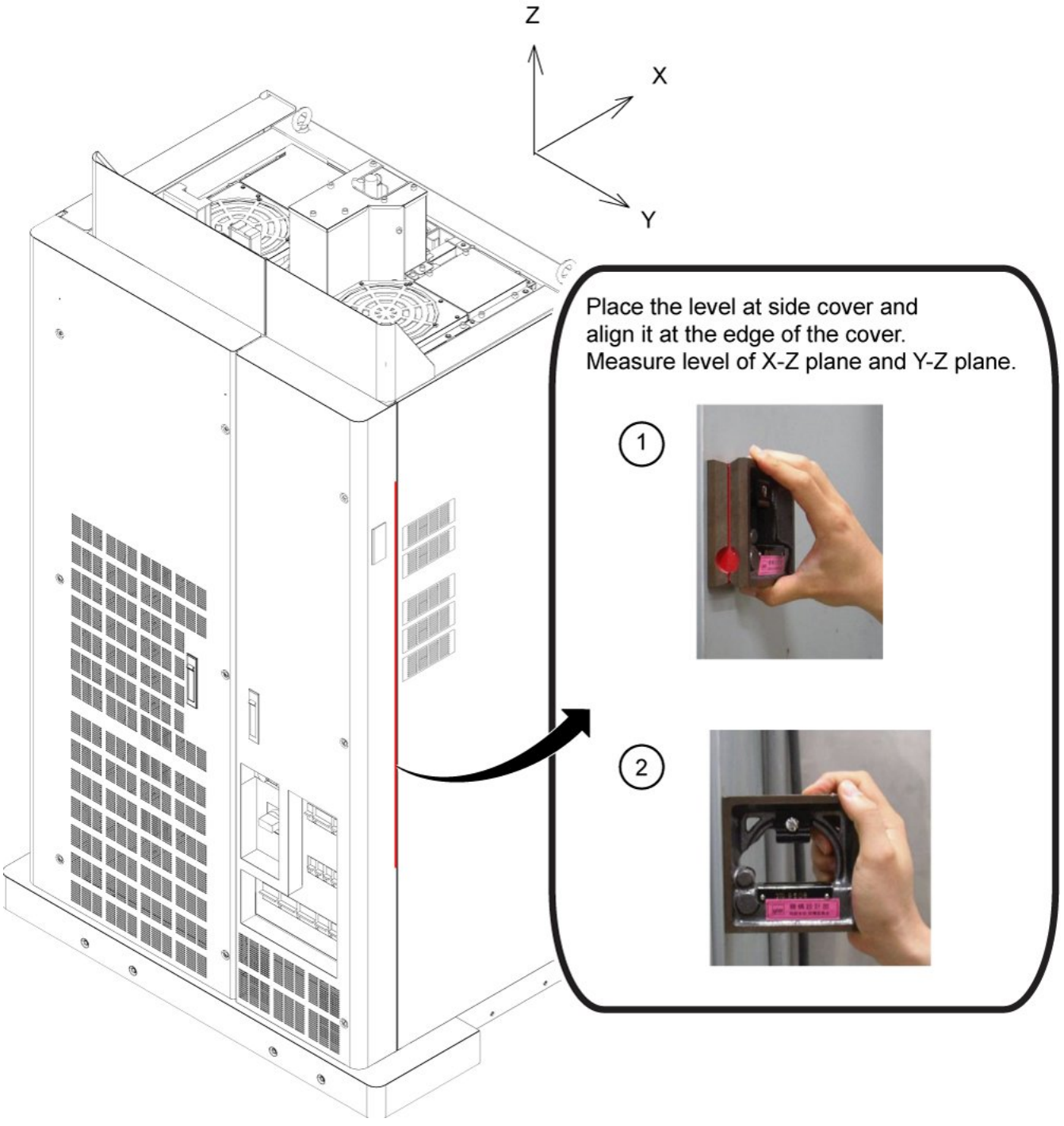
3. Lower the adjusters so that they reach to the floor.

1.3.4 Cabinet Level Check

1. Check that the System Cabinet is leveled. **Specification:** <+/-0.5deg

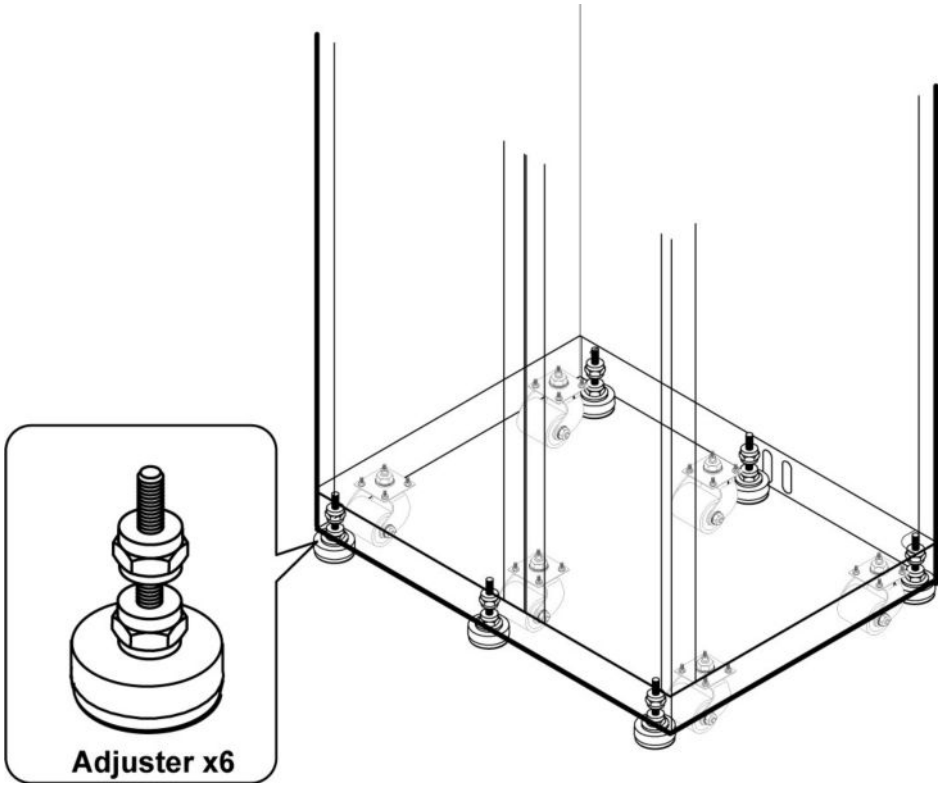
   NOTE: Use precision levels('Block Type' or 'Square Frame Type') 150mm or longer. Specification of precision levels: JIS B7510 (A Grade, Sensitivity 1~3) or equivalent.

Illustration 3-7: Cabinet Level Check



2. If System cabinet is not leveled, adjust the cabinet using adjuster.

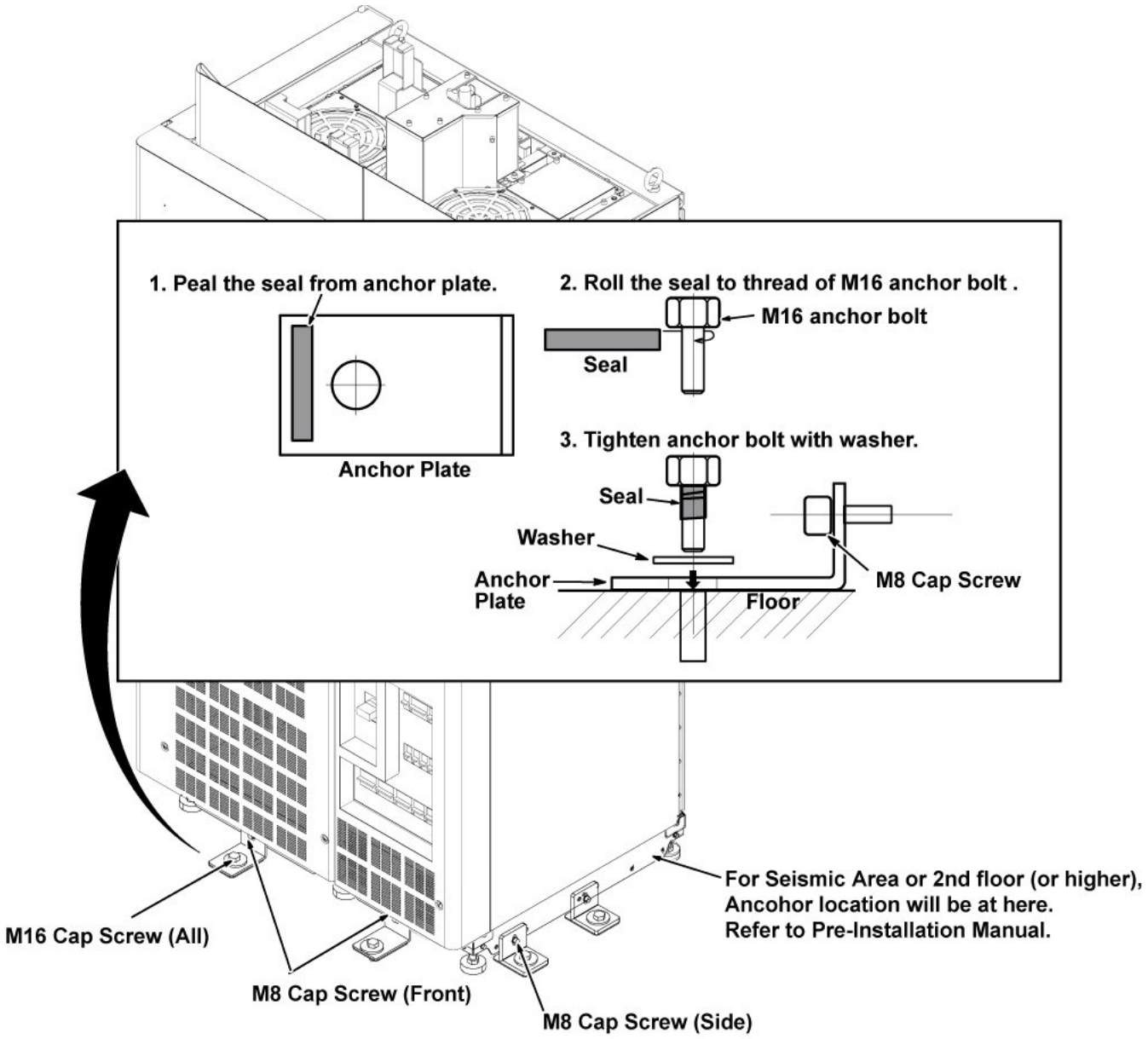
Illustration 3-8: Adjuster



1.3.5 Anchor System Cabinet

1. Roll the insulation seal to thread of anchor bolt (x6) for noise prevention.
2. Fix the anchor bracket at the bottom of System Cabinet.
3. Fix the System Cabinet to the floor with anchor bolts.

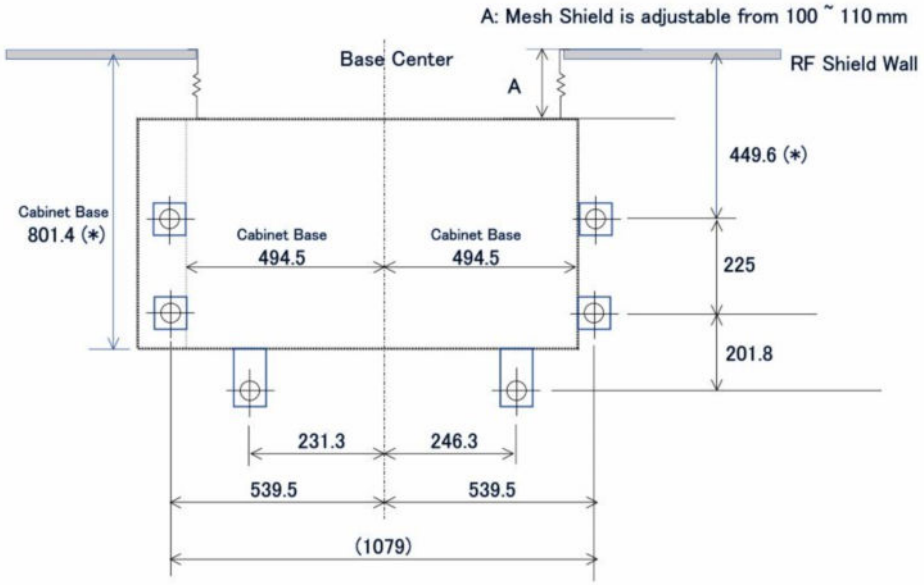
Illustration 3-9: System Cabinet Anchoring



GE supplied parts: L-Angle Plates, M8 cap screws(for side and front), Washer
Vendor supplied parts: M16 anchor bolts

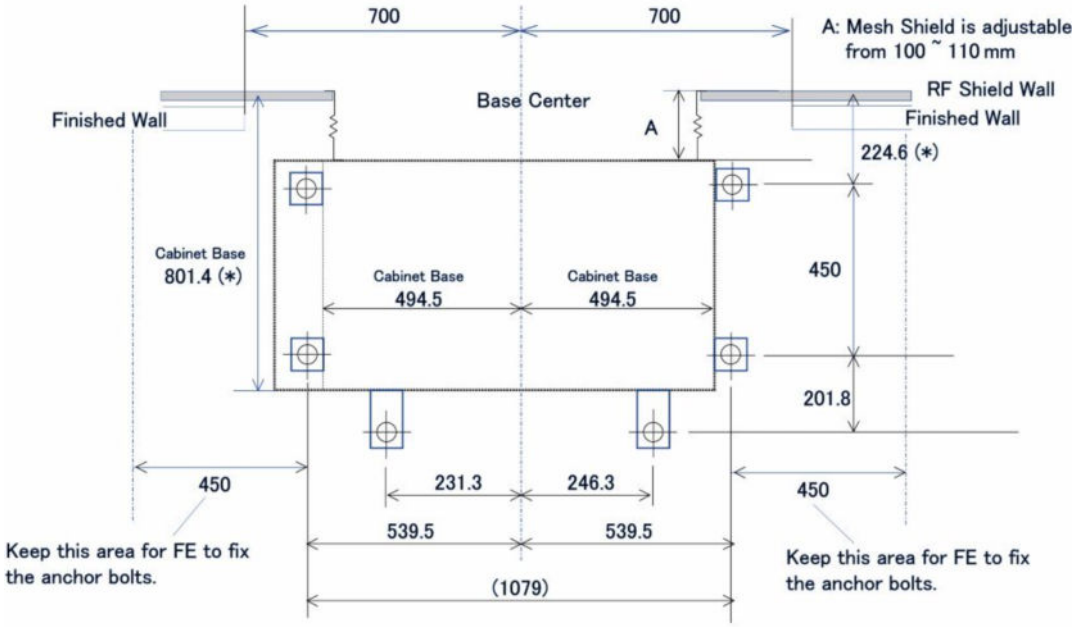
Illustration 3-10: Anchor Location

Anchor Location (For non-seismic area or for seismic area (1st floor or lower))



Note: The value (*) is a recommended value.
This value is flexible within specification of Mesh Shield (A).

Anchor Location (For Seismic Area and 2nd Floor or higher)



Note: The value (*) is a recommended value.
This value is flexible within specification of Mesh Shield (A).

1.4 Finalization

No finalization steps.

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Chapter 4 Penetration Panel Installation

1 Penetration Panel Installation

1.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	30 mins	Not Applicable

1.2 Procedure

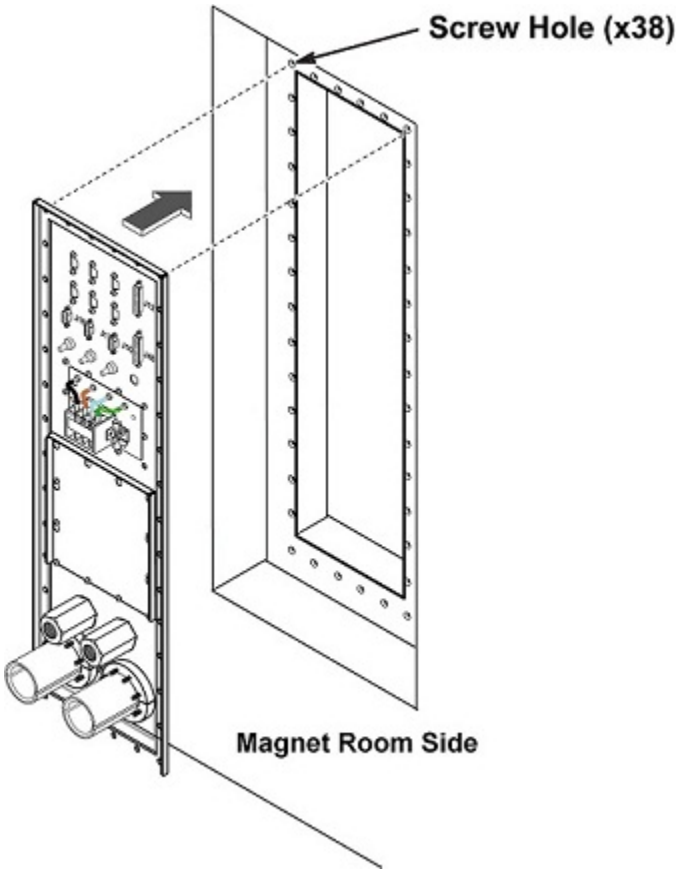
1.2.1 Install Penetration Panel

1. To make sure of good conductivity, use a fine sandpaper or scouring pad to clean surface of scan room wall which will be in contact with Penetration Panel. Do not sand surface of Penetration Panel as it is coated.
2. Install the Penetration Panel to the RF Shield wall.

   NOTE: 200 pieces of screws (U0035AA) are shipped with PP COVER RF PANEL SET (5333909).

   Use these screws to fix the Penetration Panel.

Illustration 4-1: Penetration Panel Positioning

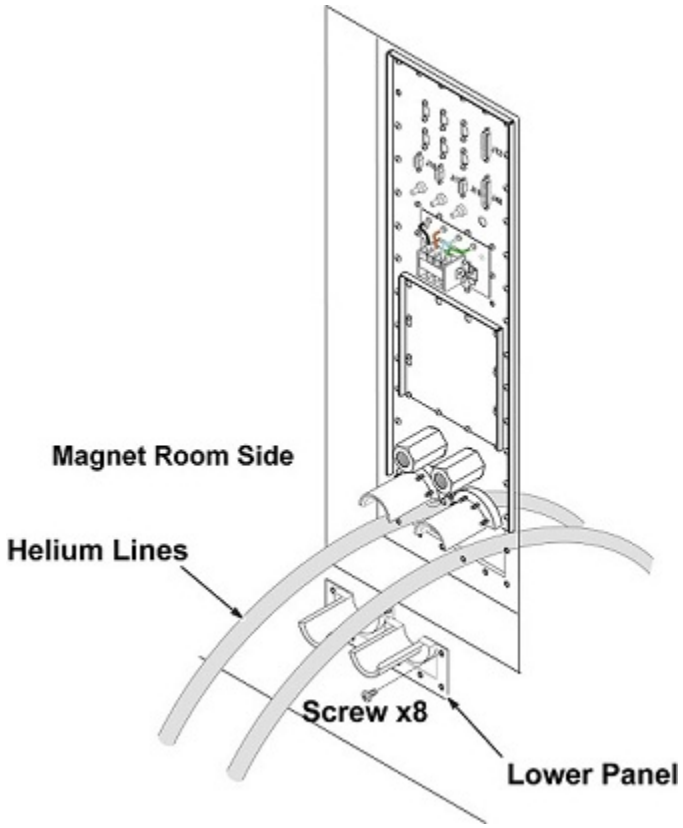


3. Drill the screw hole to the RF shield wall for Penetration Panel if necessary.

1.2.2 Run Helium Lines through Penetration Panel

1. Remove the lower panel from upper panel by removing screw.
2. Run Helium Lines though Penetration Panel.
3. Install upper panel with 35 screws.
4. Install lower panel with 13 screws.
5. Fill inside of J60 and J61 guides with Bronze Wool (46-318068P1) that was supplied with magnet.

Illustration 4-2: Install Penetration Panel



1.3 Finalization

No finalization steps.

Chapter 5 Dock Installation

1 Dock Installation for Detachable Table Configuration

1.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	30 mins	Not Applicable

1.2 Preliminary Requirements

1.2.1 Safety

⚠WARNING

DOCK CONTAINS FERROUS MATERIAL.
HANDLE WITH CARE DURING INSTALLATION BEFORE MAGNET RAMP UP.

1.2.2 Required Conditions

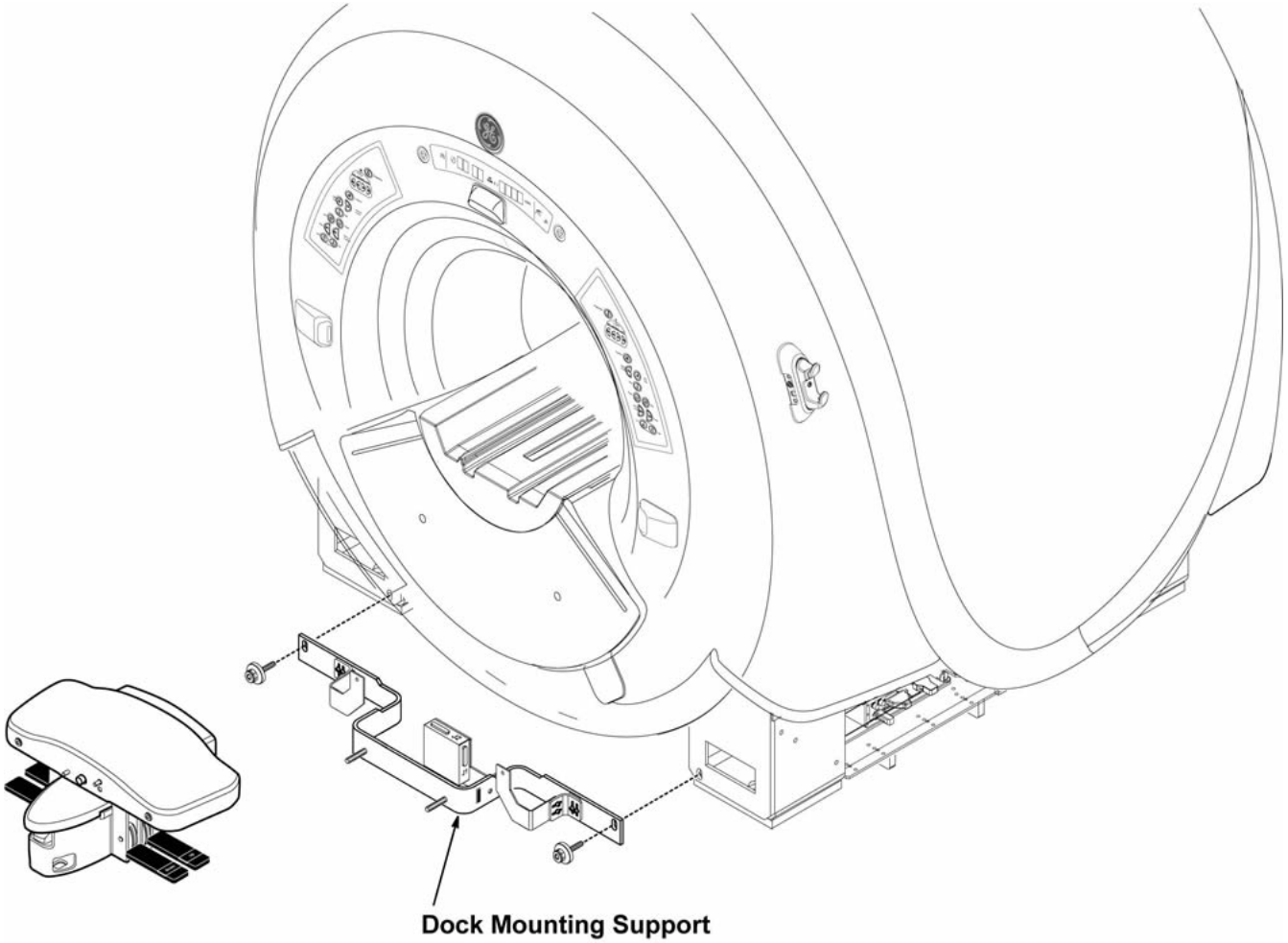
Condition	Reference	Effectivity
Bridge is leveled	-	-

1.3 Procedure

1.3.1 Floor Cover and Dock Support Installation

1. Install Dock Mounting Support to the Magnet front legs. The tightening screws of dock Mounting support are attaching to the magnet side.

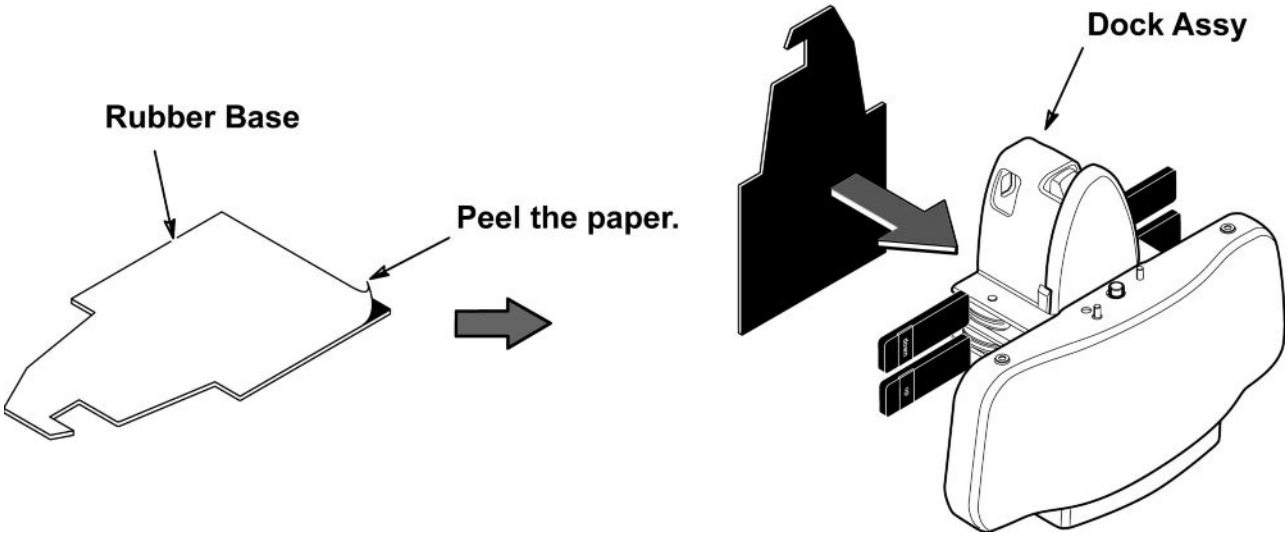
Illustration 5-1: Dock Mounting Support Installation



1.3.2 Dock Adjustment For Patient Transport Gap

1. Attach the rubber base to Dock base.

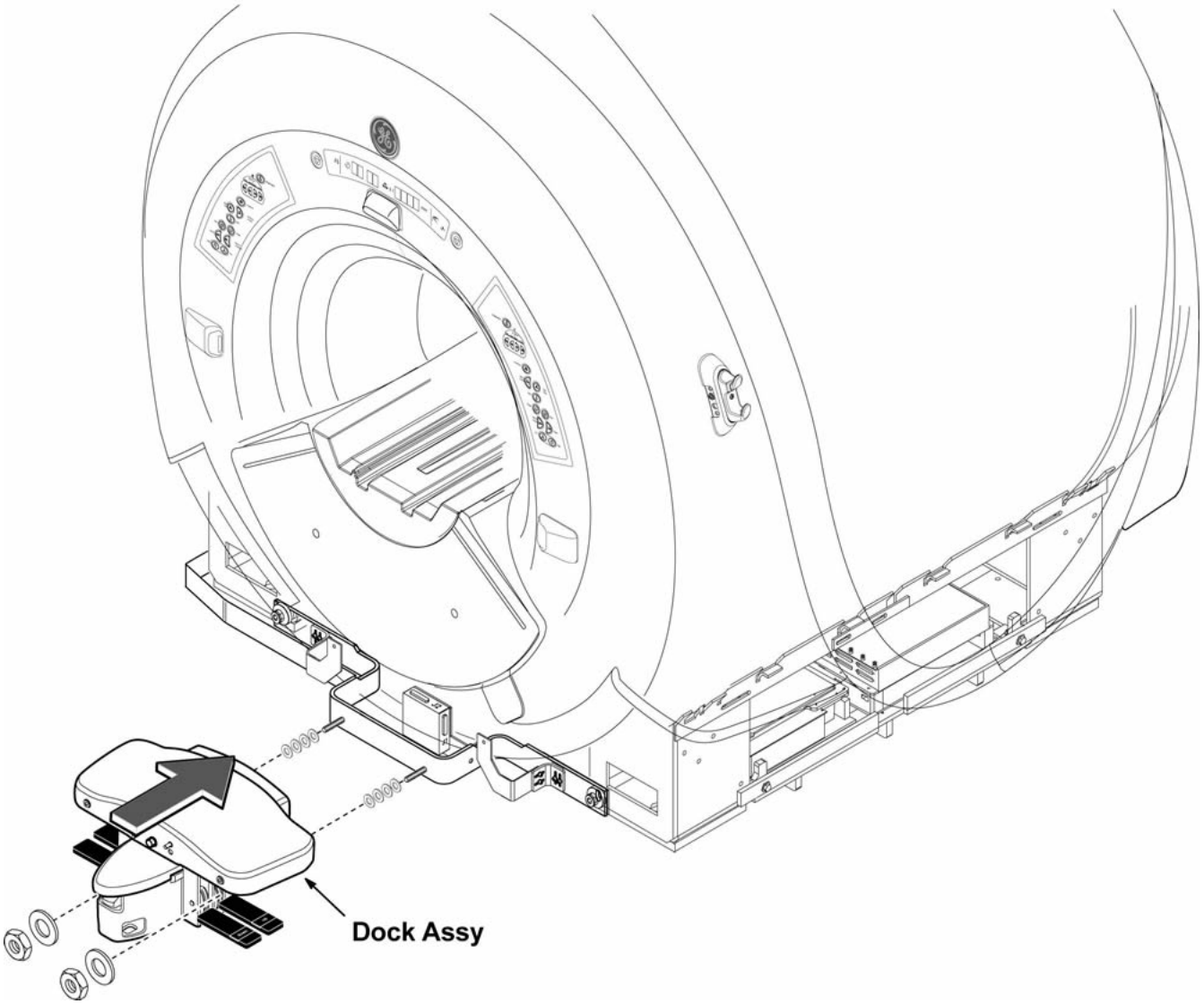
Illustration 5-2: Rubber Base Attachment



2. Install Dock. Start with two washers on each side between Dock and Dock Support.

   NOTE: Tighten the two screws to secure the dock position.

Illustration 5-3: Dock Adjustment For Patient Transport Gap



3. Move the Table to the dock assy.
4. Check that the table height is aligned with the bridge.Check the level of Table. If adjustment is necessary, place shim plate under the Table caster tentatively so that the Table is leveled and table height is aligned with bridge.
5. Check that the gaps of bridge and table are 0.75 inches +/- 0.25 (19.0 +/- 6.4 mm). If adjustment is required, it is necessary to add or remove washers until proper gap is achieved. Before doing so, check that the Table is centered or not.
6. Verify the table is centered by aligning the table edge line and bridge edge line. See Illustration 5-4. Check that Cradle moves smoothly. If adjustment is not necessary, go to Step 9.If adjustment is necessary mark the floor and dock assy with tape. Measure the distance to be adjusted.

Illustration 5-4: Dock Adjustment

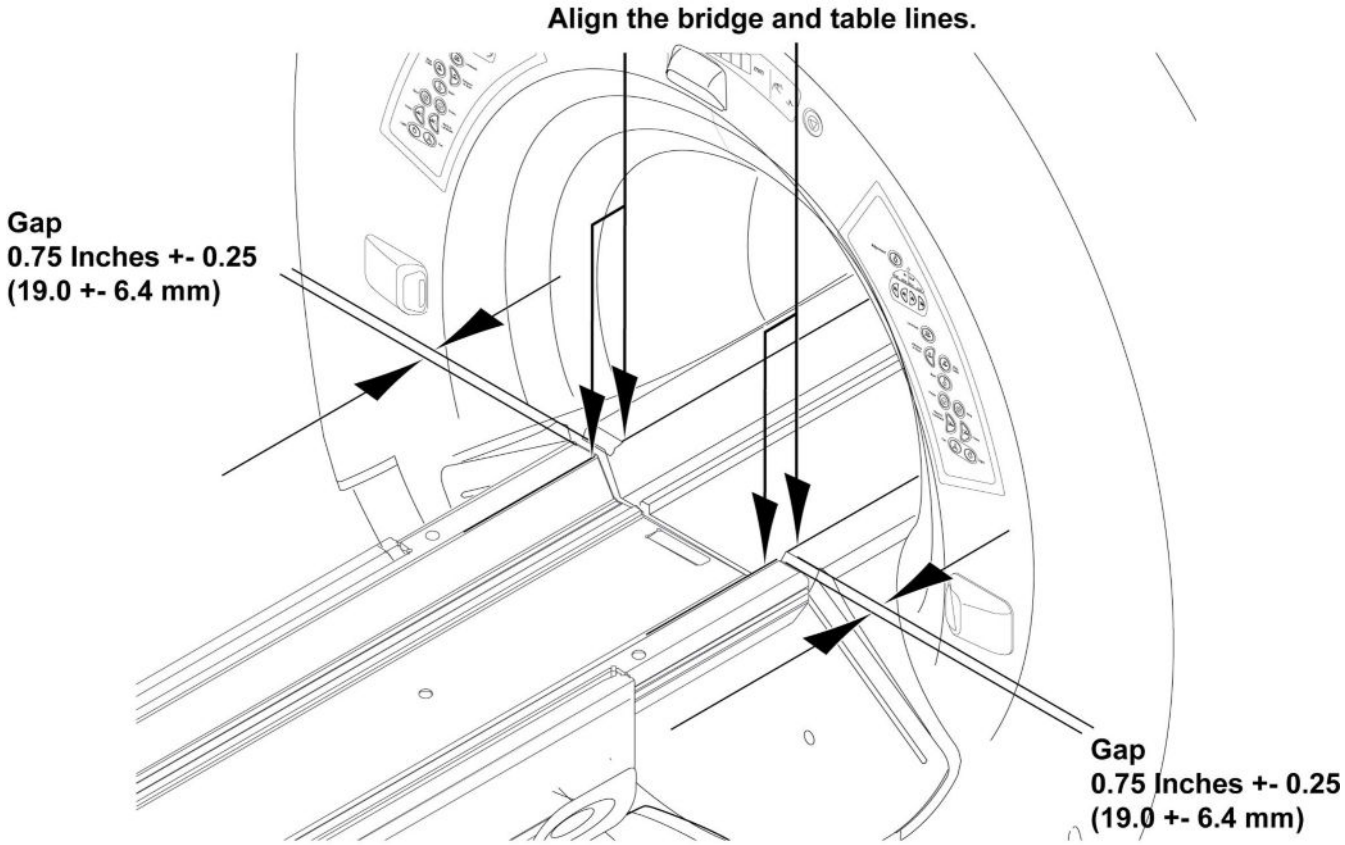
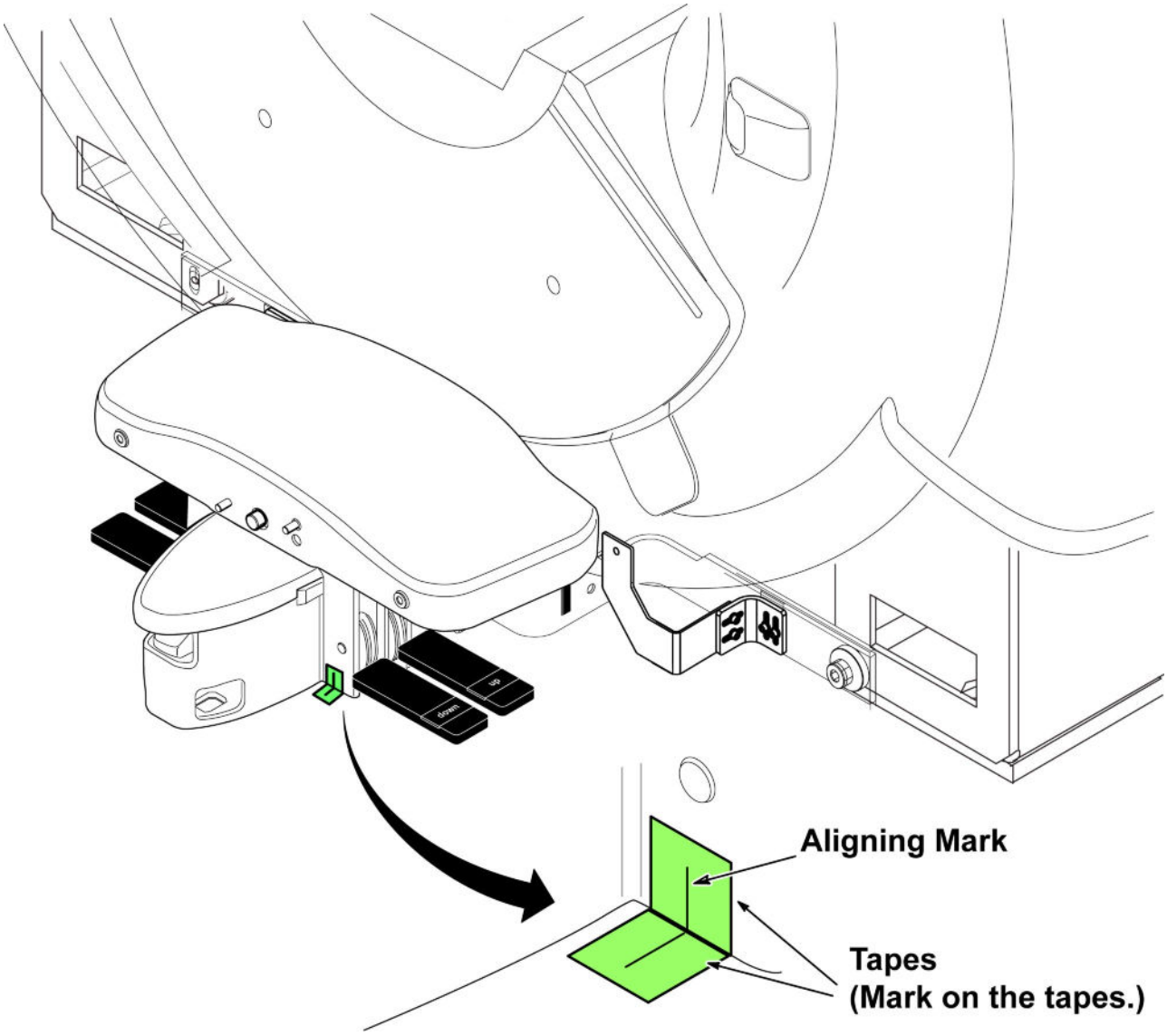


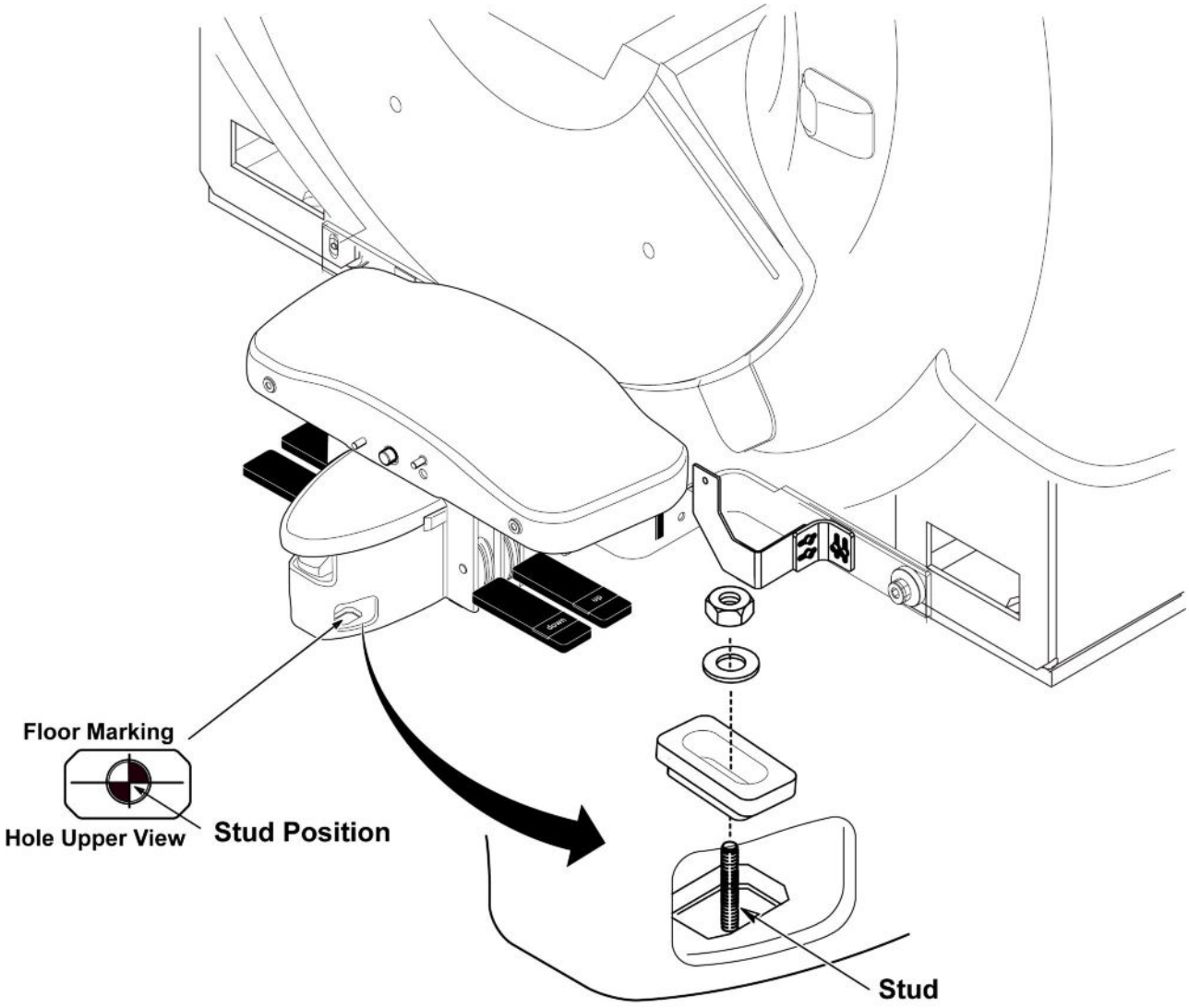
Illustration 5-5: Alignment Line



7. Remove the two nuts from Dock. Adjust the position of Dock by seeing the mark on the floor and dock.
8. Fix the Dock again with two nuts. Repeat from Step1 to Step6.
9. Mark the anchor position with pen. Mark the dock and Floor so that the dock is restored to the original position.Remove dock to install stud or anchor.
10. Ask RF Room vendor/mechanical contractor to install floor stud.

    NOTE: Stud height from floor should be 40mm.

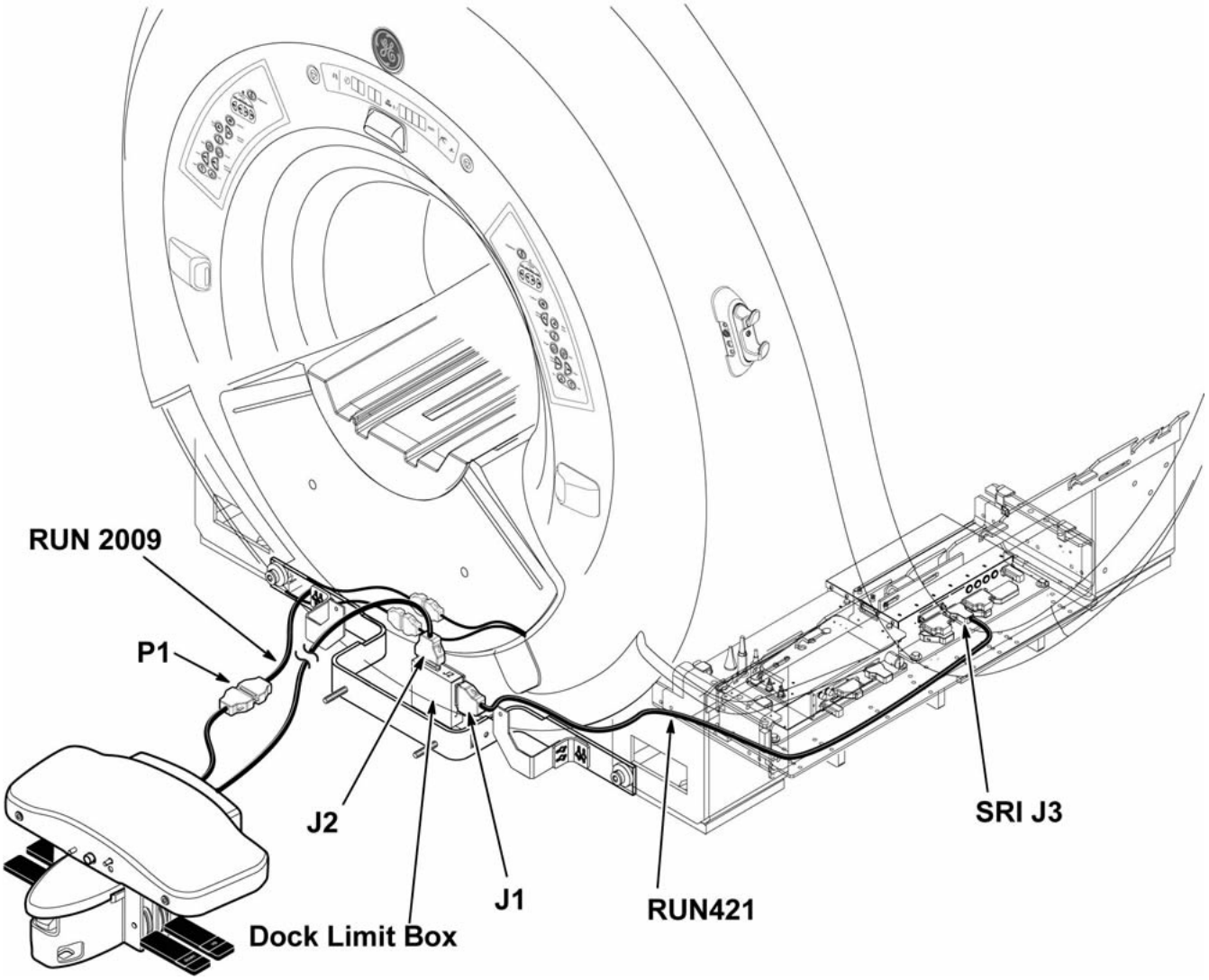
Illustration 5-6: Floor Marking for Stud



1.3.3 CABLE INSTALLATION FOR DOCK AND DOCK LIMIT BOX

1. Connect Run 2009 to Dock Cable (MG2 A29 P1). If needed to prevent contact with other metal parts, cover connectors with provided Velcro jacket or tape.
2. Connect Dock Cable to J2 on Dock Limit Box.
3. Route/Connect Run 421 from SRI J3 and connect to J1 on Dock Limit Box.

Illustration 5-7: Cable Wiring



4. Restore Dock. Align the alignment line. Fix Dock with two nut and washer.

1.4 Finalization

No finalization steps.

2 Dock Frame Installation for Fixed Table Configuration

2.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	30 mins	Not Applicable

2.2 Preliminary Requirements

2.2.1 Safety

⚠WARNING

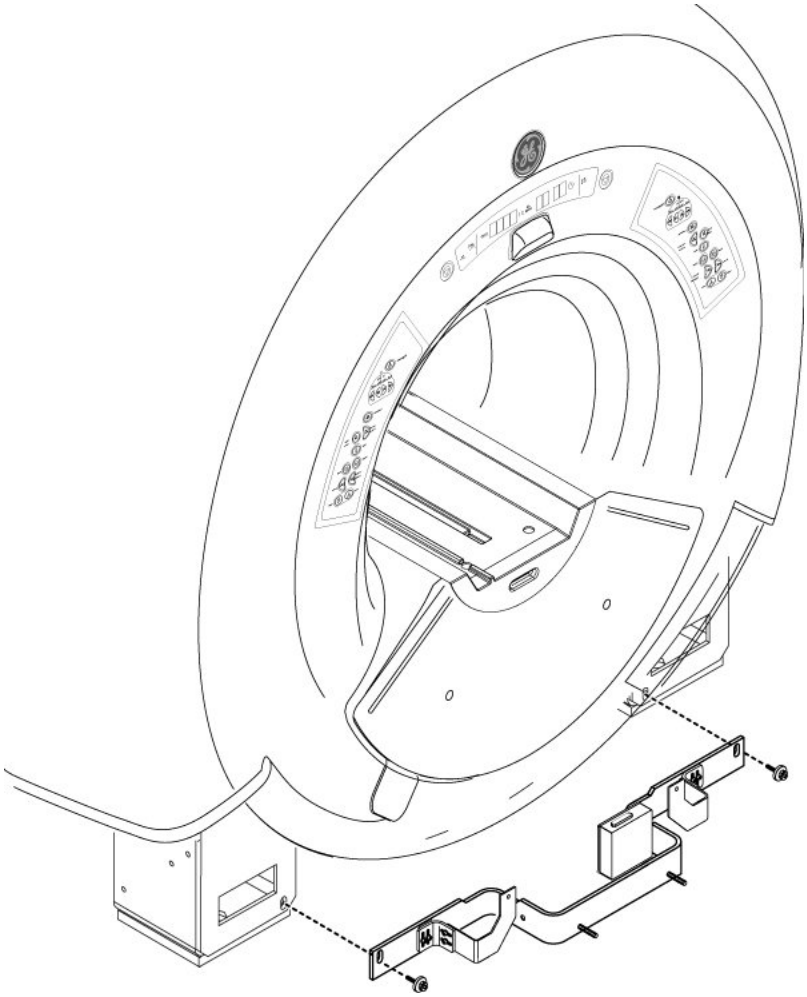
THE ALLEN WRECH OR THE PHILLIPS TYPE SCREW DRIVE TO BE USED SHOULD BE NON-MAGNETIC.
OTHERWISE MAY CAUSE LIFE DANGEROUS PROPERTY DAMAGE.

2.3 Procedure

2.3.1 Dock Support Installation

1. Install Dock Mounting Support to the Magnet front legs. The tightening screws of dock Mounting support are attached to the magnet front legs.

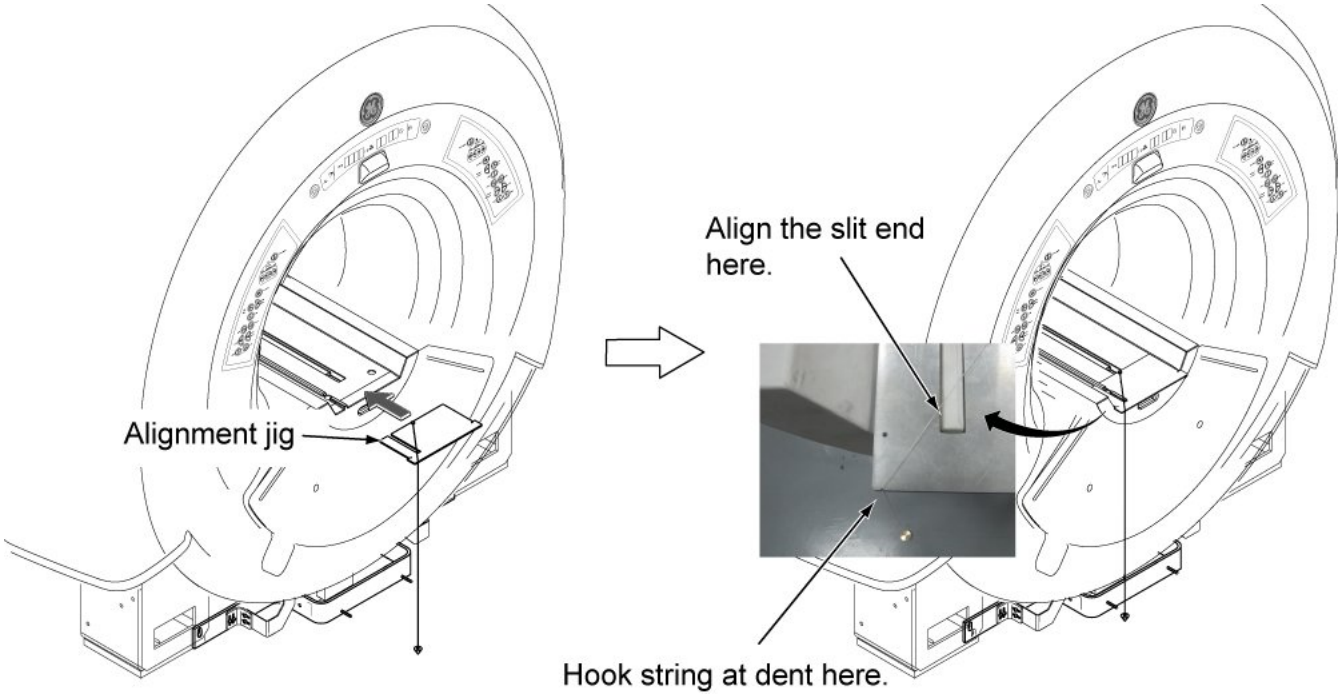
Illustration 5-8: Dock Mounting Support Installation



2.3.2 Alignment of Dock Frame Assy Location

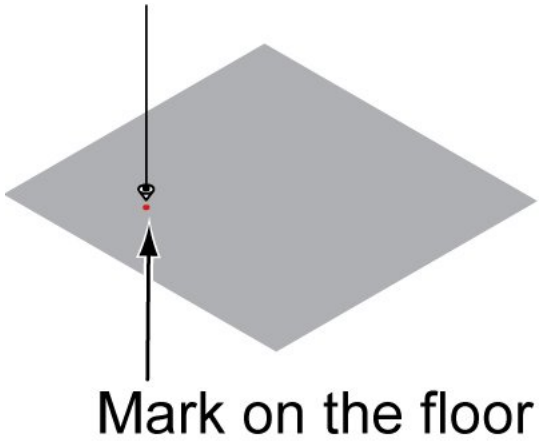
1. Place the Alignment Plate on the Bridge as Illustration 5-9.

Illustration 5-9: Place Alignment Plate



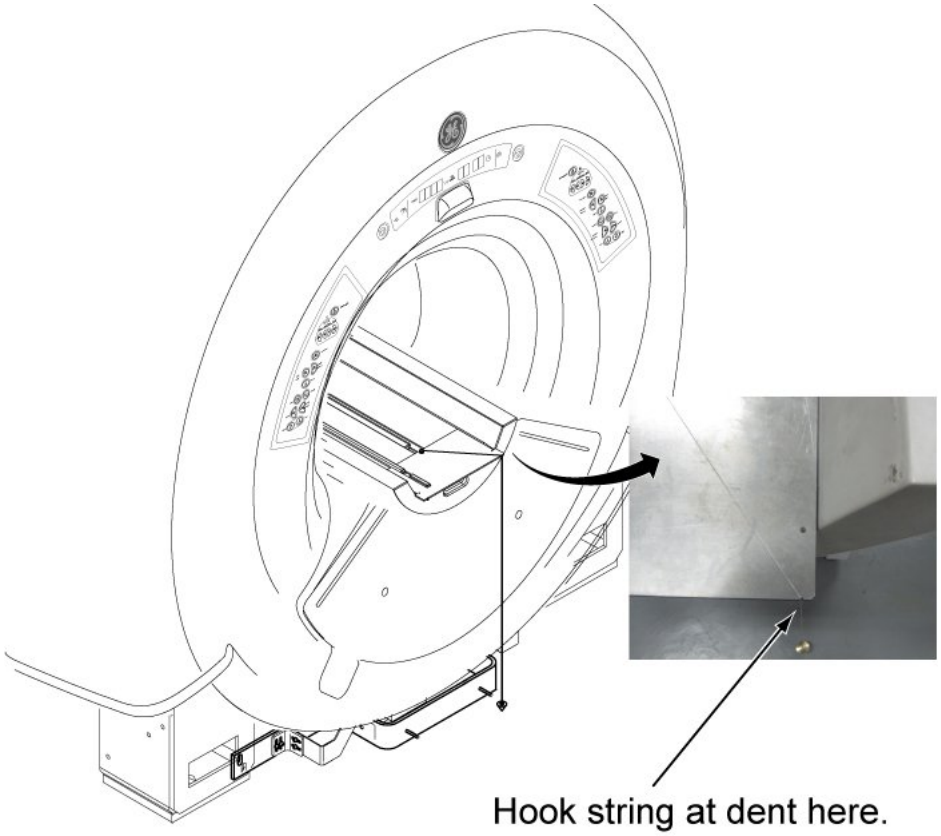
2. Wait for a while until the weight stop it's movement.
3. Mark on the floor at the point of the weight.

Illustration 5-10: Mark on the Floor



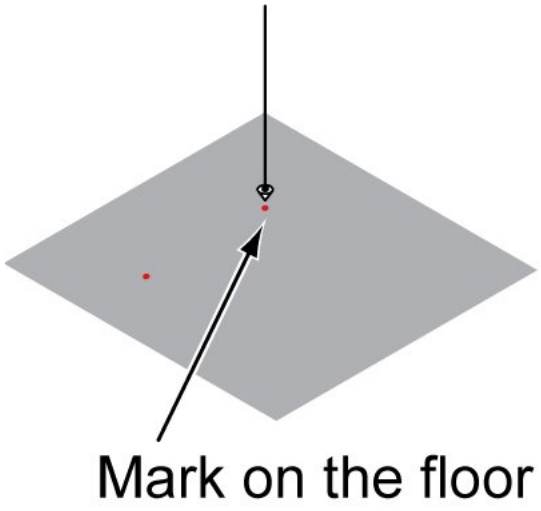
4. Set the String with weight as shown in Illustration 5-11.

Illustration 5-11: String setup



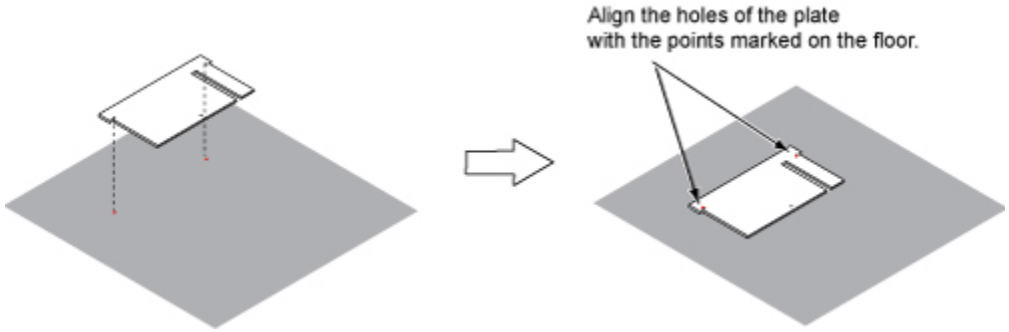
5. Wait for a while until the weight stop it's movement.
6. Mark on the floor at the point of the weight.

Illustration 5-12: Mark on the Floor



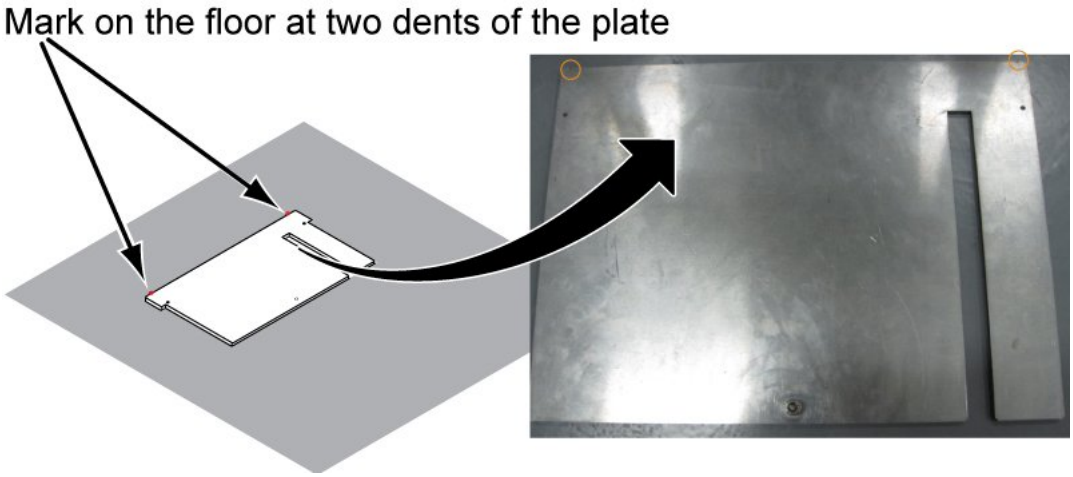
7. Reverse the Alignment Plate.
8. Place the Alignment plate on the floor and align the holes of the plate with the points marked at Step 6 as Illustration 5-13.

Illustration 5-13: Place the Alignment Plate



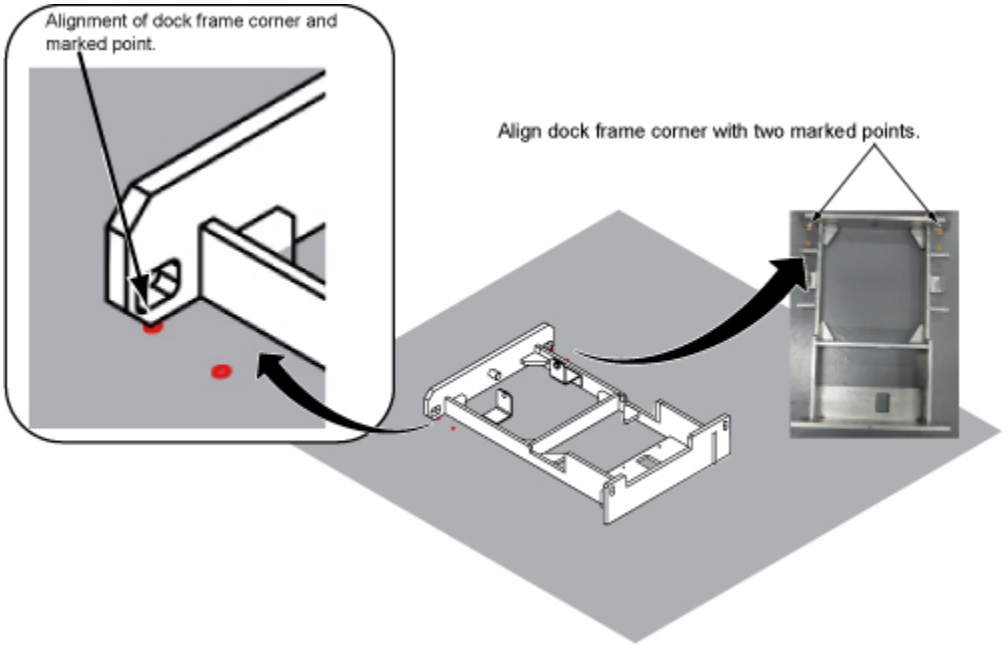
9. Mark two points on the floor at the two dent of the plate as shown in Illustration 5-14.

Illustration 5-14: Mark on the Floor



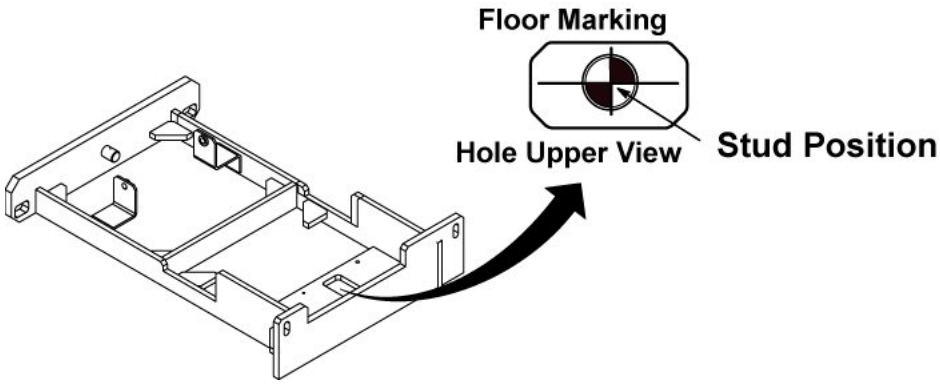
10. Remove Alignment Plate from the floor.
11. Place the Dock Frame Assy to align the corners and marked points at Step 9 as shown in Illustration 5-15.

Illustration 5-15: Dock Frame Assy



12. Mark the edge of the anchor hole on the floor with pen.

Illustration 5-16: Floor Marking



13. Mark the Center of Anchor Hole with pen.

2.3.3 Install Stud

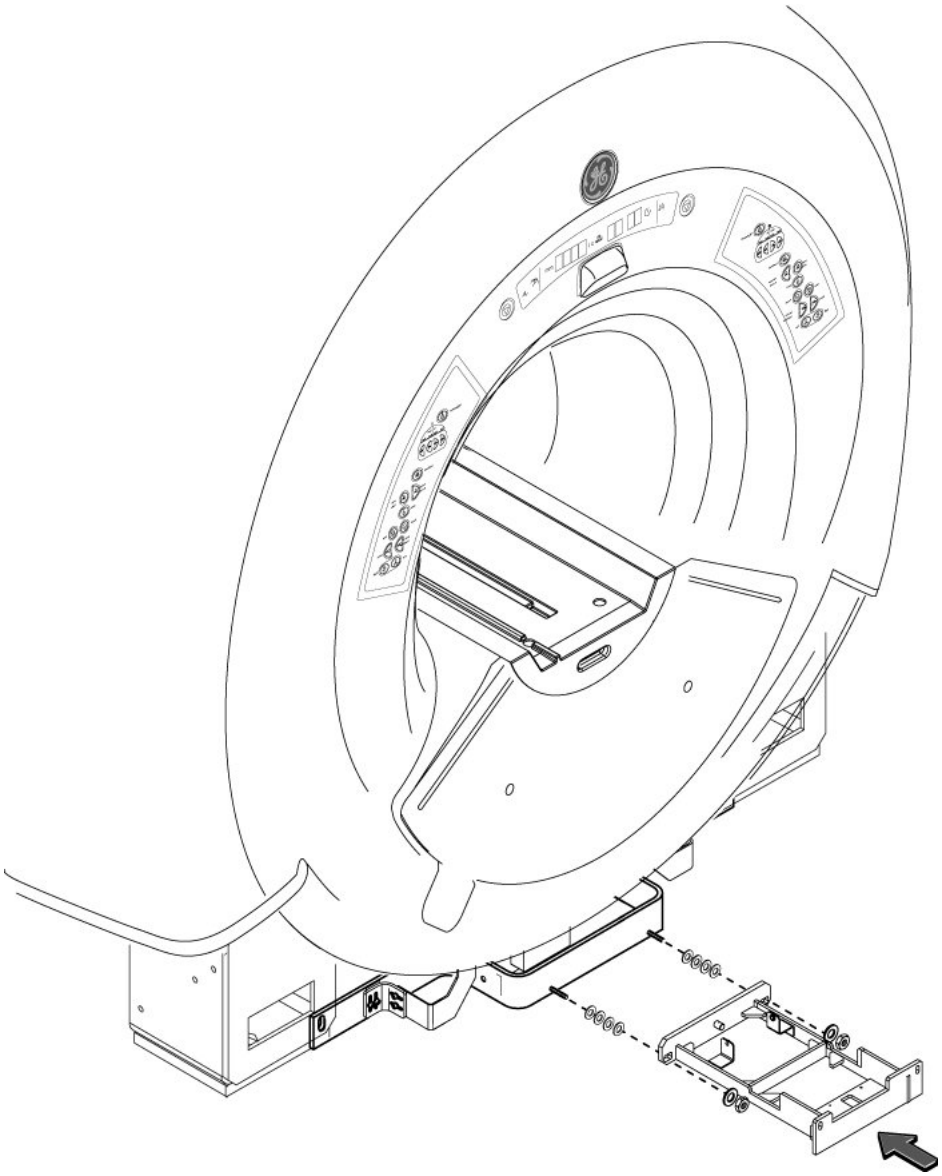
1. Ask RF Room vendor/mechanical contractor to install floor stud.

   NOTE: Stud height from floor should be 40mm.

2. Insert washers and install Dock Frame so that the Dock Frame Position is restored as Section 2.3.2, Step 11. Then, fix the Dock Frame by two washers and nuts.

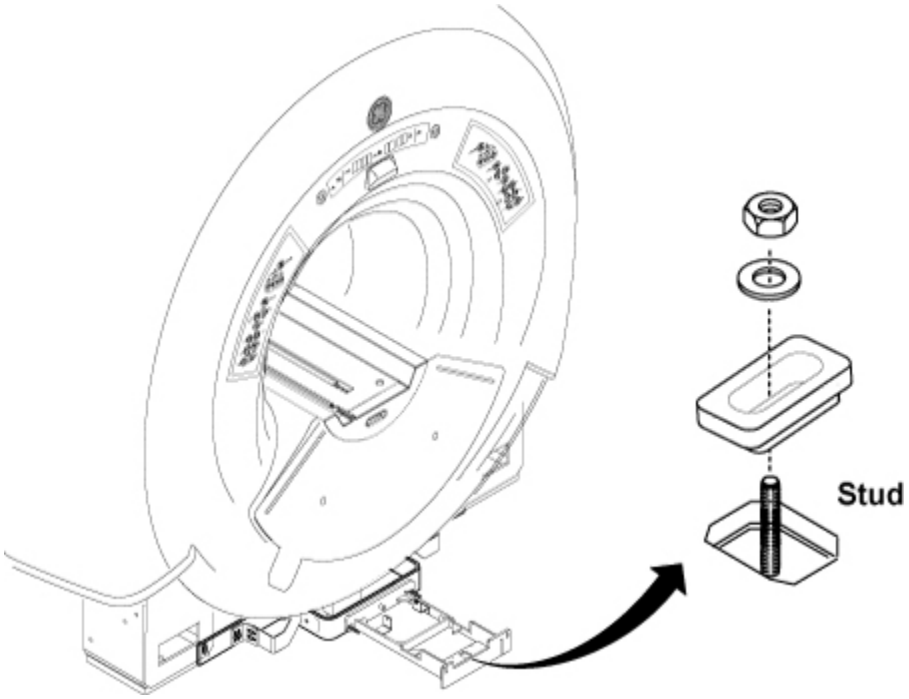
   NOTE: Tighten the two nuts to secure the dock position.

Illustration 5-17: Dock Frame Installation



3. Fasten Dock Frame to floor mounted stud with Dock Clamp Plate, 11mm ID Washer, and 10mm Hex Nut.

Illustration 5-18: Fasten Dock Frame to floor mounted stud



2.4 Finalization

No finalization steps.

3 Fixed Table Installation

3.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	30 mins	Not Applicable

3.2 Overview

This procedure describes how to install table.

3.3 Preliminary Requirements

3.3.1 Tools and Test Equipment

Item	Qty	Effectivity	Part#	Manufacturer
Standard Tool (Non-Magnetic)	1	-	-	-

3.3.2 Safety

⚠WARNING

THE ALLEN WRECH OR THE PHILLIPS TYPE SCREW DRIVE TO BE USED SHOULD BE NON-MAGNETIC.
OTHERWISE MAY CAUSE LIFE DANGEROUS PROPERTY DAMAGE.

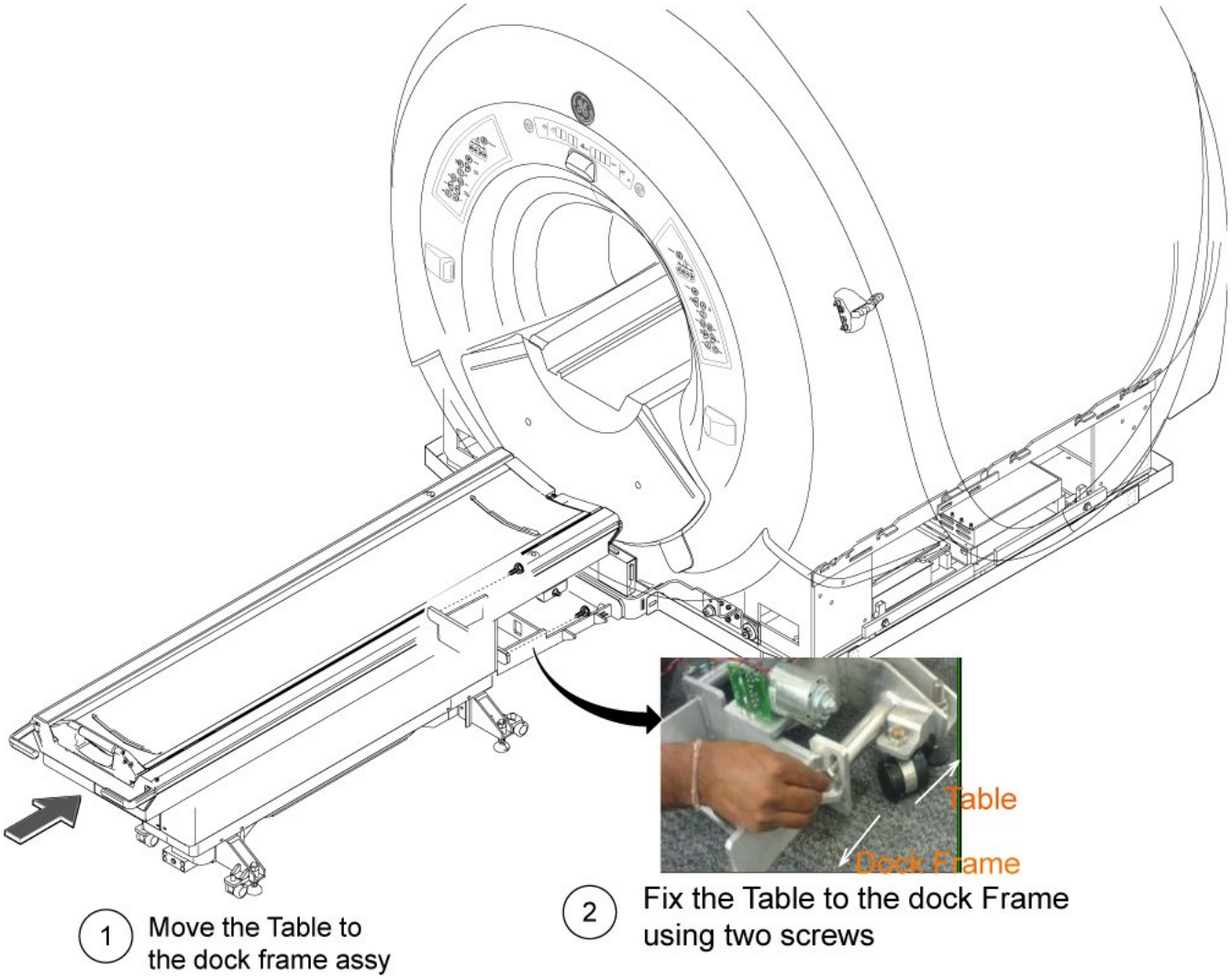
3.4 Procedure

1. Move the Table next to the dock structure.
2. Fix the Table to the dock frame using two screws.

   NOTE: Align the Table and Dock Frame by adjusting the 4 wheels.

   NOTE: Do not tighten the screws too tight now since Table adjustment will be performed later.

Illustration 5-19: Dock Mounting Support Installation



3. Connect cables.
    - Connect 6111111-J1 to 6111113-J1
    - Connect 6111112-J2 to 6111114-J2
    - Connect RUN421 to Table Control Box J1
    - Connect RUN#2009 (MG2-A29-J1) to Table Control Box J2
    - Connect 6111112 - J2 to Table Control Box J3
    - Connect 6111111 - J2 to Table Control Box J4
    - Ground Cables (x2)
    - Express Coil Cables (x2) to Convert Board 3 (P3 and P4)
    - Connect 5333363 (RUN#M3511) from Mega switch J17 to Convert Board 3 (P5)

- Connect 5333364 (RUN#M1509) from Mega Switch J22 to Convert Board 3 (P6)

  NOTE: Routing of 5333363 (RUN#M3511) and 5333364 (RUN#M1509) from Mega Switch to Convert Board 3 is as follows.

Illustration 5-20: Cable Wiring

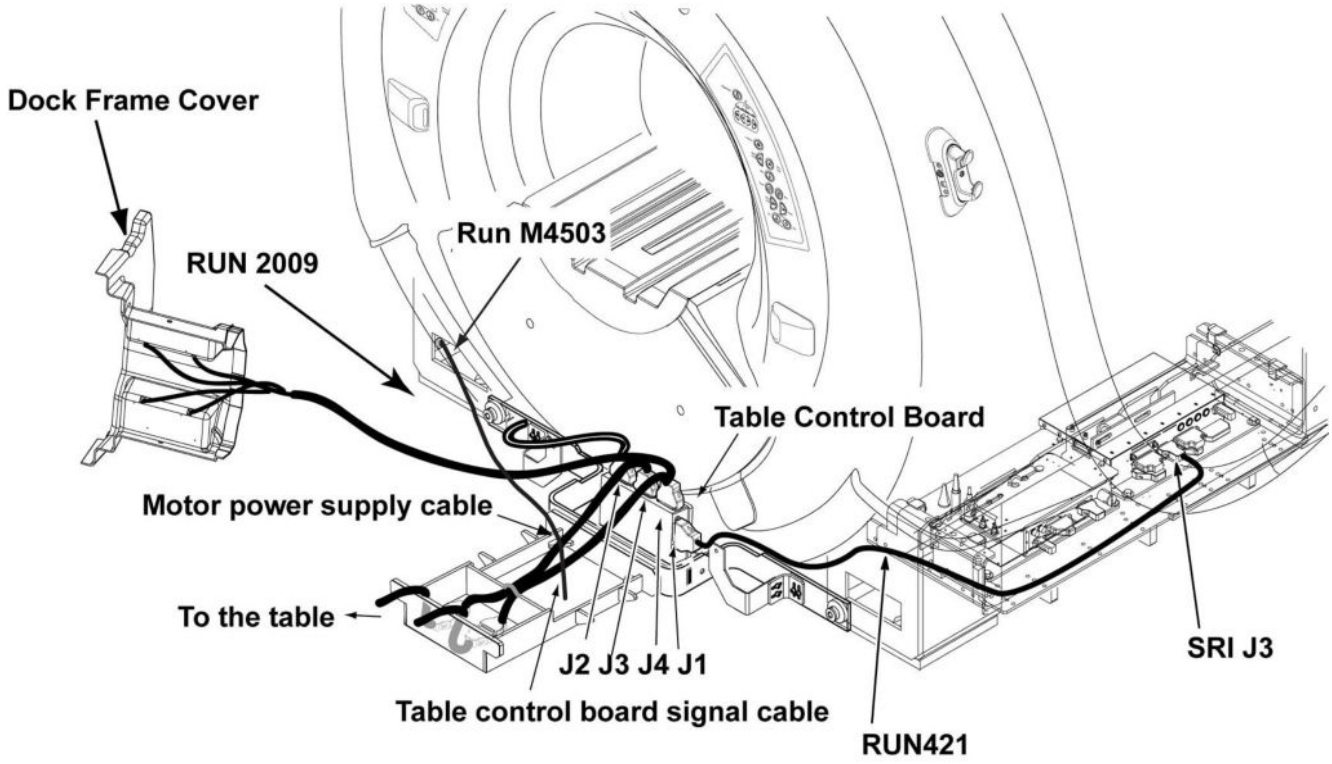


Illustration 5-21: Wiring Diagram

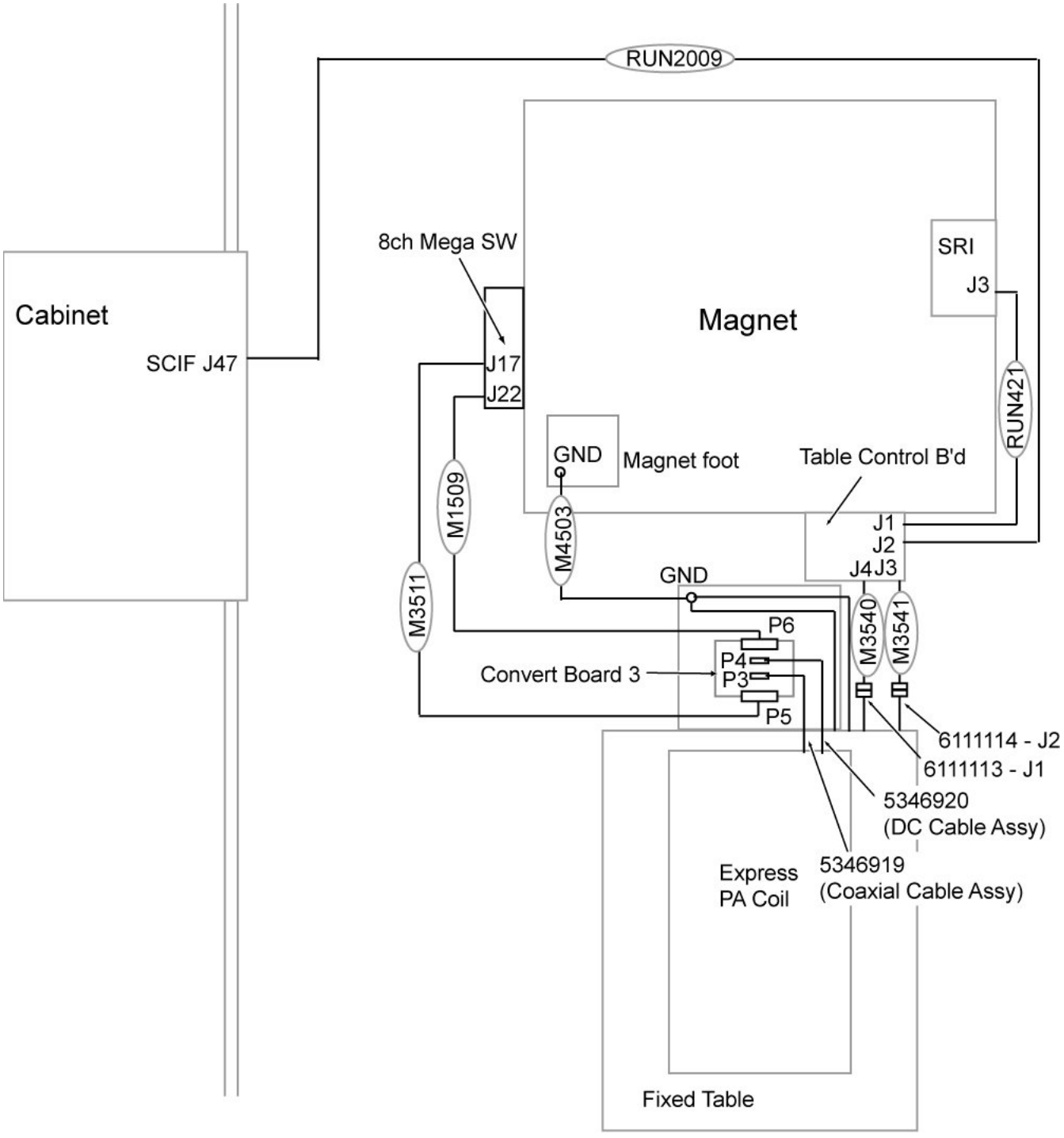


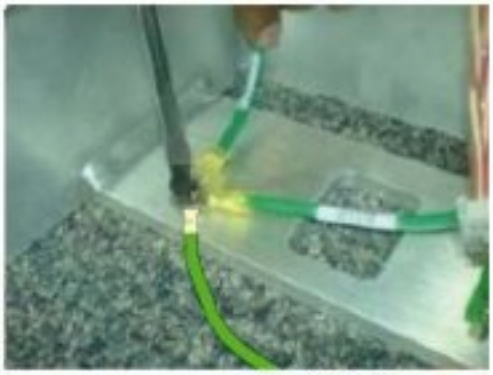
Illustration 5-22: Cable Wiring Detail

Connection of Express(TEB)
Coil to the Convert Board3

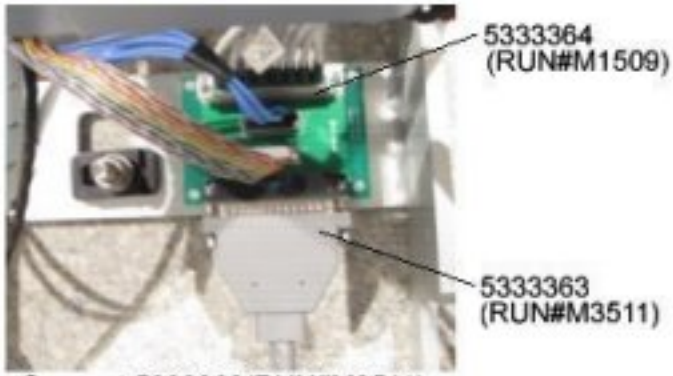
Connection of Express (TEB)
Coil-2 to the Convert Board3

Connection Actuator Power
Supply Cable

Connection Table control
Board Cable

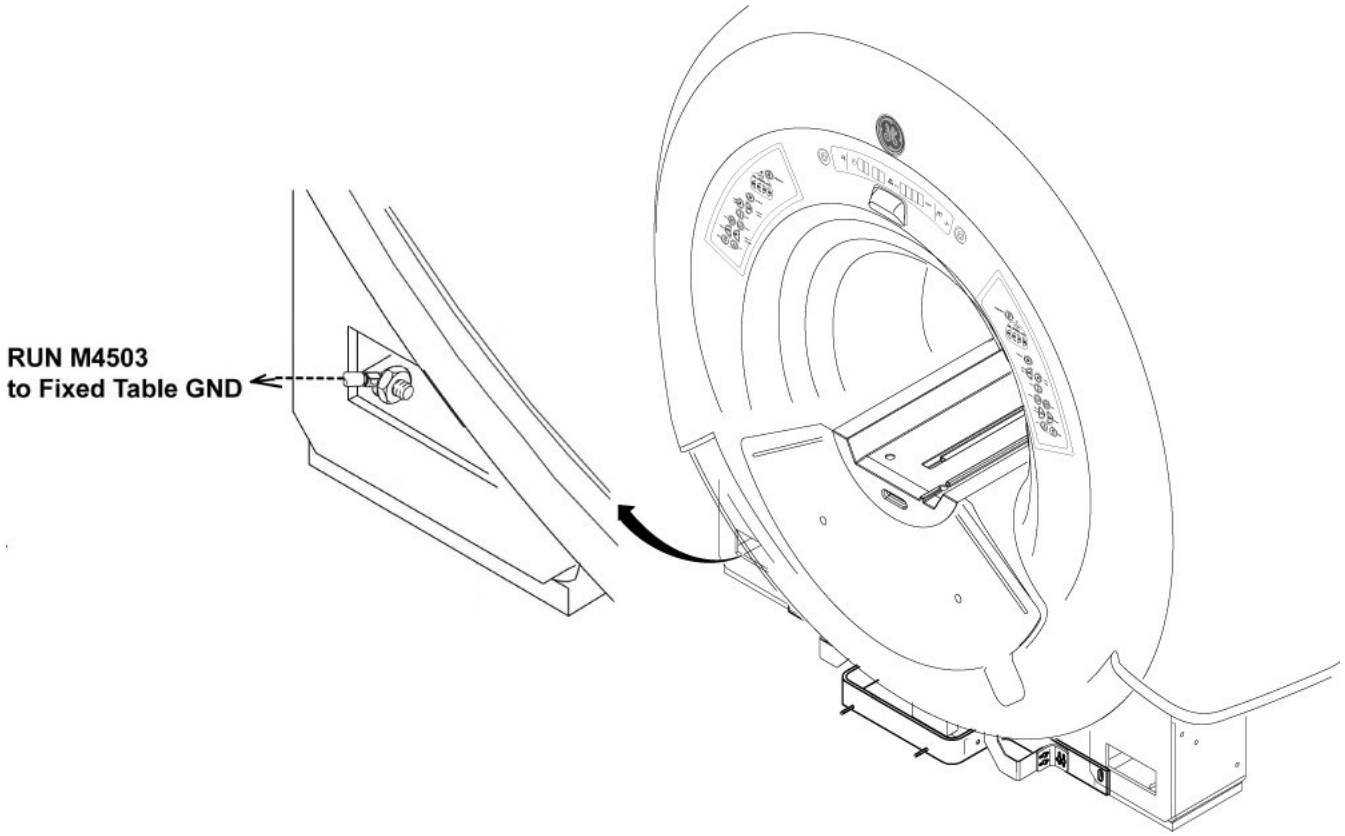


RUN#M4503
Connection Earthing Cables.



Connect 5333363(RUN#M3511)
and 5333364 (RUN#M1509).

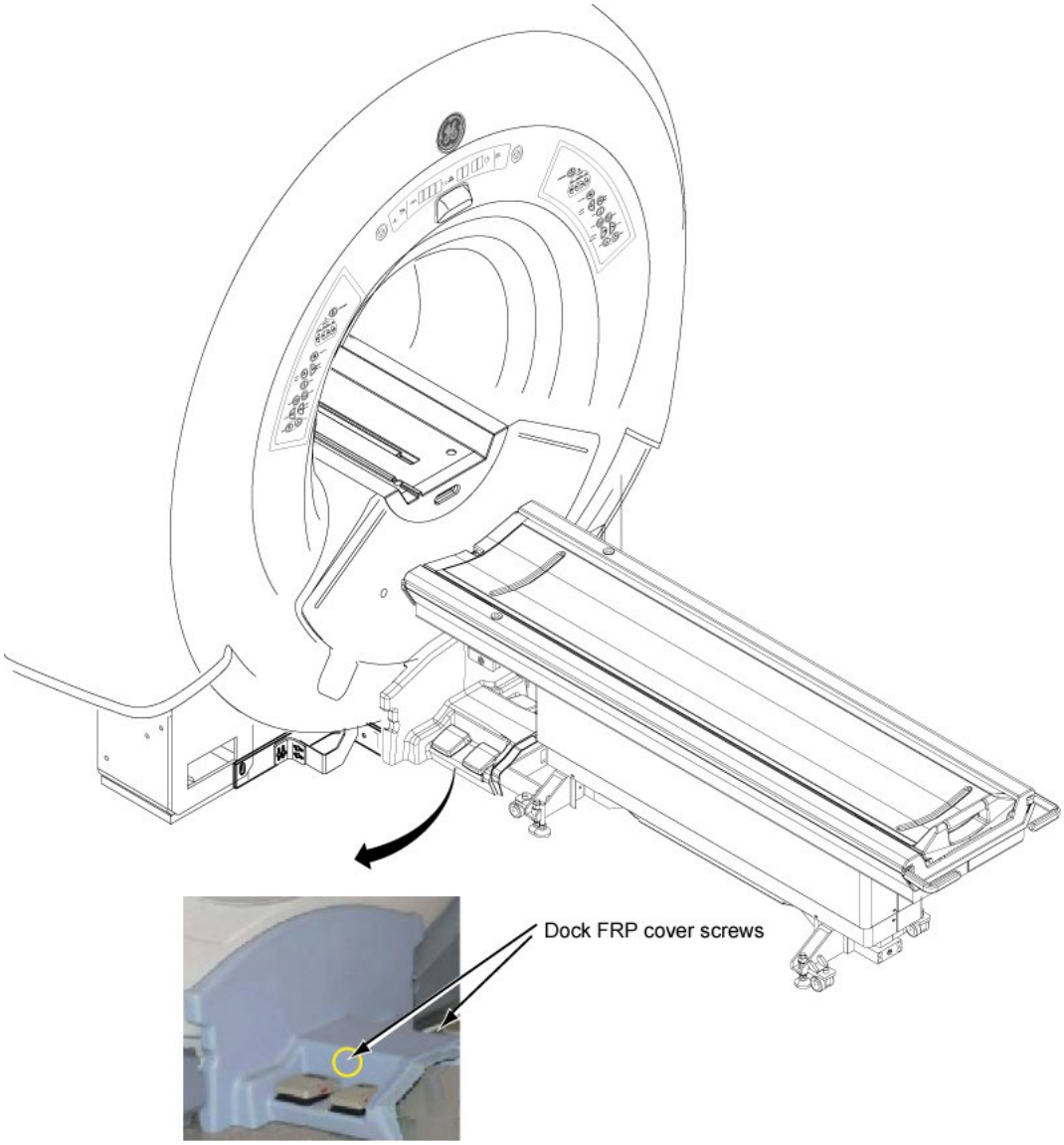
Illustration 5-23: Fixed Table Ground Cable (RUN M4503) at Magnet Foot



3.5 Finalization

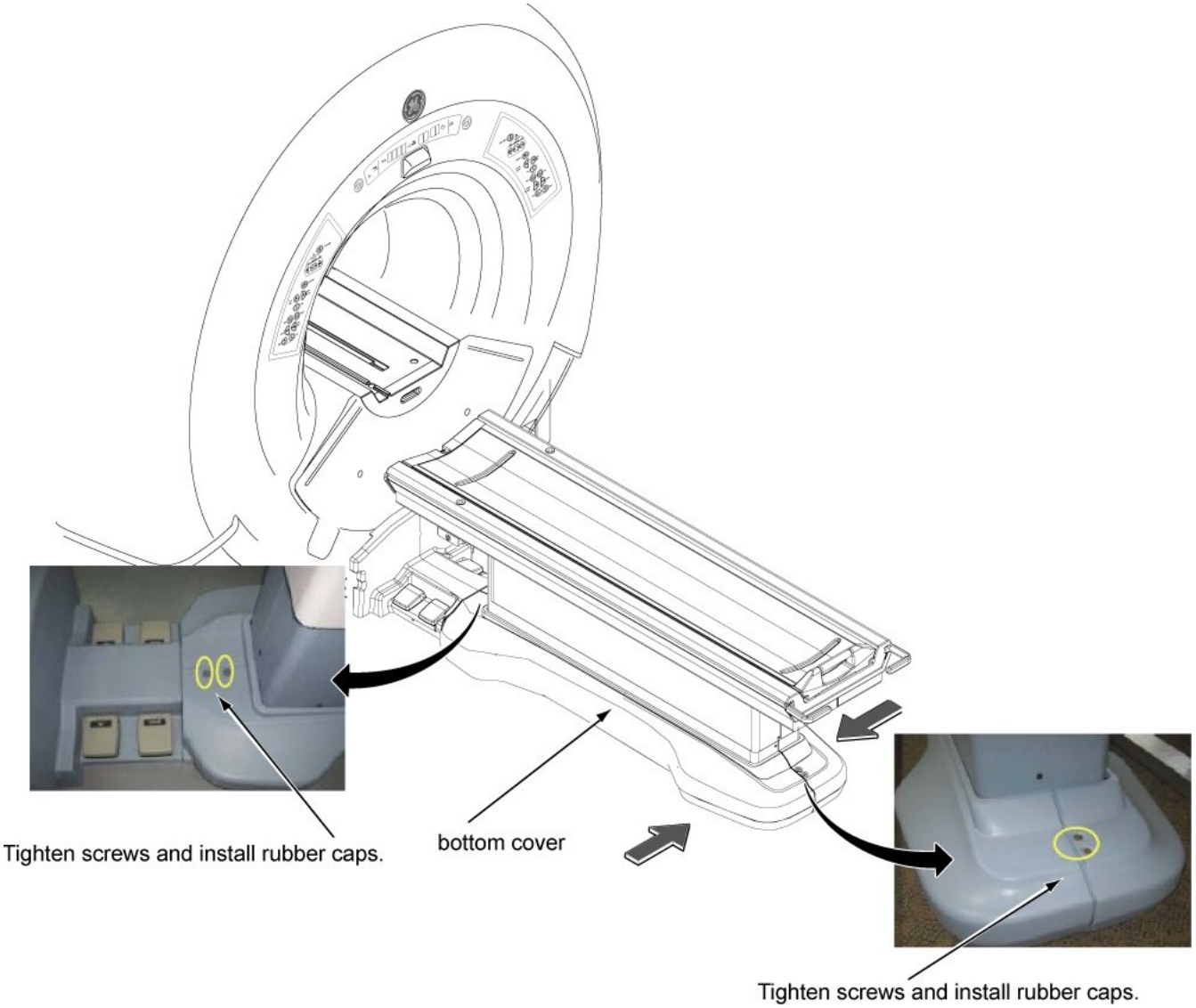
1. Fix Dock Frame Cover with two screws.

Illustration 5-24: Dock Frame Cover



2. Install Table Bottom Covers as following illustration.

Illustration 5-25: Table Bottom Covers



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Chapter 6 Control Panel

1 Left and Right Control Panel Installation

1.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	30 mins	Not Applicable

1.2 Overview

This procedure describes how to install Left and Right Control Panel to the Magnet Front Cover.

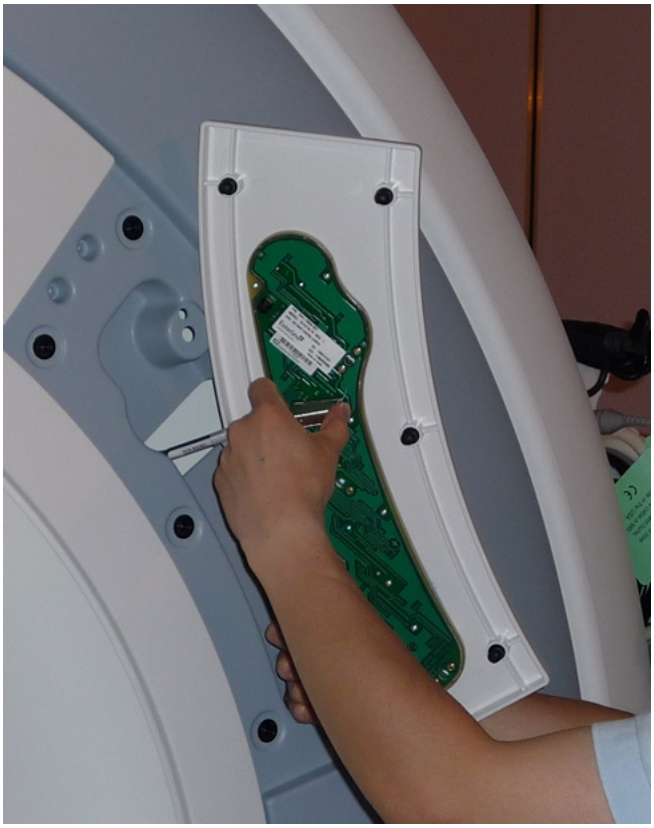
NOTE: Left and Right Control Panel is not shipped with Magnet since the overlay of the assy is translated into the local language.

Illustration 6-1: Overview

1.3 Procedure

1. Connect the Control Panel Cable to the right Control Panel.

Illustration 6-2: Right Control Panel Cable Connection



2. Attach Right Control Panel by aligning and pushing panel to the front cover.

Illustration 6-3: Right Control Panel Attachment

3. Repeat the same Procedure to the left Control Panel.

1.4 Finalization

No finalization steps.

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Chapter 7 Rear Pedestal/LPCA Installation

1 Rear Pedestal/LPCA Installation

1.1 Personnel Requirements

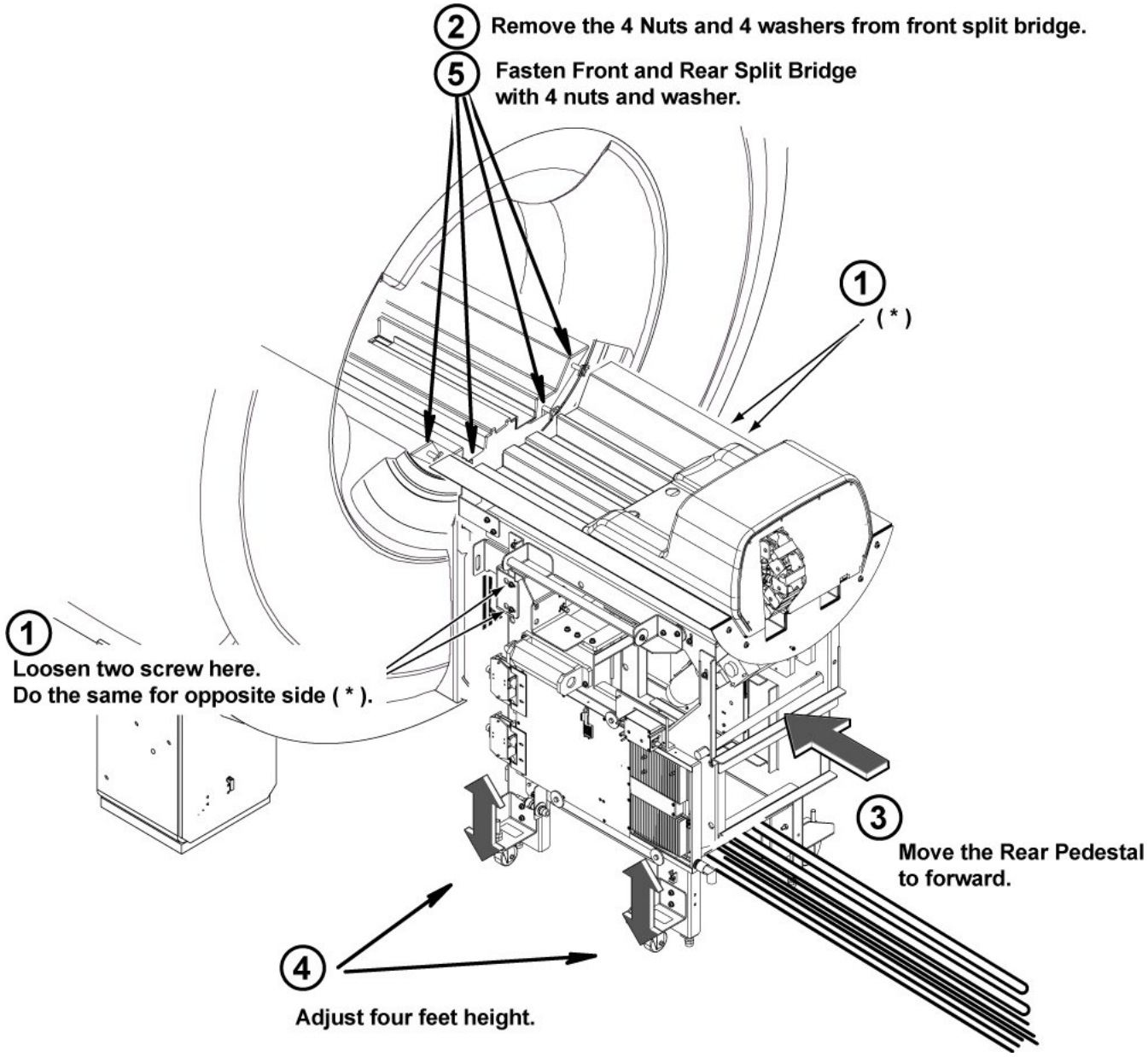
Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	60 mins	Not Applicable

1.2 Procedure

1.2.1 Fasten Front and Rear Split Bridge

1. Loosen 2 screws from both of connector brackets so that the brackets moves horizontally.
2. Remove four 10M hex nuts (2109877-3) and washers (2228717-2) from end of Bridge in magnet. These will be used for attaching the Rear Split Bridge.
3. Move Rear Pedestal forward and engage front split bridge studs.
4. Adjust the Rear Pedestal height on each side to level the Rear Split Bridge with the Front Split Bridge.
5. Fasten Front and Rear Split Bridge with four nuts and washers that were removed from end of Front Split Bridge.

Illustration 7-1: Position Rear Pedestal

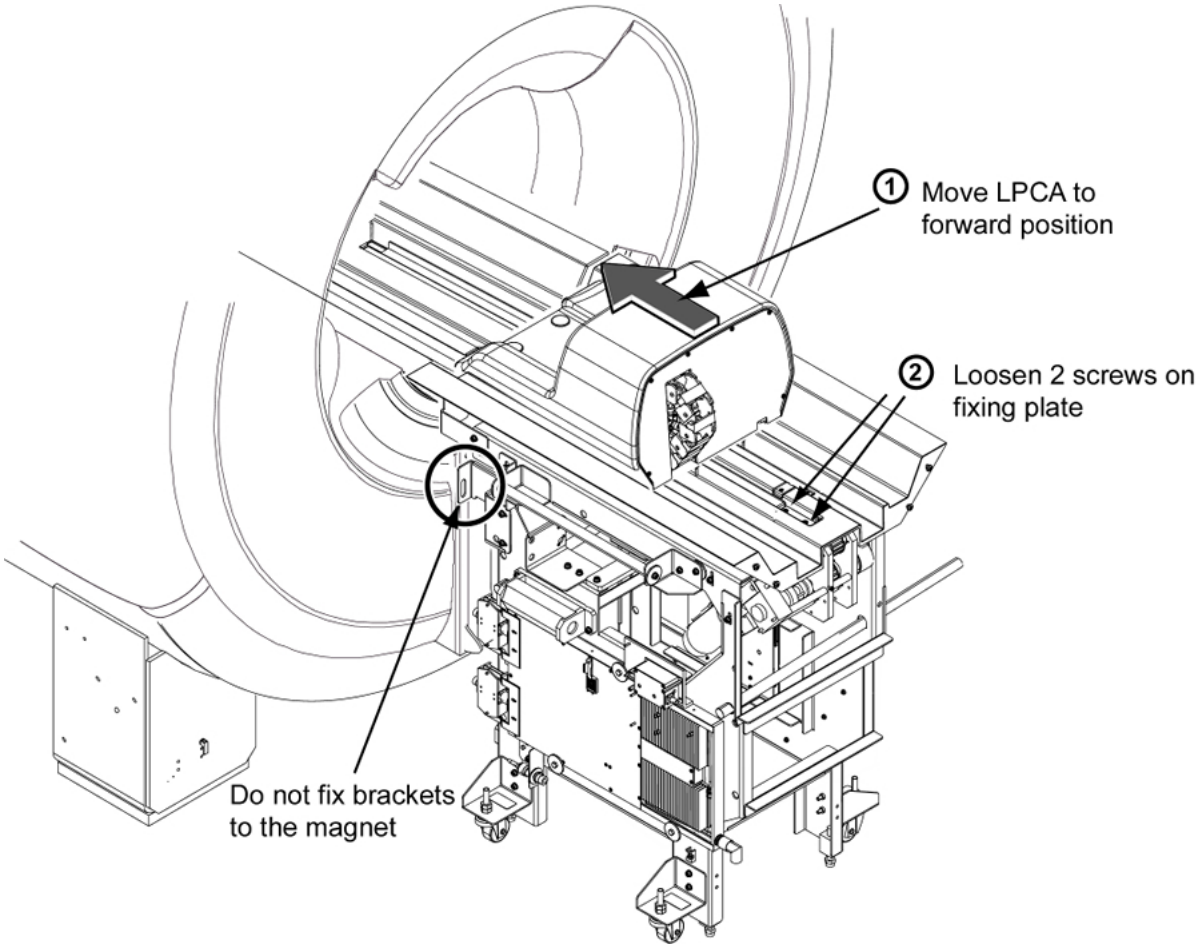


1.2.2 Position Adjustment of Rear Split Bridge

NOTE: This adjustment should be done correctly to prevent home sensor flag from interfering with sensor mounting. Do not fix front brackets of rear pedestal to the magnet.

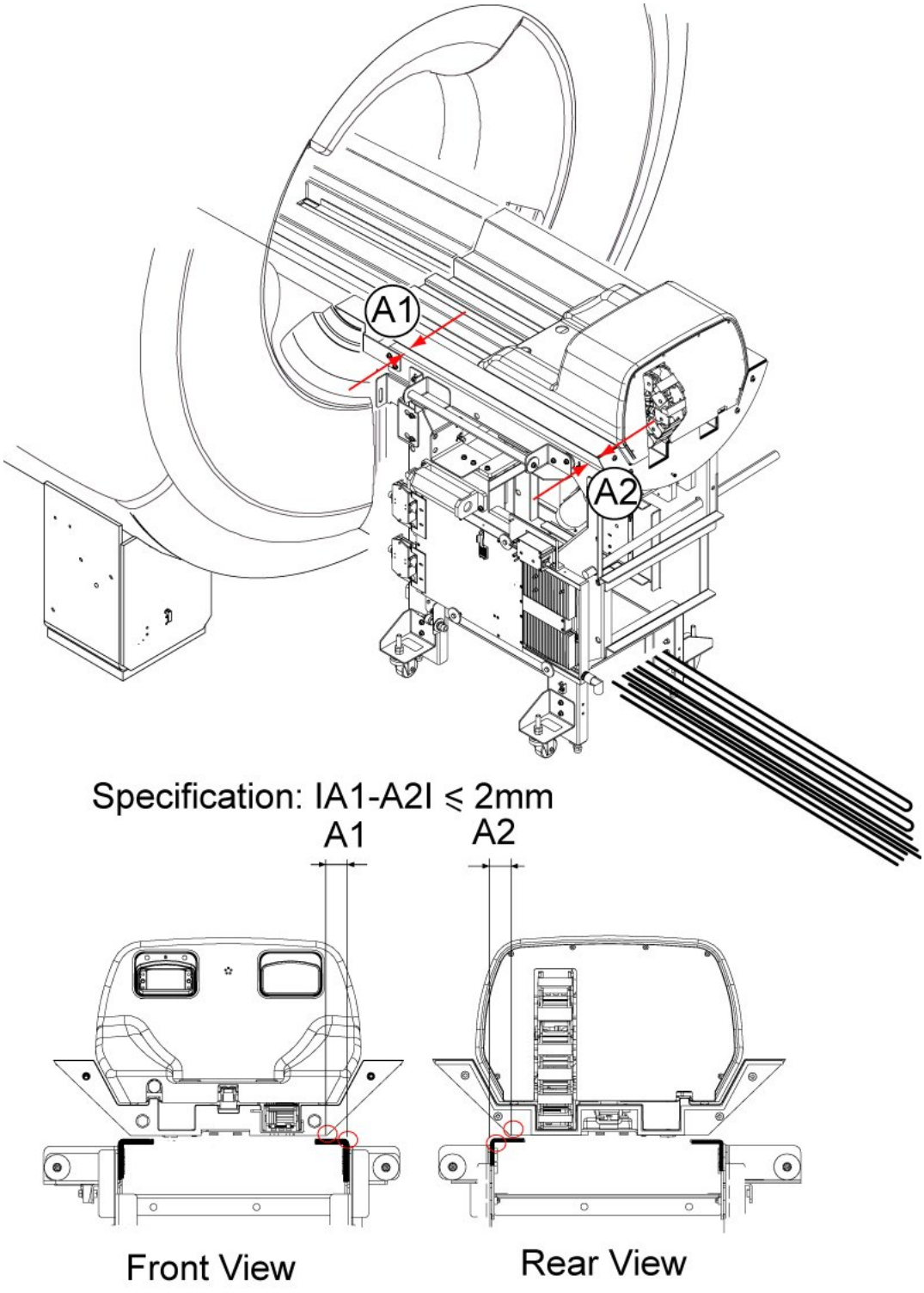
1. Move LPCA to forward.
2. Loosen 2 screws on fixing plate of rear split bridge.

Illustration 7-2: Fixing Screws of Rear Split Bridge



3. Adjust rear split bridge position using plastic measuring tool as illustration.

Illustration 7-3: Adjustment Specification

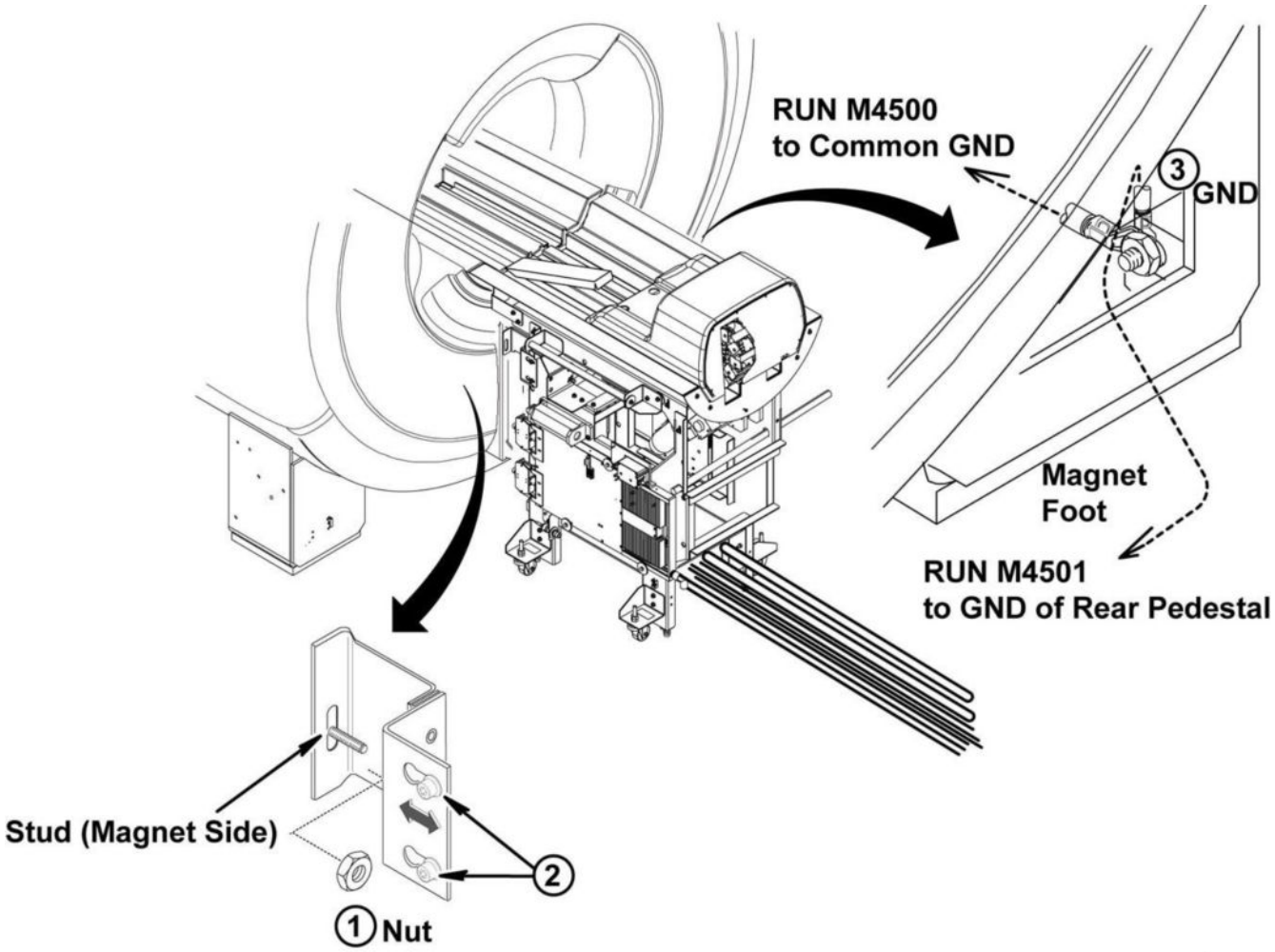


1.2.3 Connect Front and Rear Split Bridge

NOTE: Tongue to Bridge alignment is critical to smooth belt tracking and operation. Make sure Tongue is square to Bridge and Rear Pedestal.

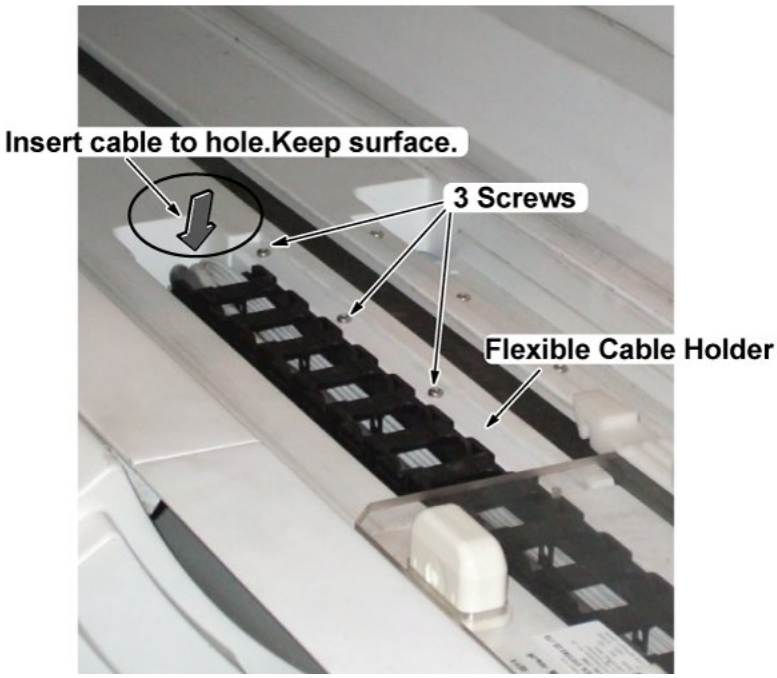
1. Center Rear Pedestal on Rear Endbell and attach to Support Studs using Nut on each stud.
2. Adjustment of Rear Pedestal location can be made at this slotted hole location when connecting the Split Bridge.
3. Route Ground cable from Rear Pedestal under magnet and connect to same Ground Stud as Magnet ground.

Illustration 7-4: Connect Front and Rear Split Bridge



4. Install flexible cable holder to front split bridge with 3 screws.

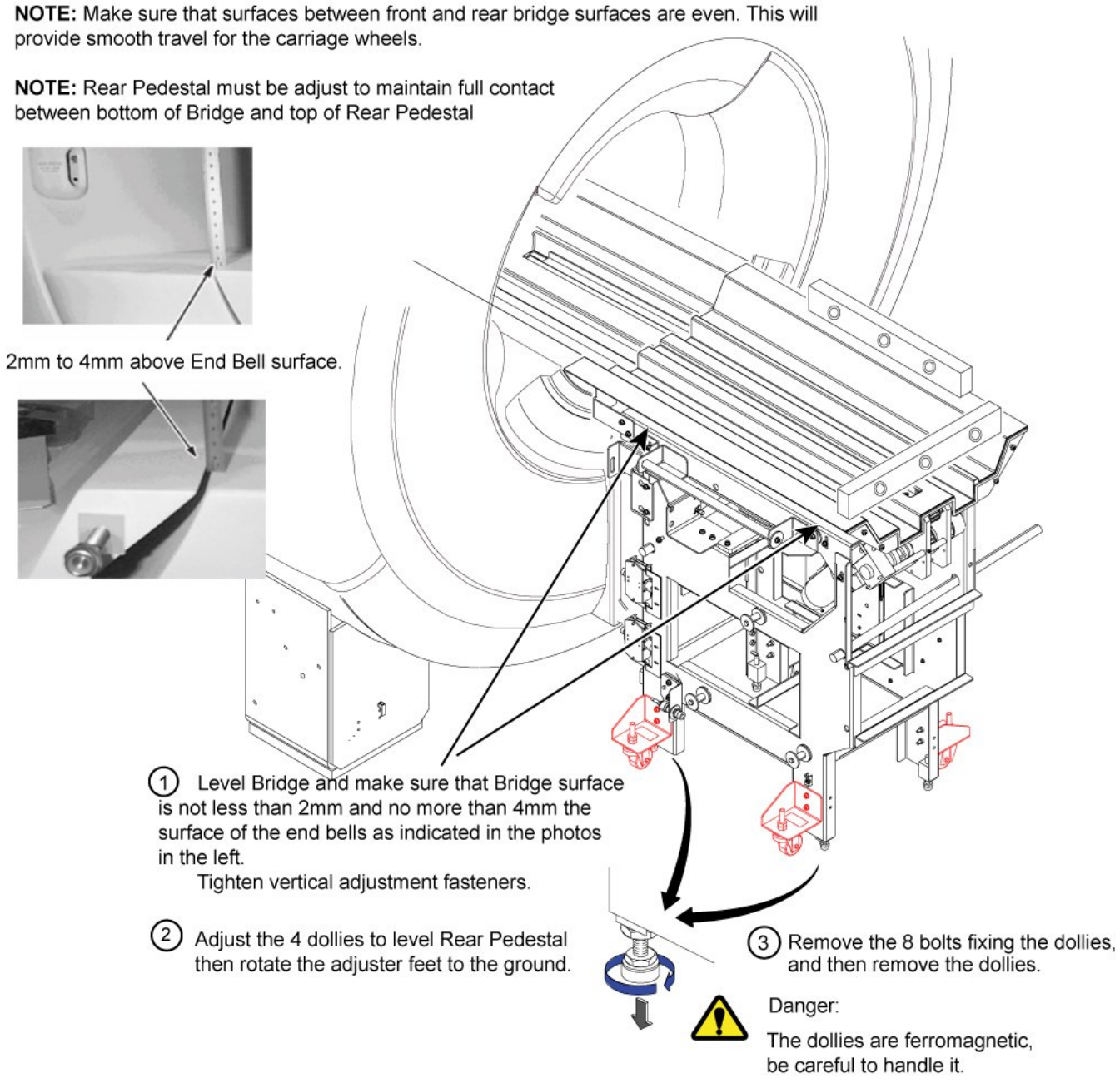
Illustration 7-5: Flexible Cable Holder



1.2.4 Leveling Of Bridge

1. Level Bridge according to the following illustration.

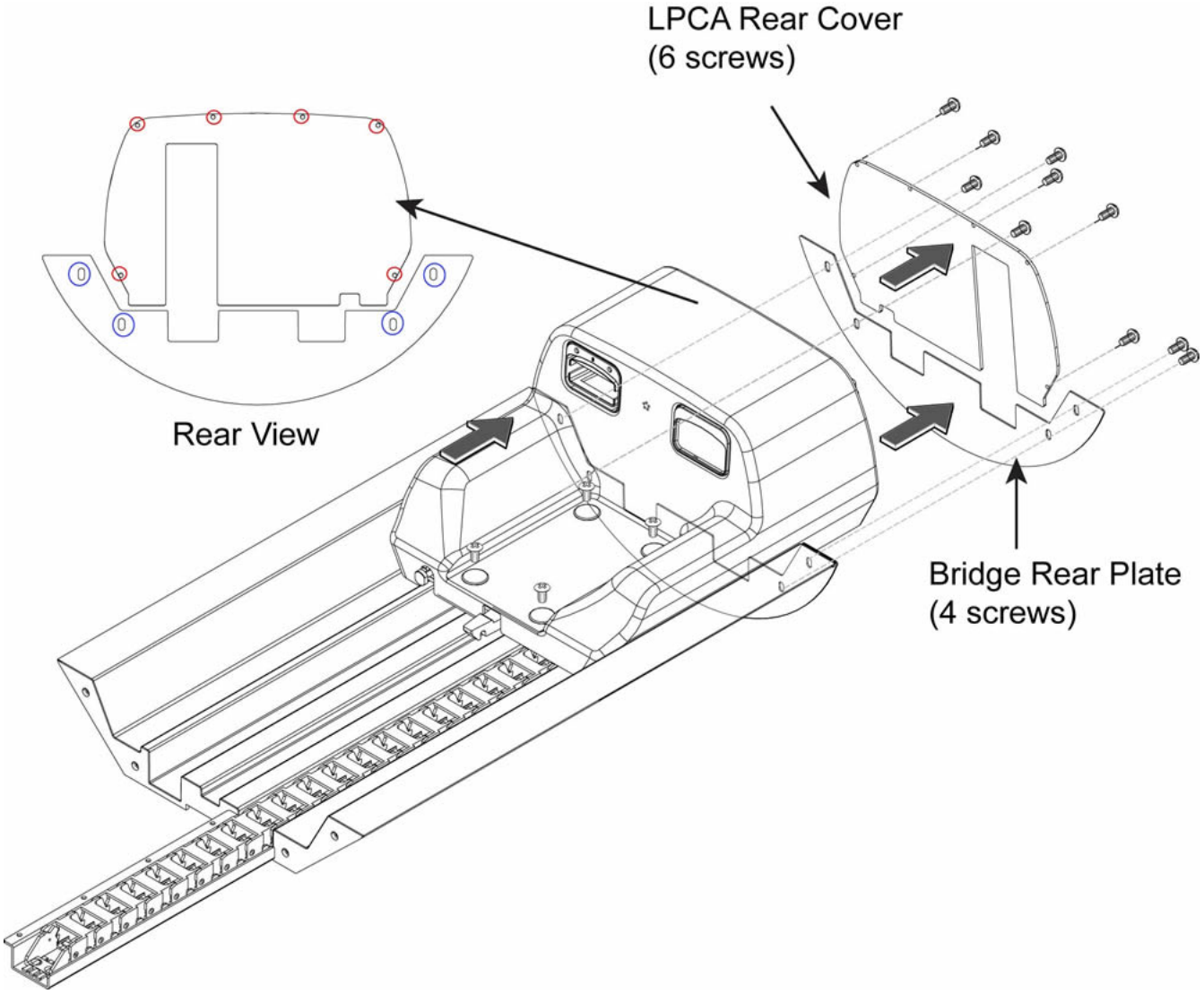
Illustration 7-6: Leveling Of Bridge



1.2.5 Installation Of Drive Belt

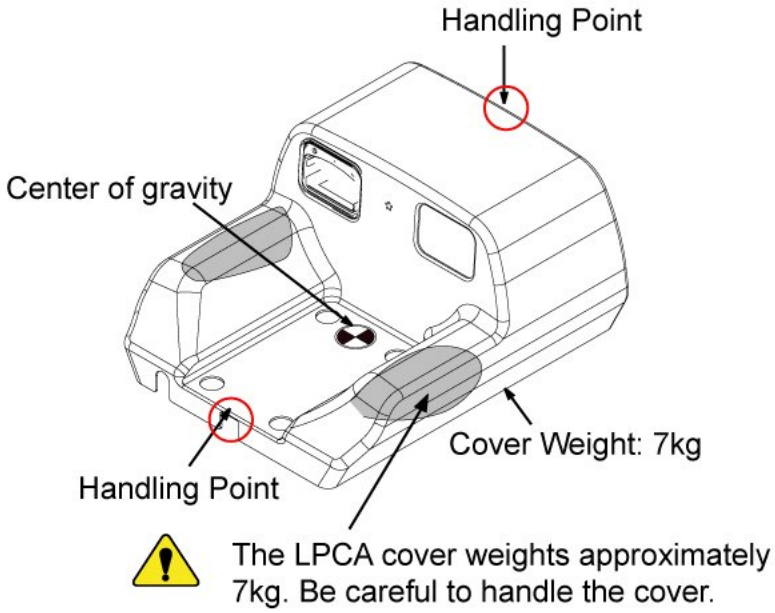
1. Remove LPCA Rear Cover and Bridge Rear Plate.

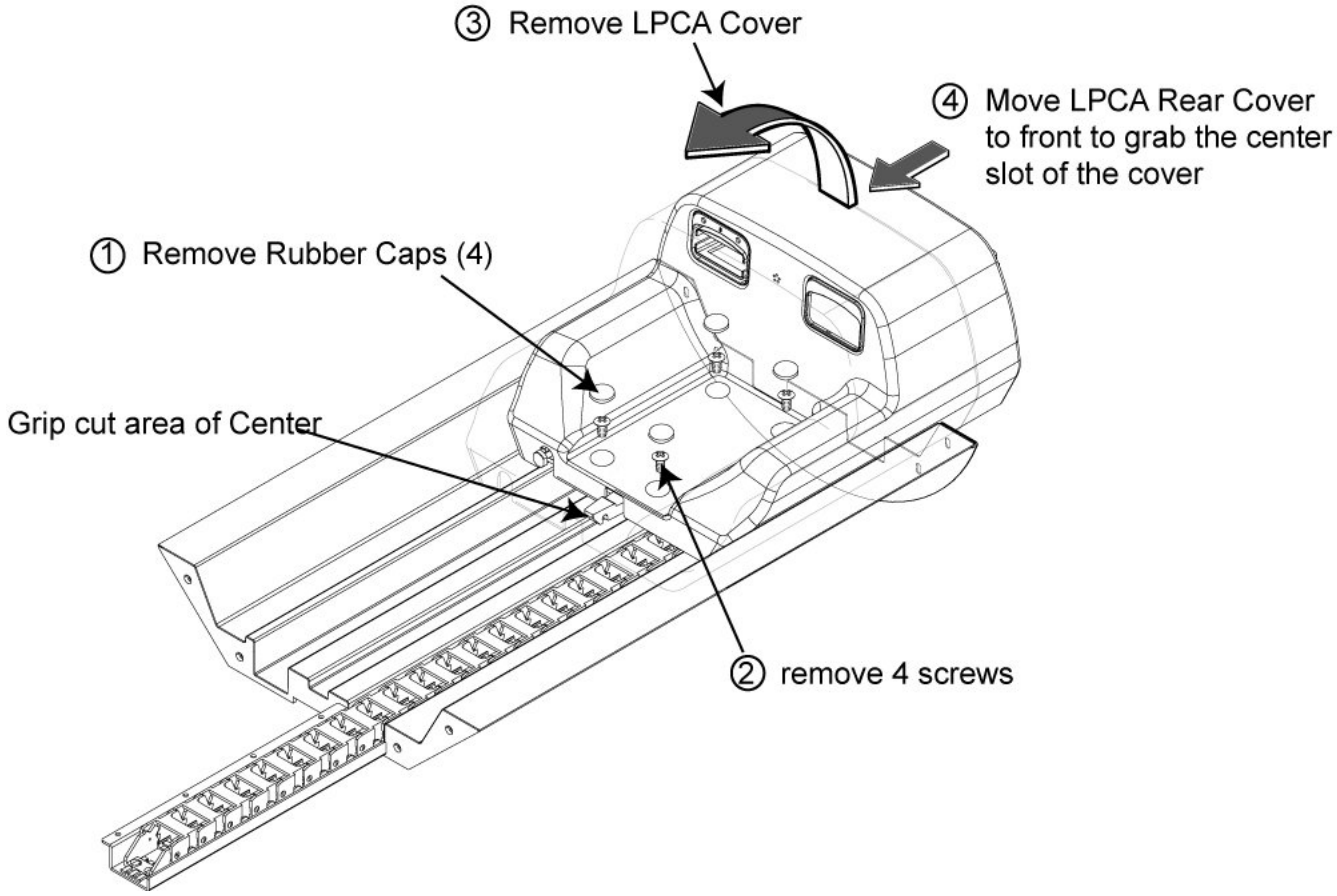
Illustration 7-7: LPCA Rear Cover and Bridge Rear Plate



2. Remove 4 rubber caps.
3. Remove 4 screws from LPCA rear cover.
4. Move LPCA cover to the front to grab the center slot of the cover.
5. Remove LPCA Cover as illustration.

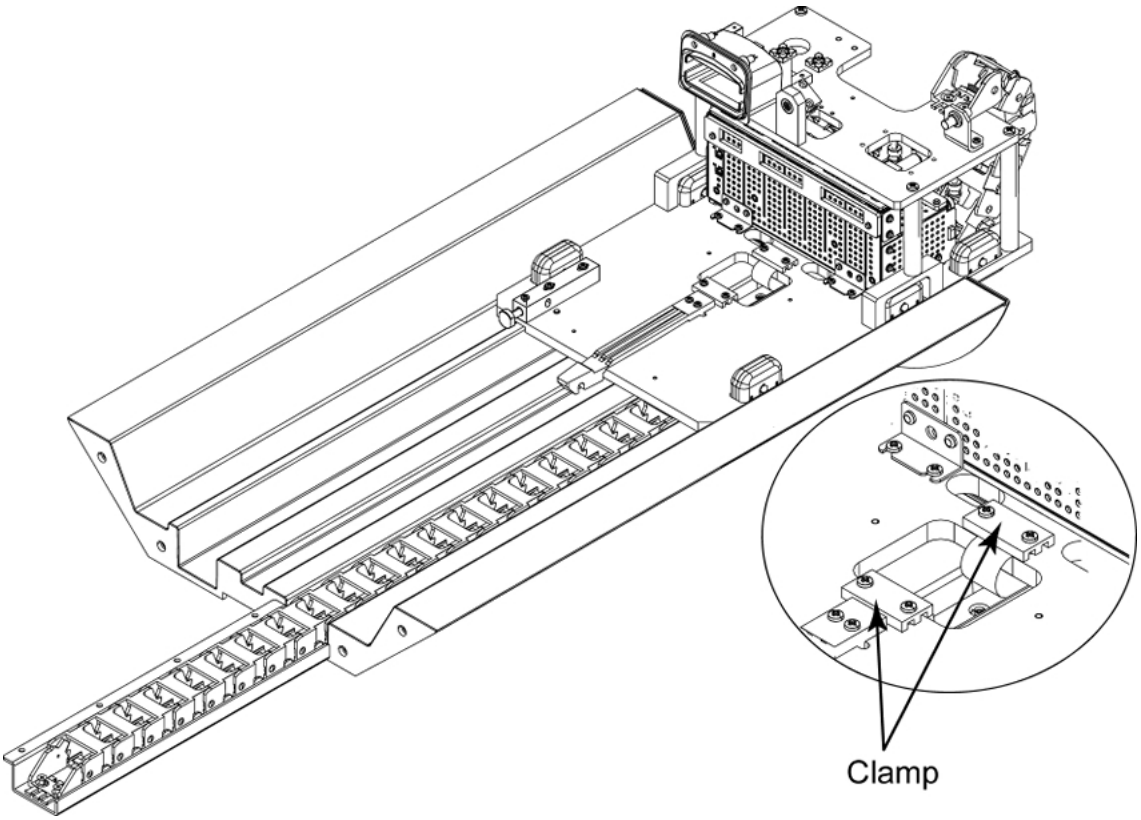
Illustration 7-8: Remove LPCA Top Cover





6. Route and Attach Drive Belt

Illustration 7-9: Route and Attach Drive Belt



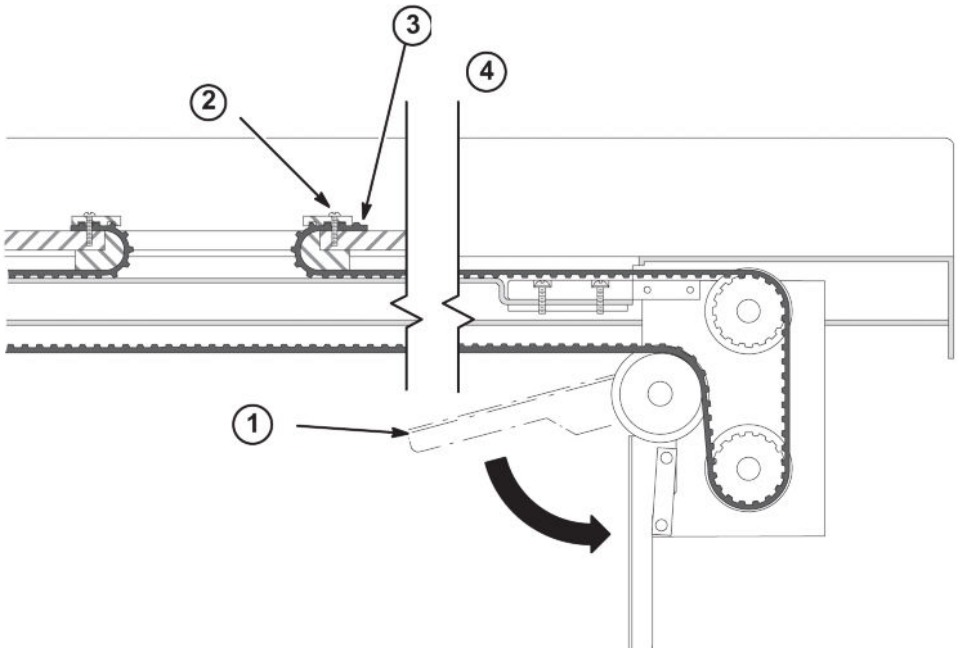
NOTE: Check to verify that belt is not caught around spacers near rear pulley.

7. Check Belt tension by closing Tension Arm. (See Note)

   NOTE: Tension Arm should lock crisply into position without excessive force (which could cause later problems). If adjustment is necessary go to step 8. If not, go to step 9.

8. (IF NECESSARY): Loosen Clamp and adjust position of Belt one tooth at a time until desired tension is obtained.
9. Tighten Clamps and trim excess Belt length.
10. Fasten Carriage Cover to Carriage with four screws.

Illustration 7-10: Final Adjustment of Drive Belt

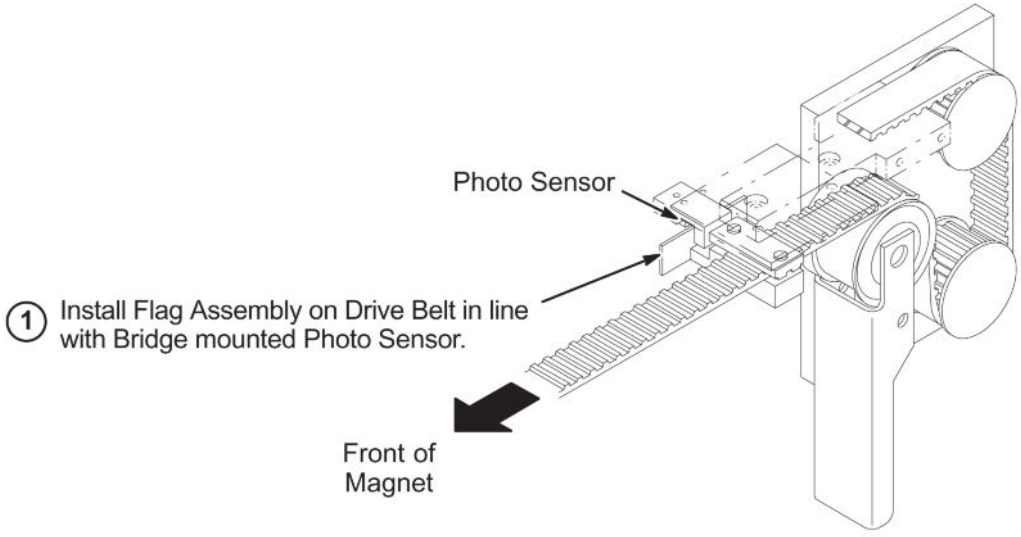


11. Installation of Sensor Flag

NOTE: Function of the Flag is to interrupt the reflected limit switch sensor beam when the Carriage is in home position all the way forward in the bore.

NOTE: The following Step is needed if flag was removed during routing of drive belt.

Illustration 7-11: Installation of Sensor Flag



12. Restore of LPCA Covers.

1.3 Finalization

No finalization steps.

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Chapter 8 Cooling System Installation

1 Cooling System Installation

1.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	120 mins	Not Applicable

1.2 Overview

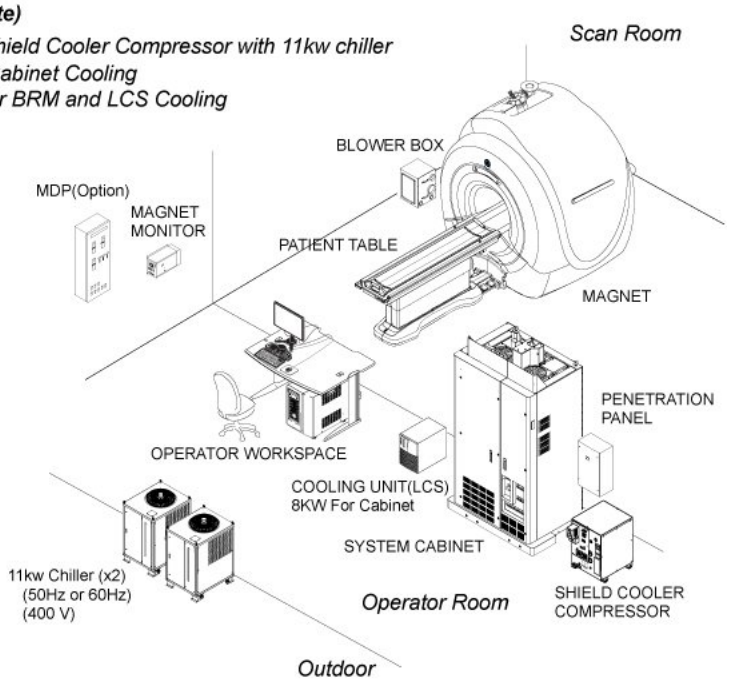
There are 4 cooling system configurations.

Illustration 8-1: System Configuration without Equipment Room

Without Equipment Room

Type A (For 400V Site)

- Water Cooled Shield Cooler Compressor with 11kw chiller
- LCS(8KW) for Cabinet Cooling
- 11 KW Chiller for BRM and LCS Cooling



Type B (For 200V and 400V Site)

- Use Facility Water for Shield Cooler Compressor and two LCS
- LCS(8KW) for Cabinet Cooling
- LCS(4KW) for BRM Cooling

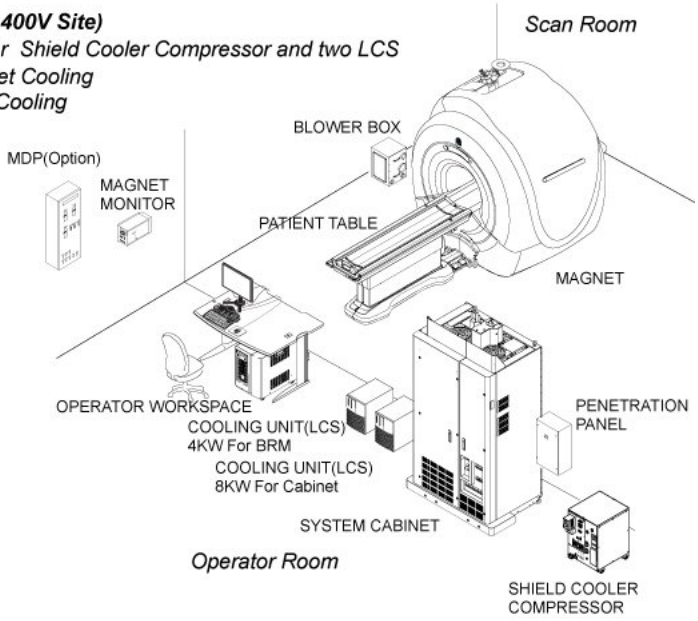
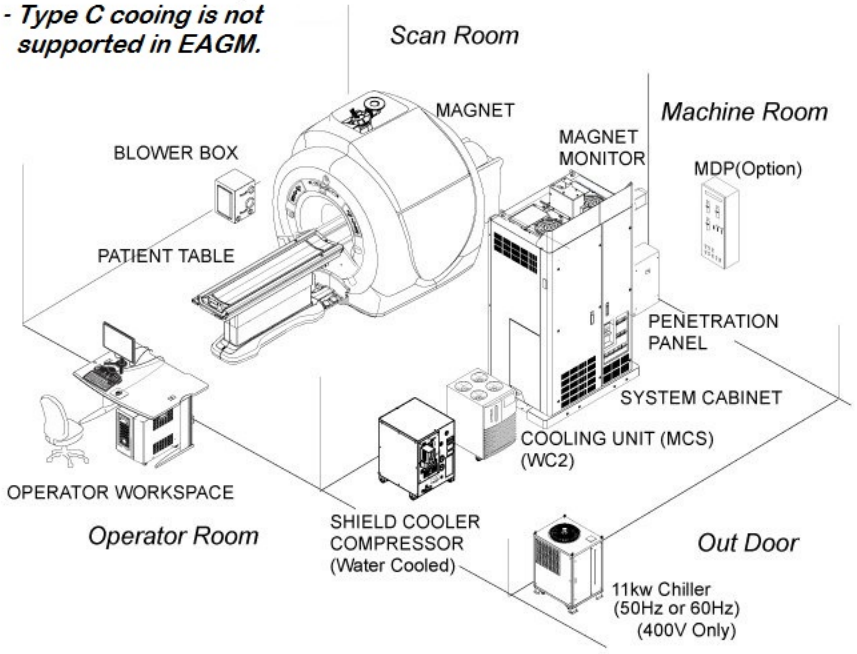


Illustration 8-2: System Configuration with Equipment Room

With Equipment Room

Type C (400V Site Only)

- Water Cooled Shield Cooler Compressor
- MCS for Cabinet Cooling
- 11kw chiller for Compressor and BRM
- Type C cooing is not supported in EAGM.



Type D (200V Site Only)

- Air Cooled Shield Cooler Compressor
- Lytron BRM Chiller
- MCS for Cabinet Cooling

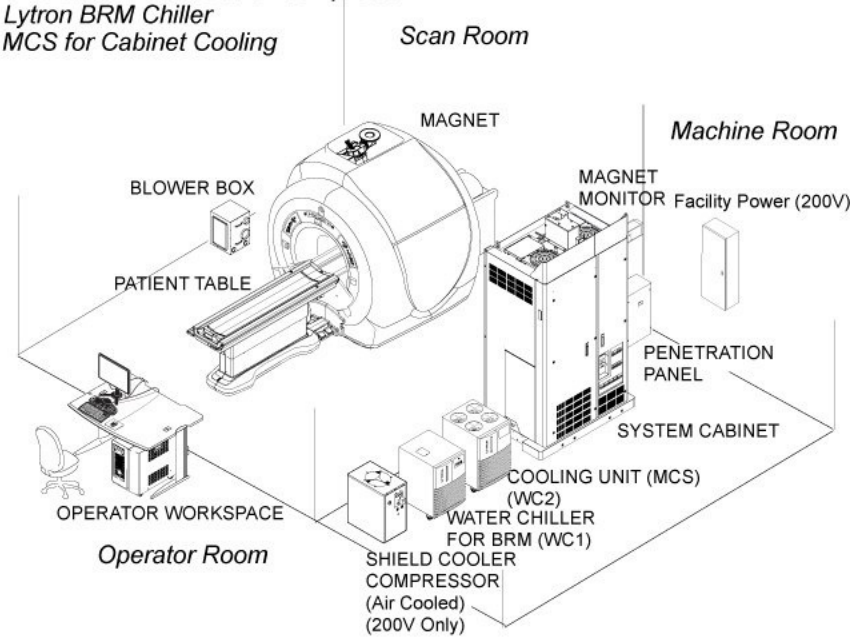
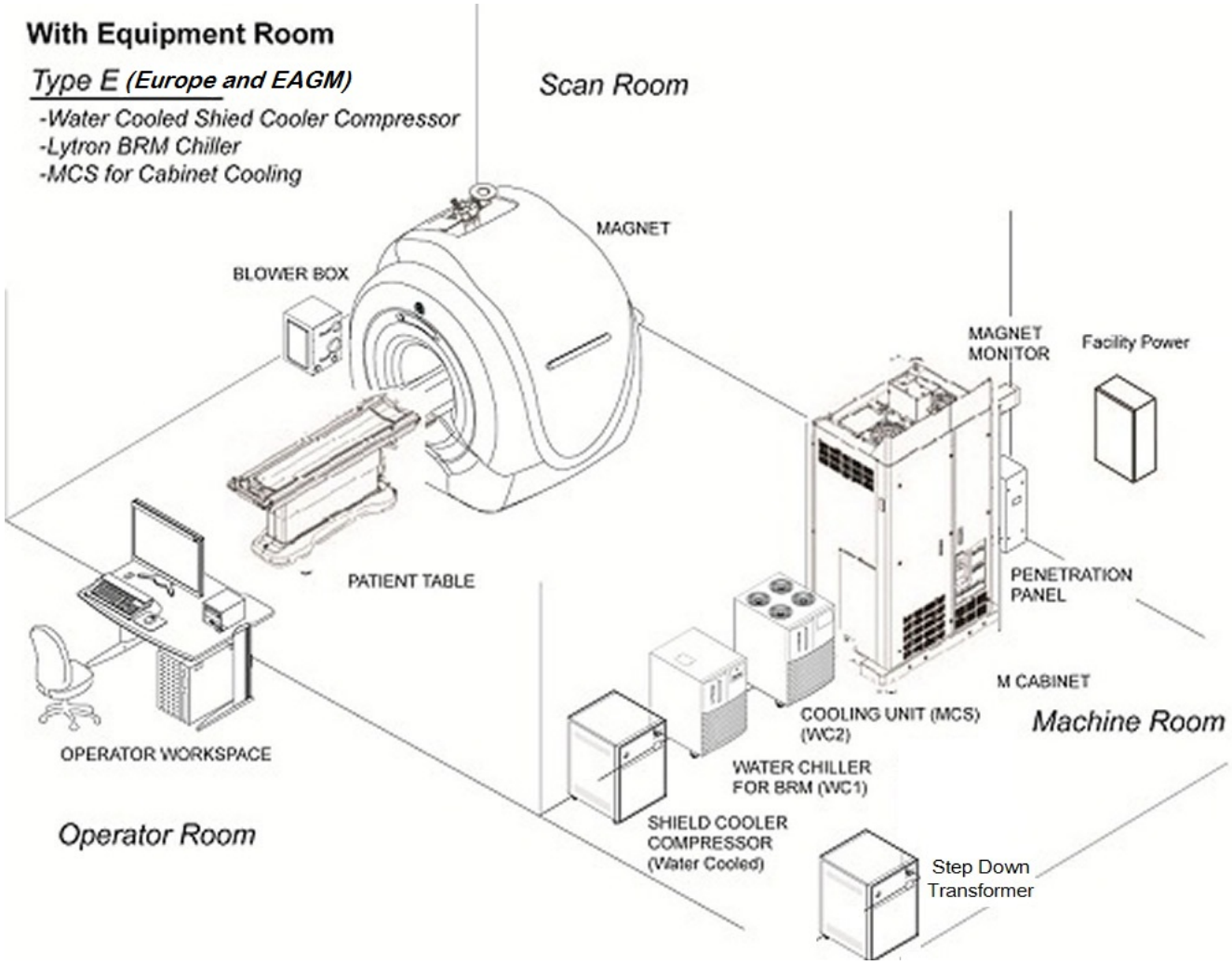


Illustration 8-3: Type E

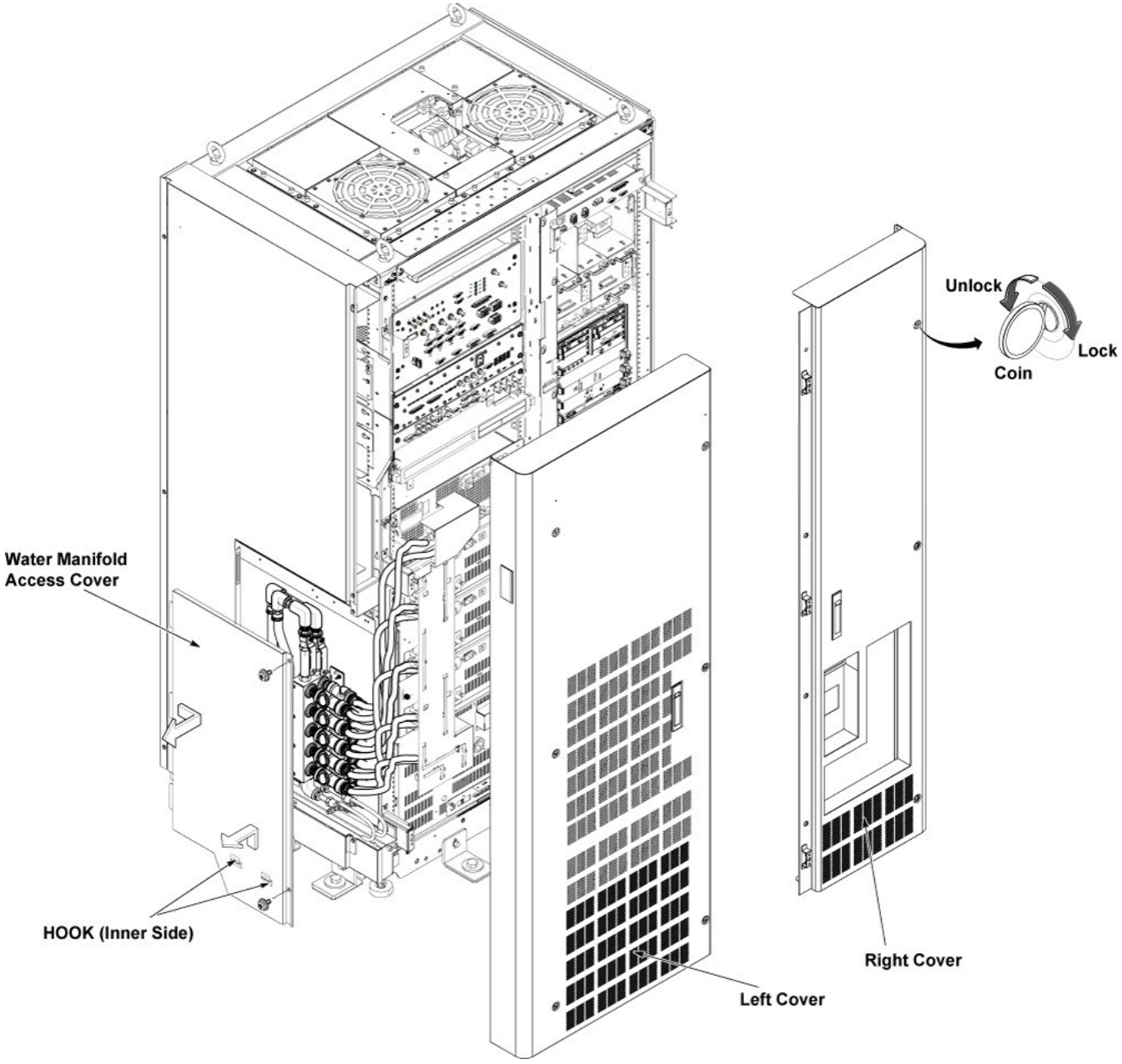


1.3 Procedure

1.3.1 Hose Setting of System Cabinet

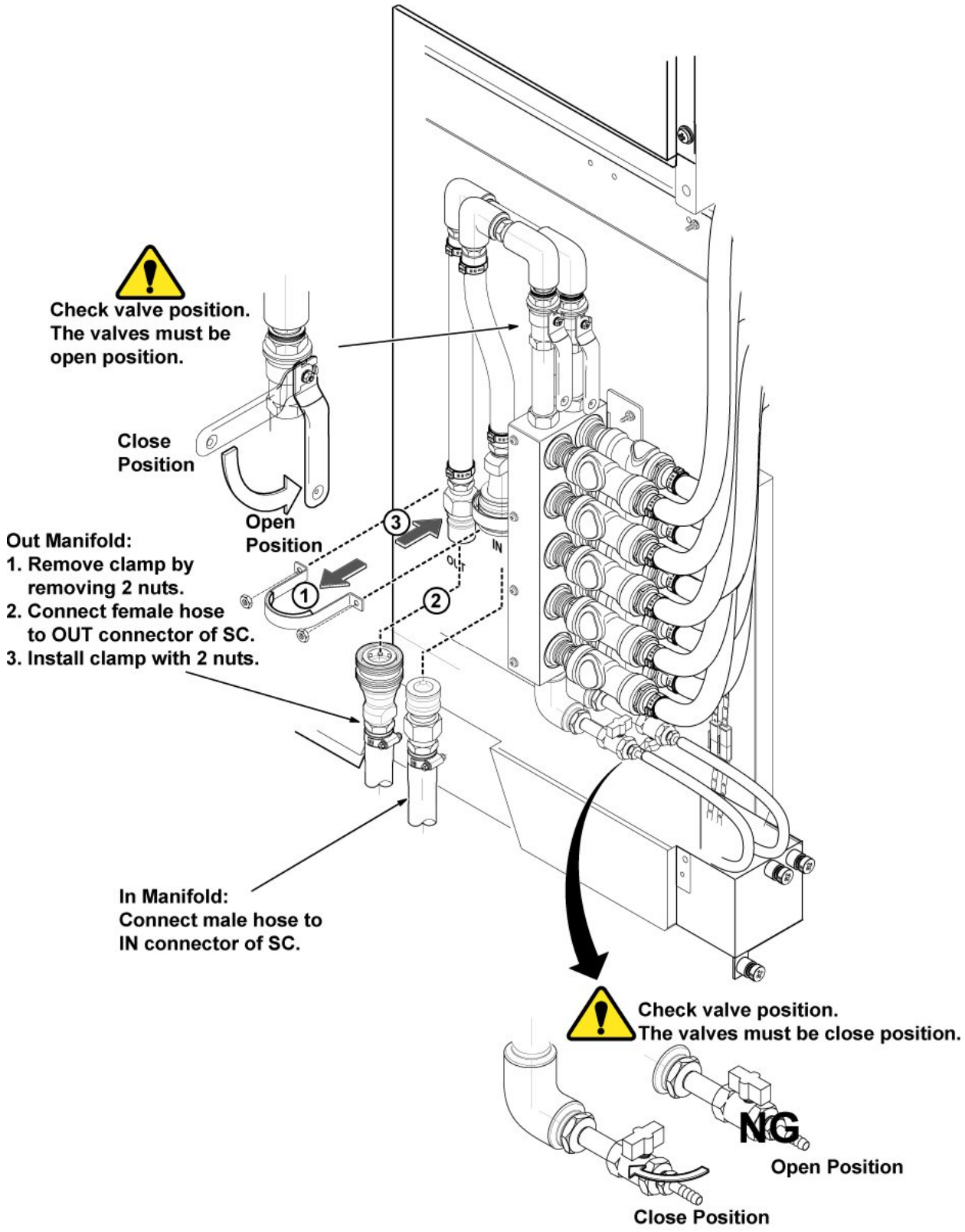
1. Remove Right and Left Front Covers from system cabinet.
2. Remove Water Manifold Access Cover by removing 2 screws.

Illustration 8-4: Front Bottom Cover Removal



3. Connect Hoses to SC Water Manifold

Illustration 8-5: Water Manifold



4. Push in manifold with water plumbing

5. Fix the main fold front screws
6. Restore all the water pipe.

1.3.2 About Hose Routing

1. According to the site condition, decide the hose routing. SeeIllustration 8-6 and Illustration 8-7.

Illustration 8-6: Rear Hose Routing

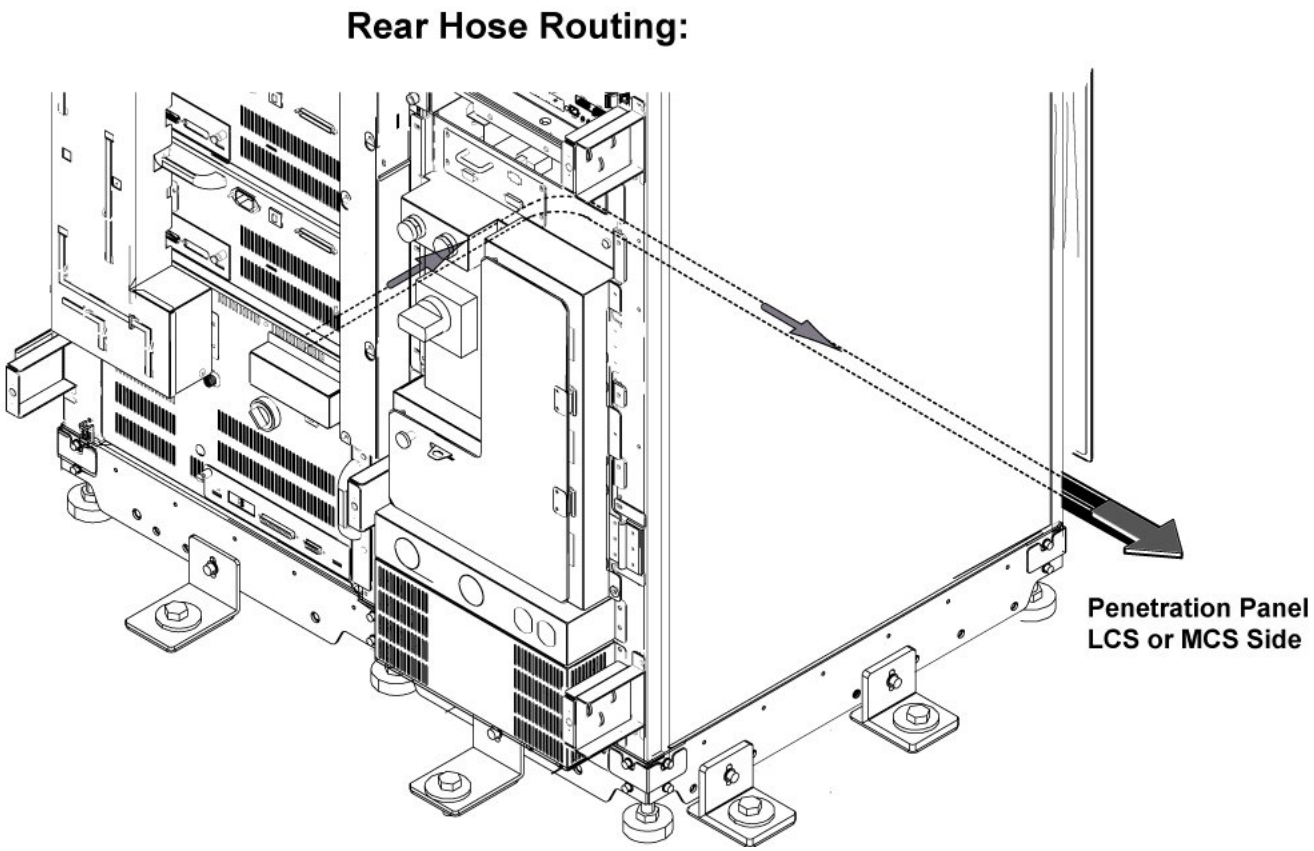
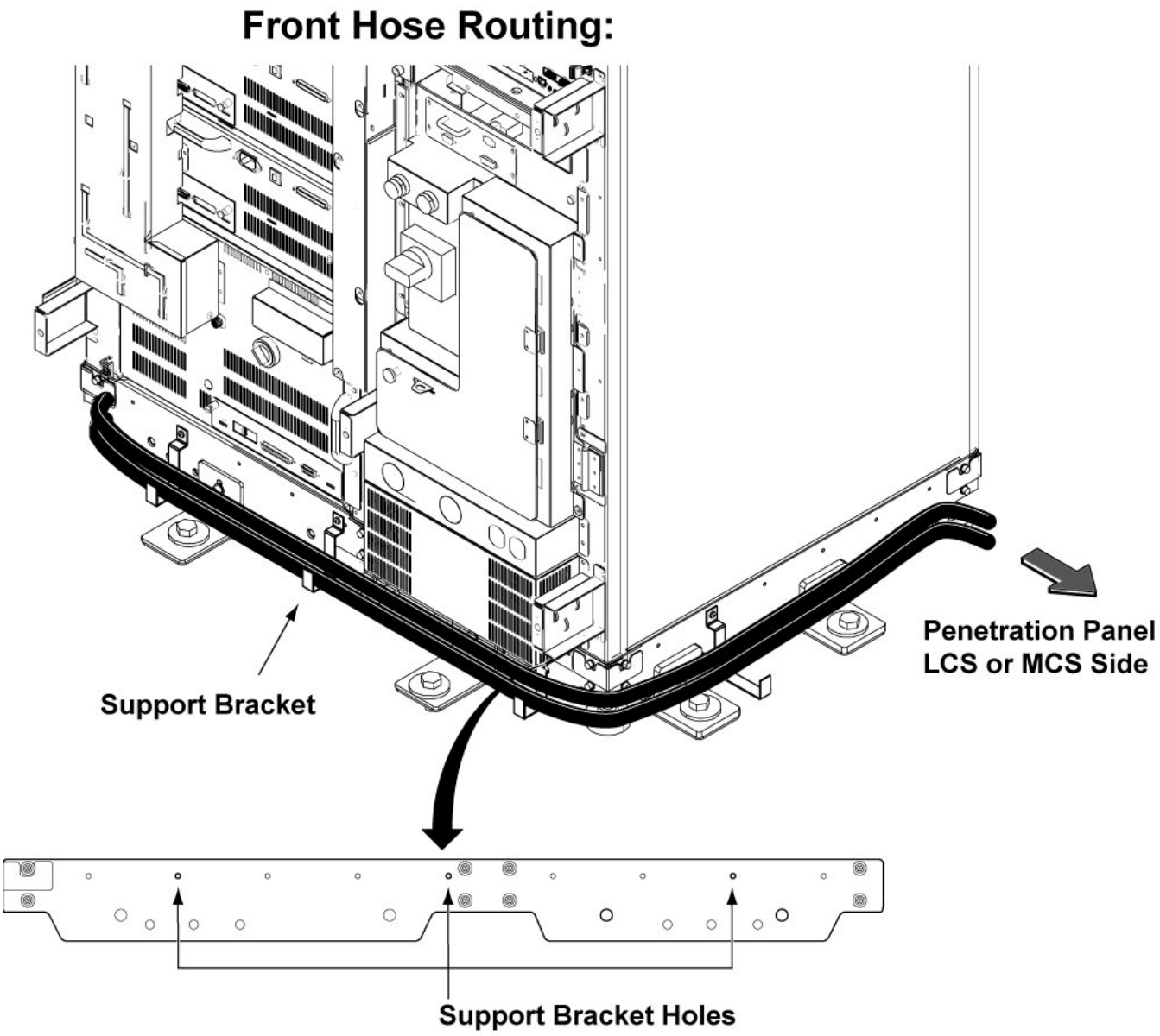


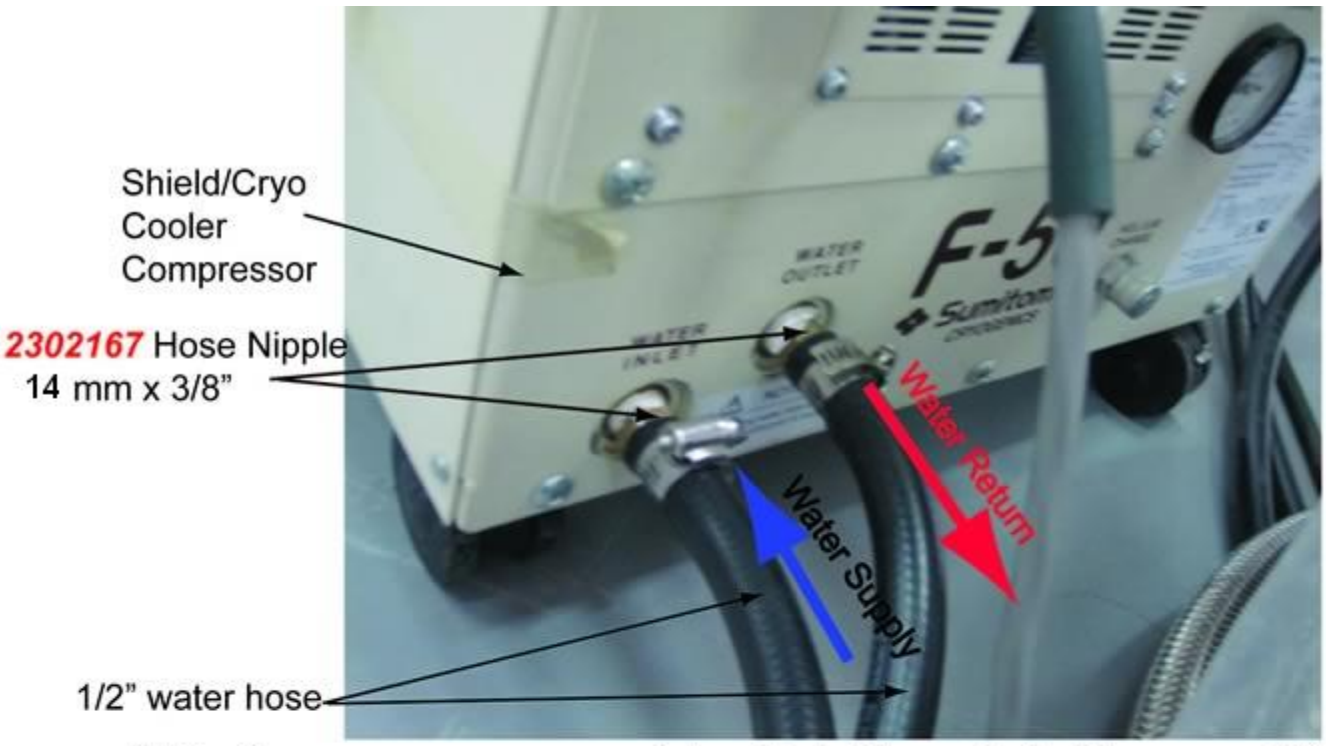
Illustration 8-7: Front Hose Routing



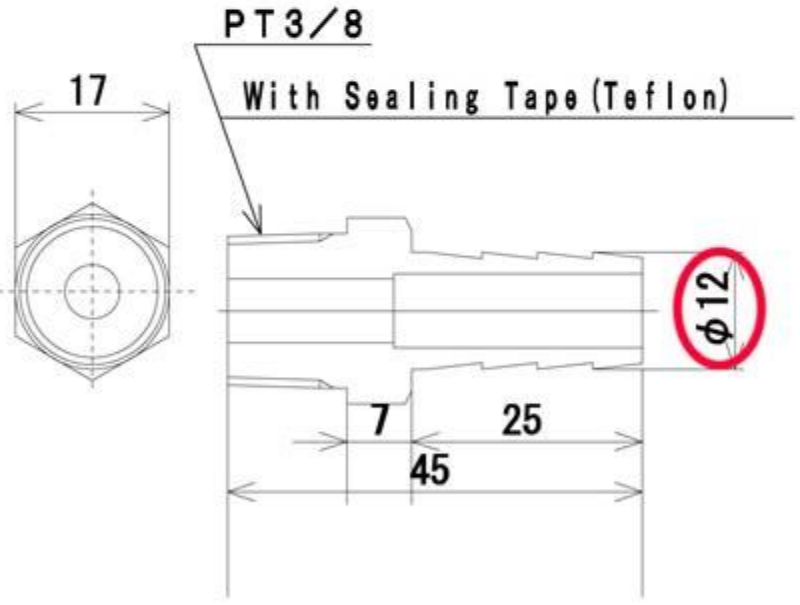
1.3.3 Hose Connection

Connect the hose according to the each configuration. Cryogen compressor supply two kind of hose nipple. There are two steps between the connection of 1/2" hose to cryogen compressor: 3/8" side of hose nipple to cryogen compressor; 12.7mm side of hose nipple to 1/2" water hose.

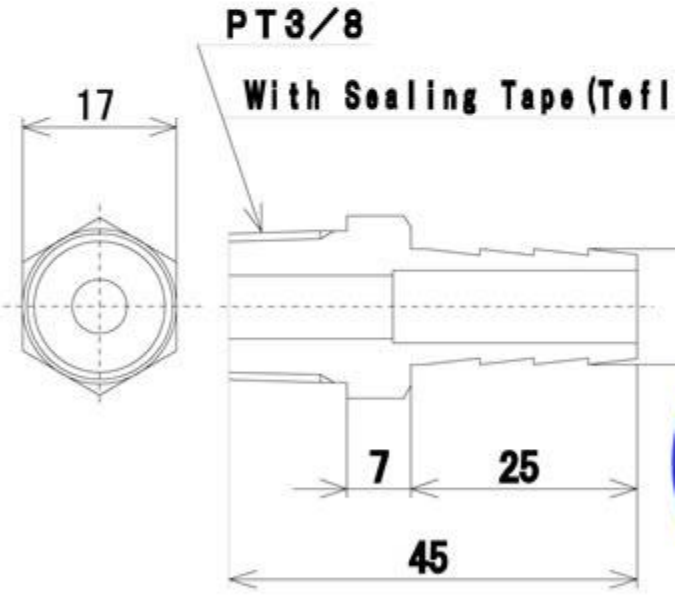
Illustration 8-8: Hose Nipple



Note: Cryogen compressor supply two kind of hose nipple. Please use 14 mm x 3/8" hose nipple for 1/2" water hose connection to cryogen compressor.



2205309 HOSE NIPPLE OD:12.0 mm X 3/8”
Material: Brass

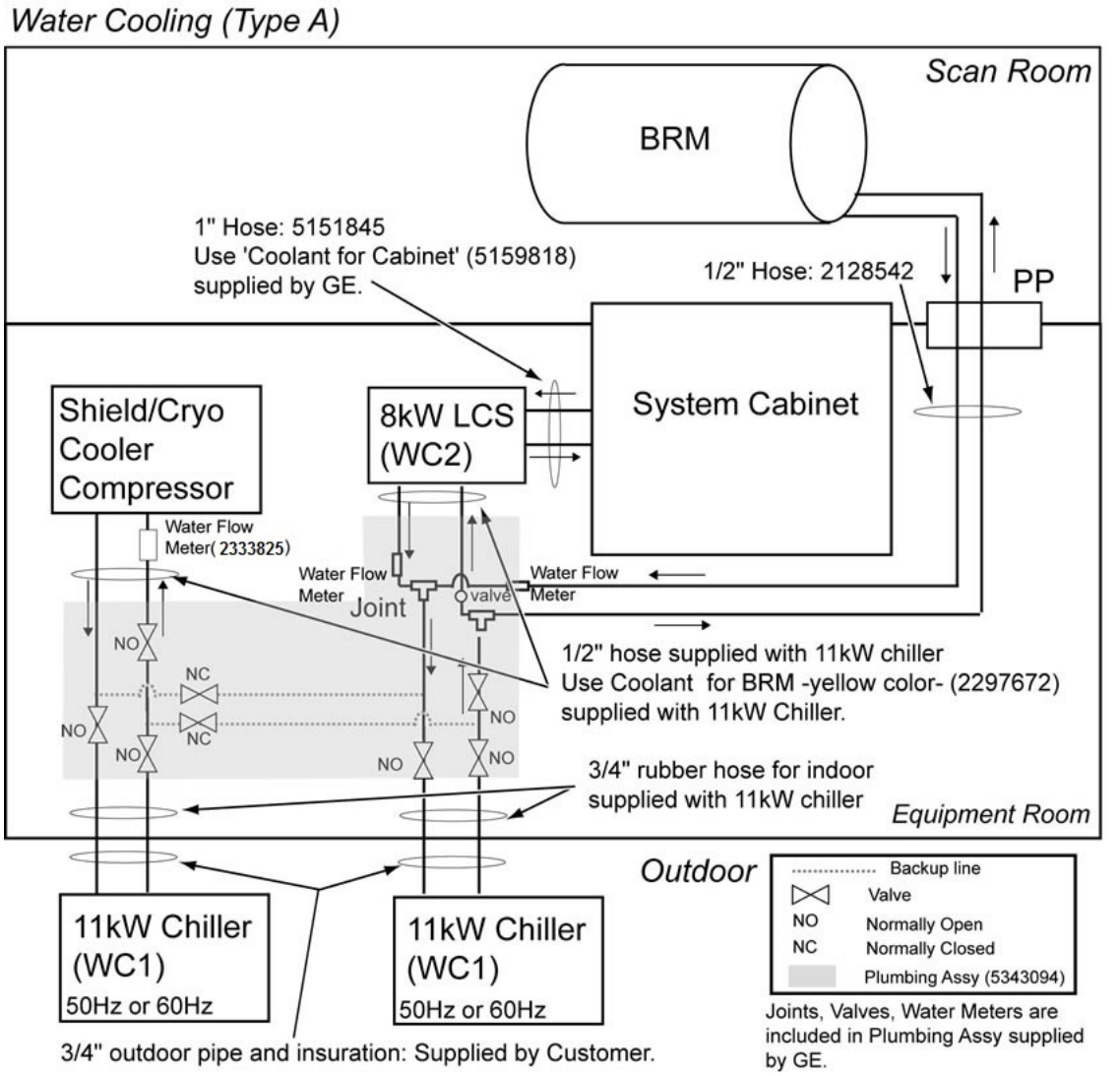


2302167 HOSE NIPPLE OD: 14 mm X 3/8
Material: Brass

1.3.3.1 Hose connection for Type A

1. The following is the diagram of Water Chiller for Type A. Check that required hoses and plumbing assy are prepared.

Illustration 8-9: Diagram (Type A)



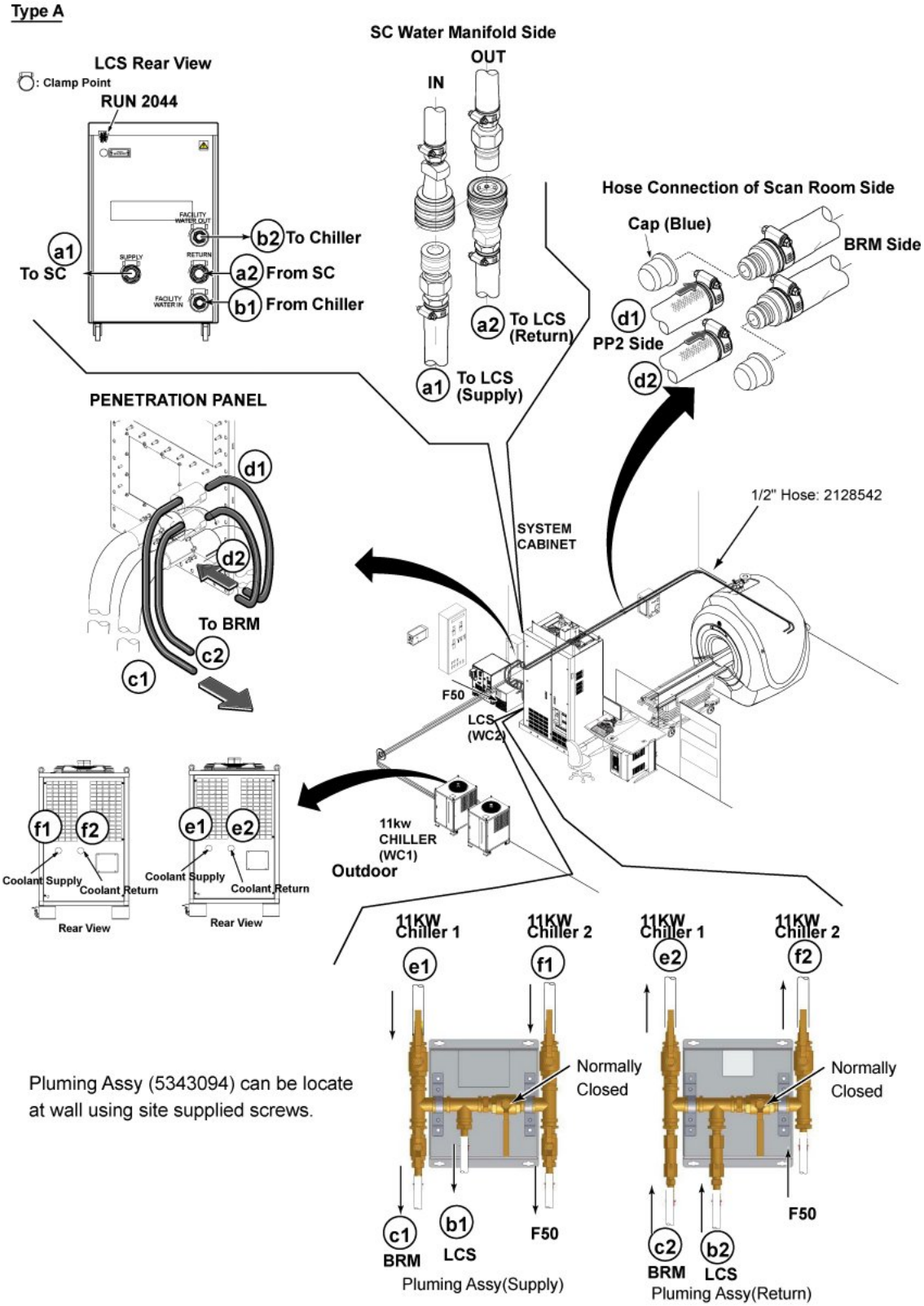
For outdoor, copper or PP-R pipe/joint/valve is recommended which satisfies the following requrement.

a. Working temparature: -30 ℃ ~ 90 ℃
b. Working pressure: ≧ 1.6MPa
c. Material should be propylene glycol (50%) resistant.
d. All pipes installed outdoor should be insulated.

Note: Only use 12.7mm x 3/8" hose nipple for 1/2" water hose connection to cryogen compressor.

2. Connect the hoses according to the following illustrations.

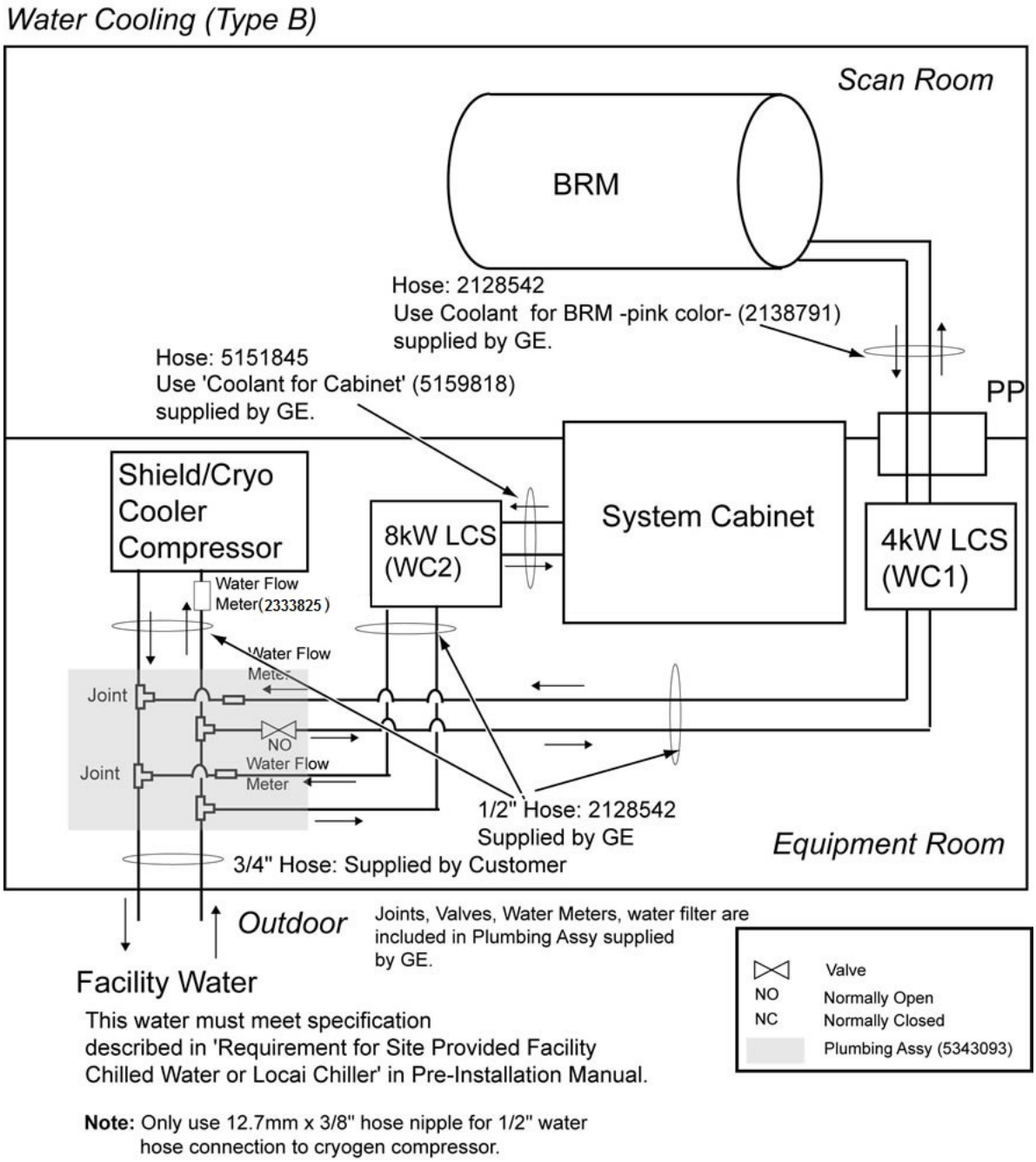
Illustration 8-10: Hose connection for type A



1.3.3.2 Hose connection for Type B

1. The following is the diagram of Water Chiller for Type B. Check that the required hoses and plumbing assy are prepared.

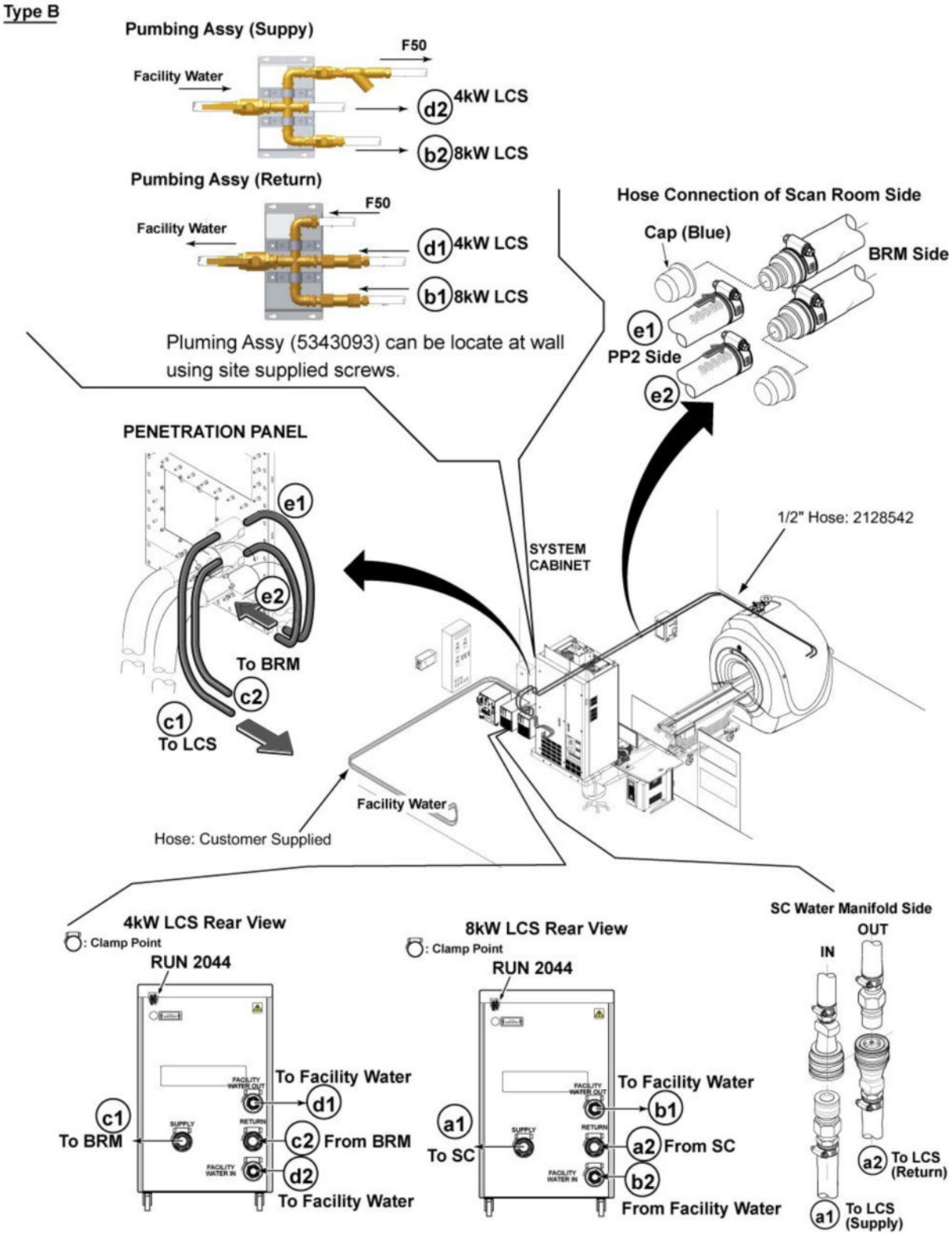
Illustration 8-11: Diagram (Type B)



Note: Only use 12.7mm x 3/8" hose nipple for 1/2" water hose connection to cryogen compressor.

2. Connect the hoses according to the following illustrations.

Illustration 8-12: Hose connection for type B



1.3.3.3 Type B' Configuration

1. This configuration uses Customer supplied 20kW Local Chiller. The Local 20kW Chiller must meet the specification described in Requirements For Site Provided Facility Chilled Water or Local Chiller for Type B (B') Configuration.

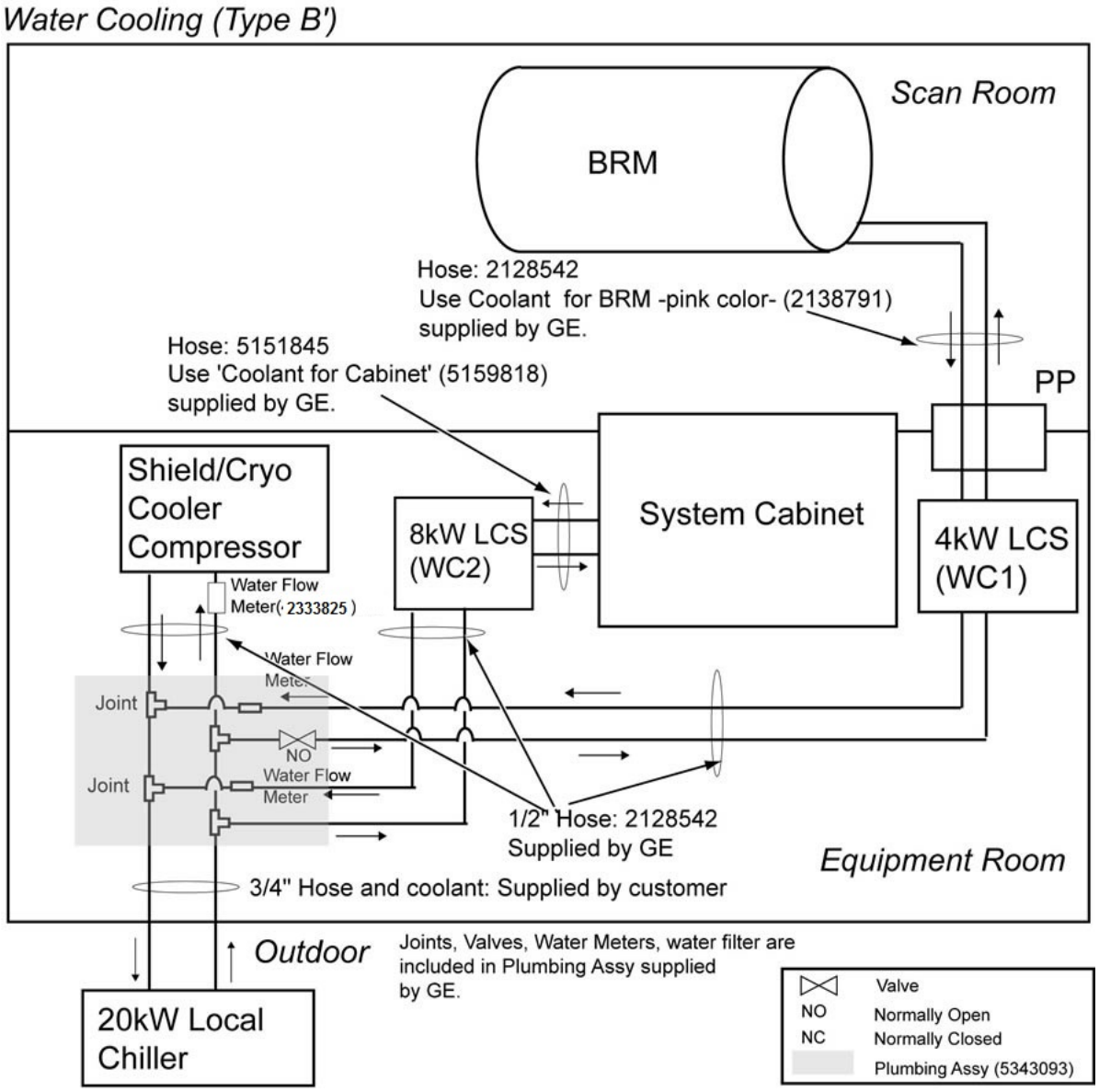
   The one 20kW Local Chiller provides water for Shield/Cryo Cooler Compressor, 8kW LCS, and 4kW LCS.

   The 8kW LCS (WC2) and 4kW LCS (WC1) are an indoor dedicated.

   The two flexible hoses (supply and return) are to be routed from the Facility Water. Each hoses are separated into three hoses by T-Shape Joint. One hose set (supply and return lines) is connected to Shield/Cryo Cooler Compressor. The other hose set (supply and return lines) is connected to 8kW LCS (WC2) for System Cabinet. And The other hose set (supply and return lines) is connected to 4kW LCS (WC1) for BRM. 4kW LCS (WC1) provide water routed through waveguides in the Penetration Panel, through the Rear Pedestal (MG3), and connect to the rear of the Gradient Coil with supplied adjustable compression clamps.

   The 8kW LCS (WC2) and 4kW LCS (WC1) must be located at the same level of System Cabinet.

Illustration 8-13: Type B' Chiller Configuration

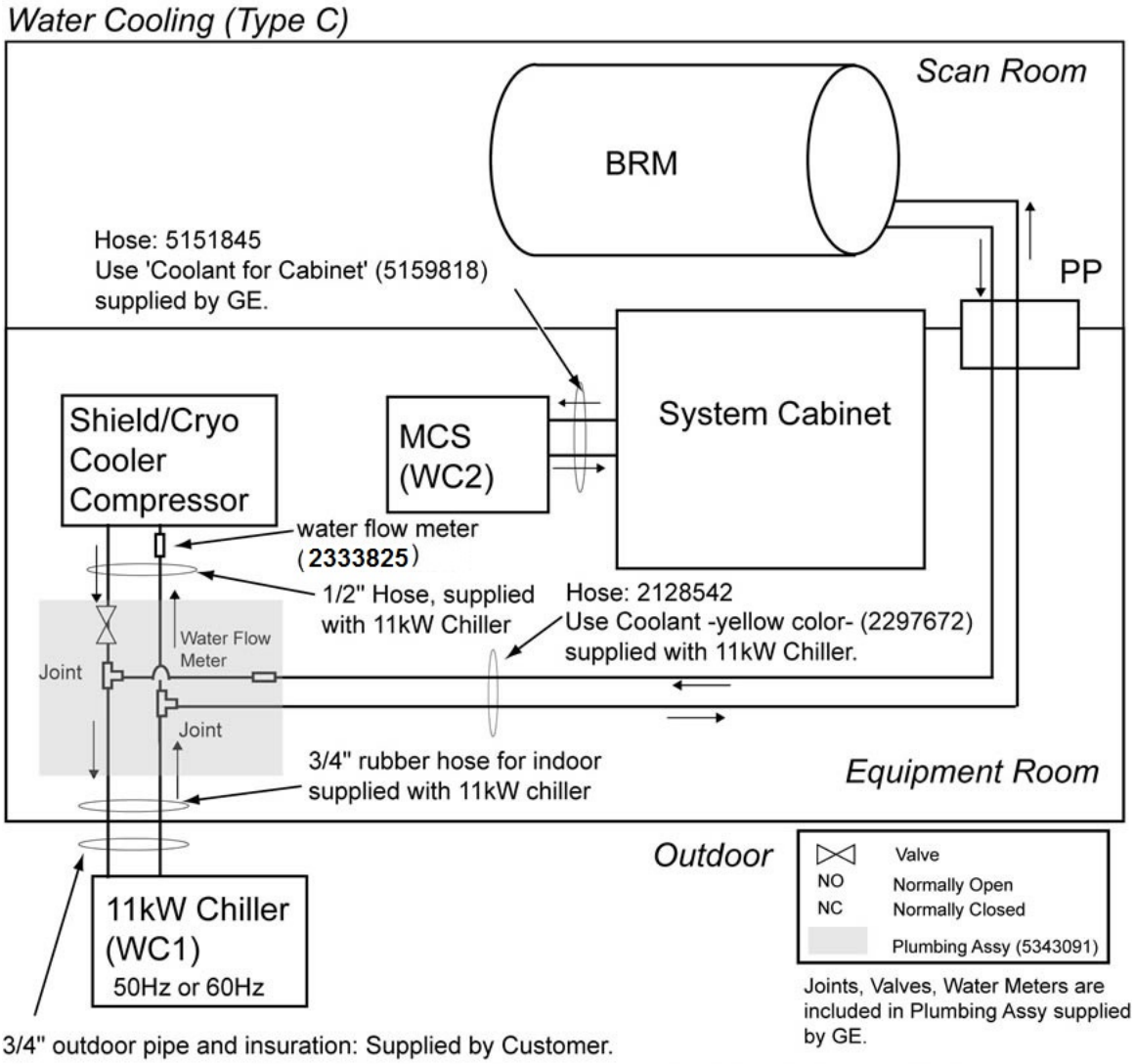


2. For the detail of Plumbing Assy for Type B', refer to Illustration 8-12.

1.3.3.4 Hose connection for Type C

1. The following is the diagram of Water Chiller for Type C. Check that the required hoses and plumbing assy are prepared.

Illustration 8-14: Diagram (Type C)



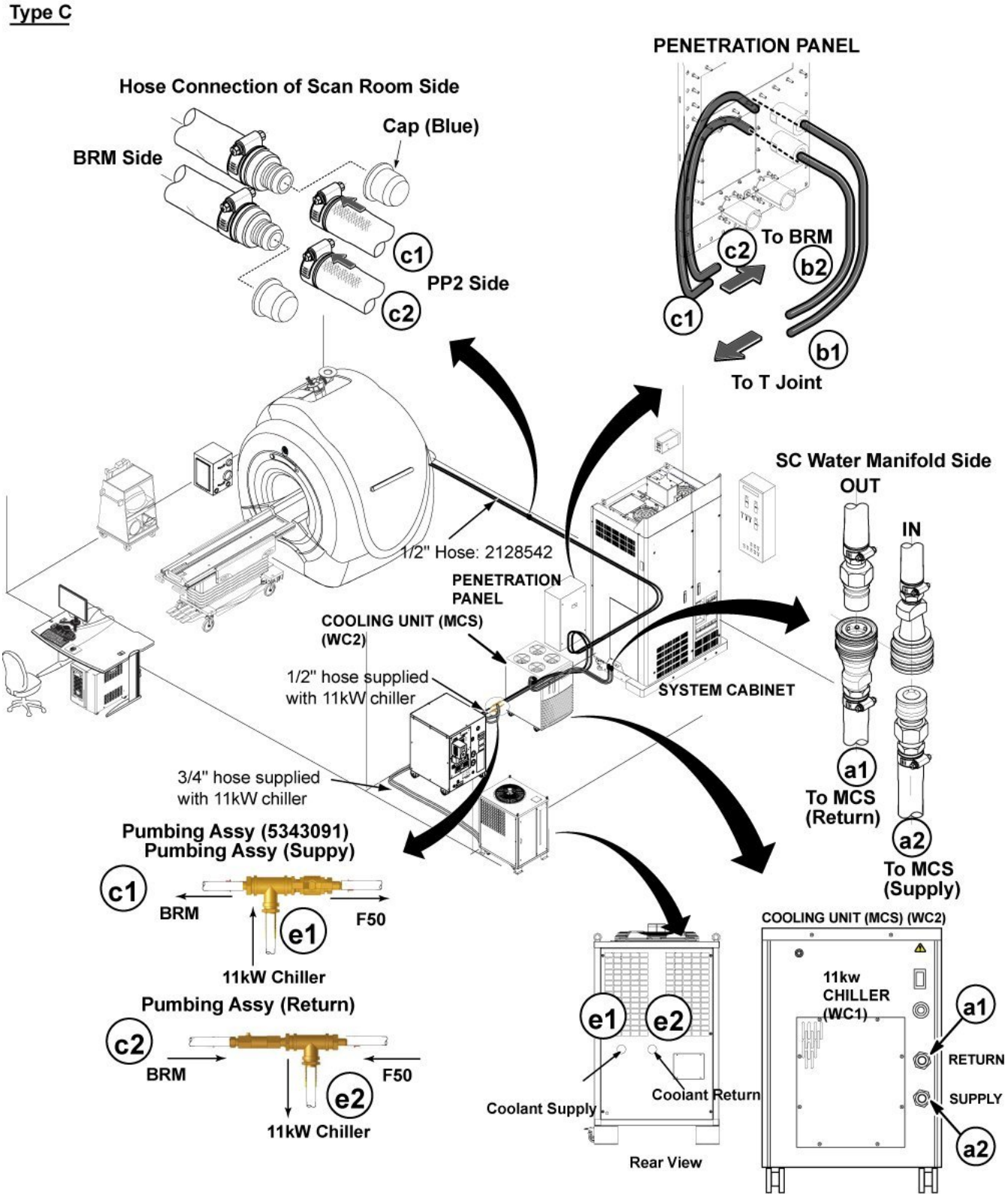
For outdoor, copper or PP-R pipe/joint/valve is recommended which satisfies the following requrement.

a. Working temparature: -30 ℃ ~ 90 ℃
b. Working pressure: ≧ 1.6MPa
c. Material should be propylene glycol (50%) resistant.
d. All pipes installed outdoor should be insulated.

Note: Only use 12.7mm x 3/8" hose nipple for 1/2" water hose connection to cryogen compressor.

2. Connect the hoses according to the following illustration.

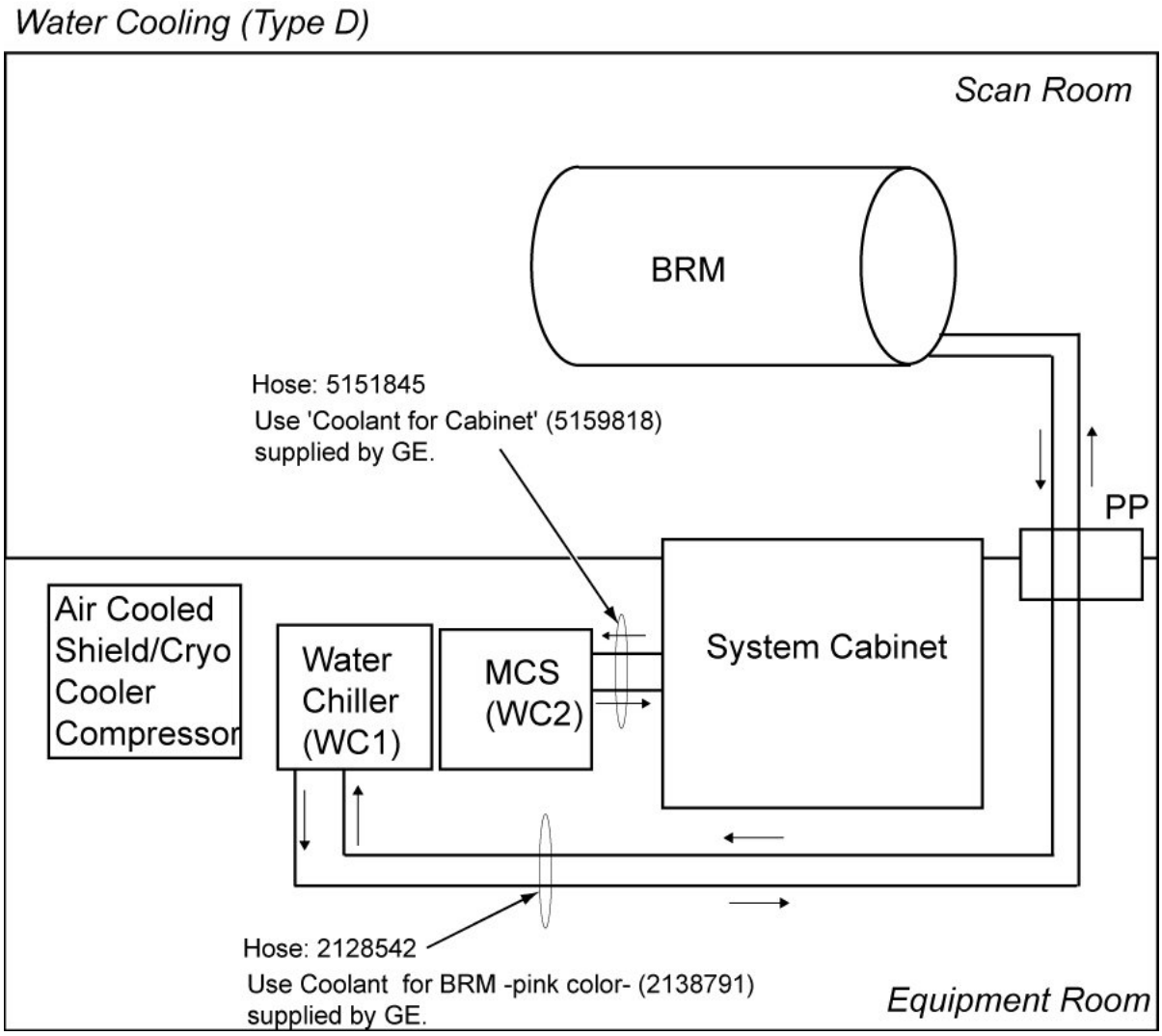
Illustration 8-15: Hose connection for type C



1.3.3.5 Hose connection for Type D

1. The following is the diagram of Water Chiller for Type D. Check that the required hoses and plumbing assy are prepared.

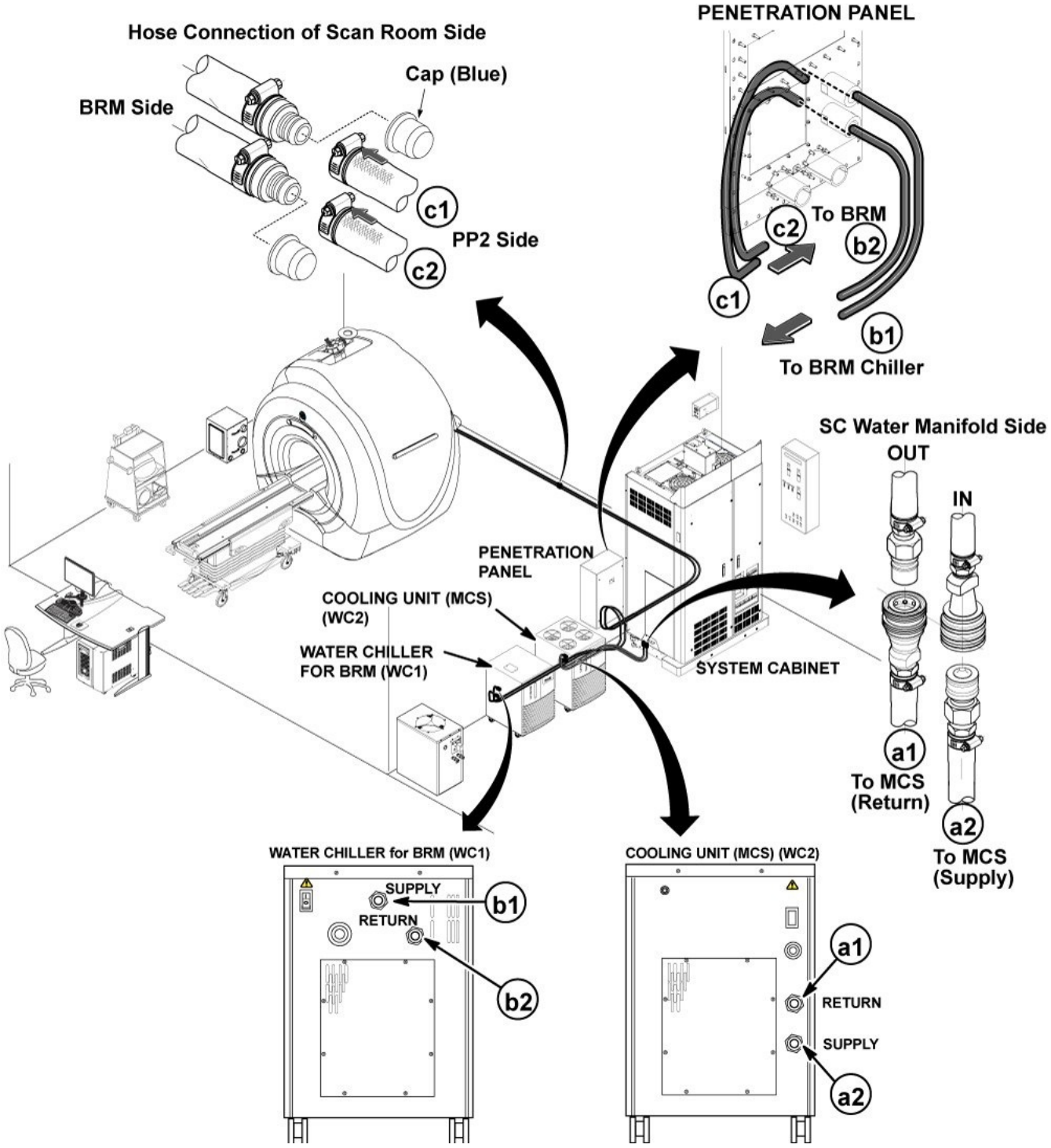
Illustration 8-16: Diagram (Type D)



2. Connect the hoses according to the following illustrations.

Illustration 8-17: Hose connection for type D & E

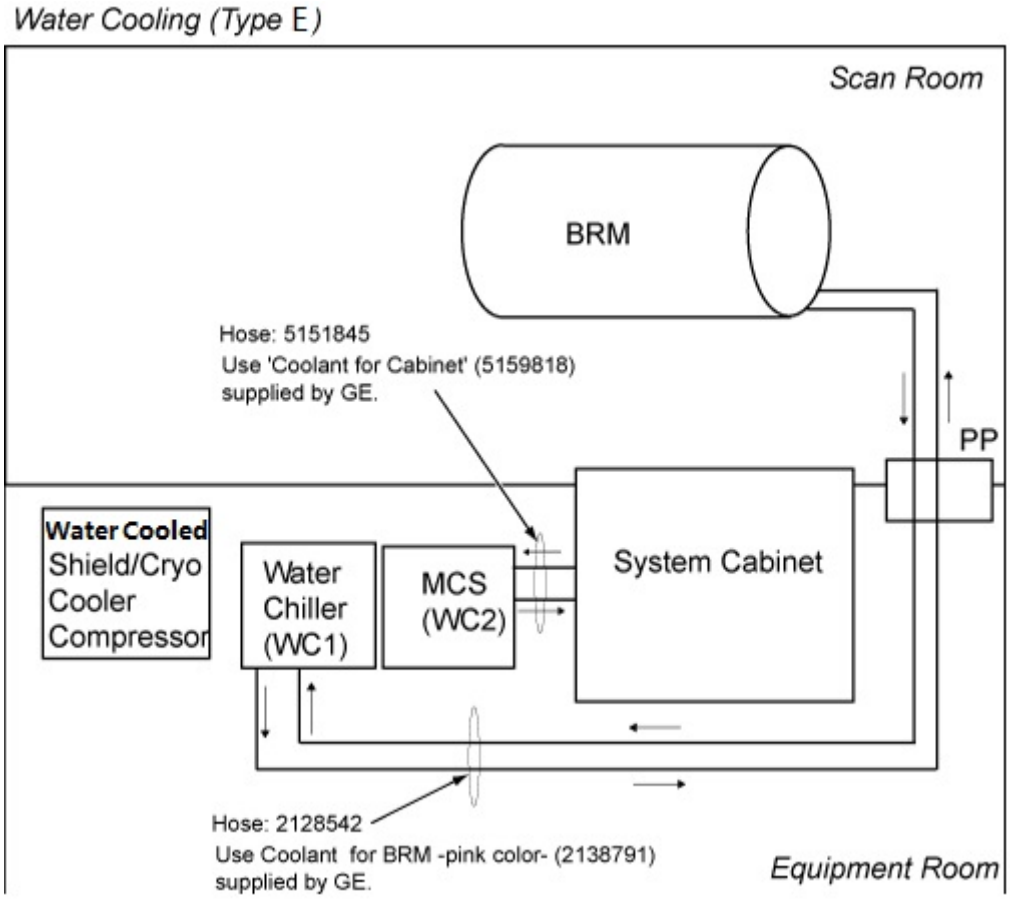
Type D & E



1.3.3.6 Hose connection for Type E

1. The following is the diagram of Water Chiller for Type E. Check that the required hoses and plumbing assy are prepared.

Illustration 8-18: Diagram (Type E)



2. Connect the hoses according to Illustration 8-17.

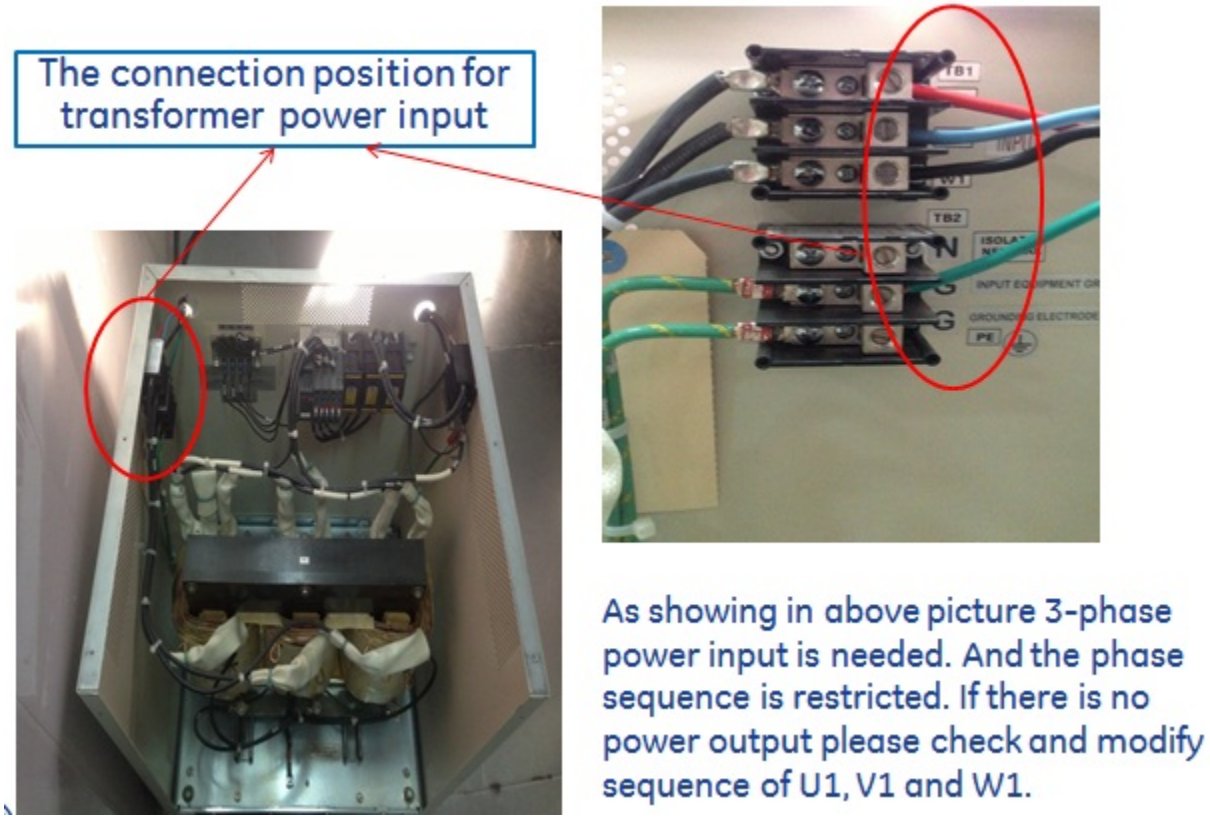
1.3.4 Power Cable Connection of 8kW LCS

1. Connect to the transformer

   Connect Step Down Transformer M3335TZ (three-phases) to the BRM chiller.

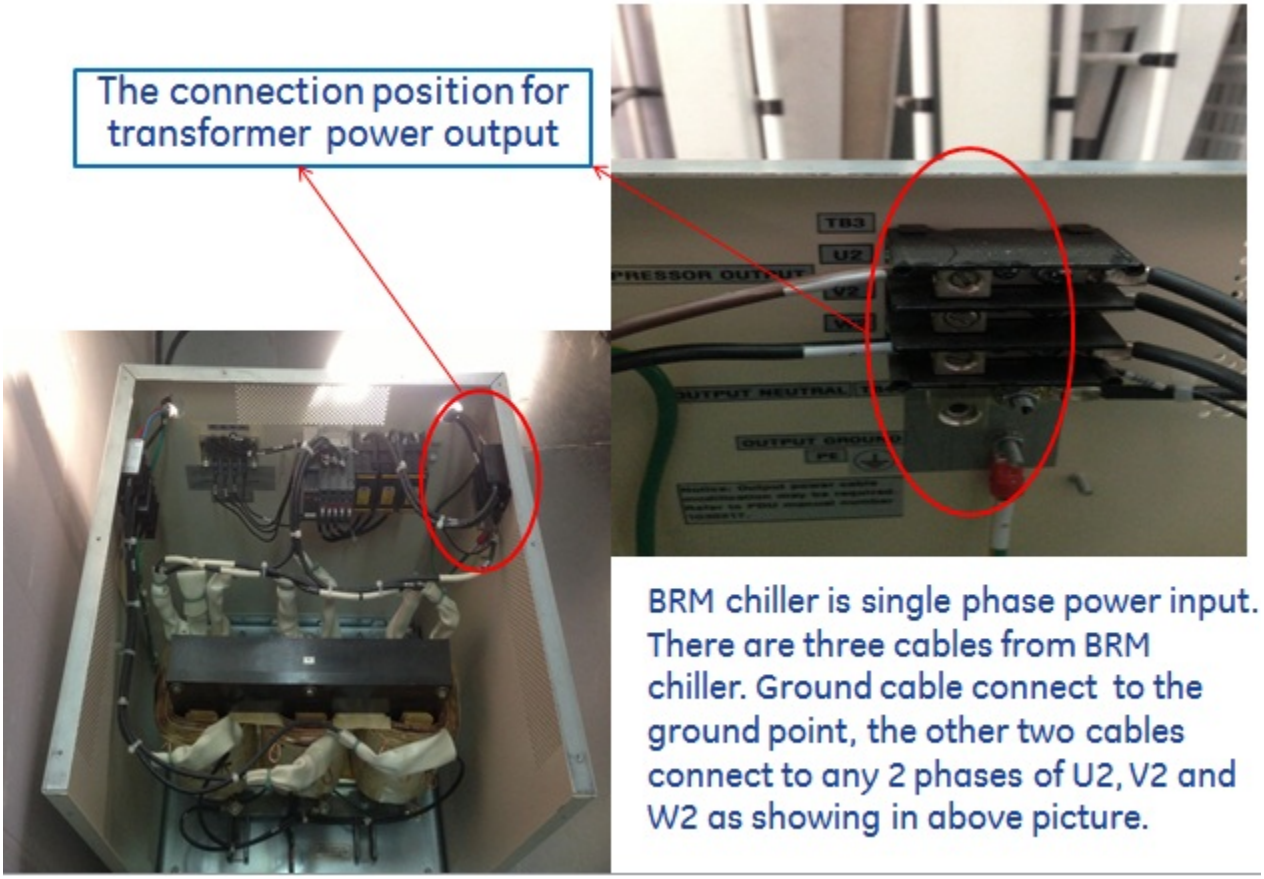
   a. The Transformer Input Connection

Illustration 8-19: Transformer Input Connection



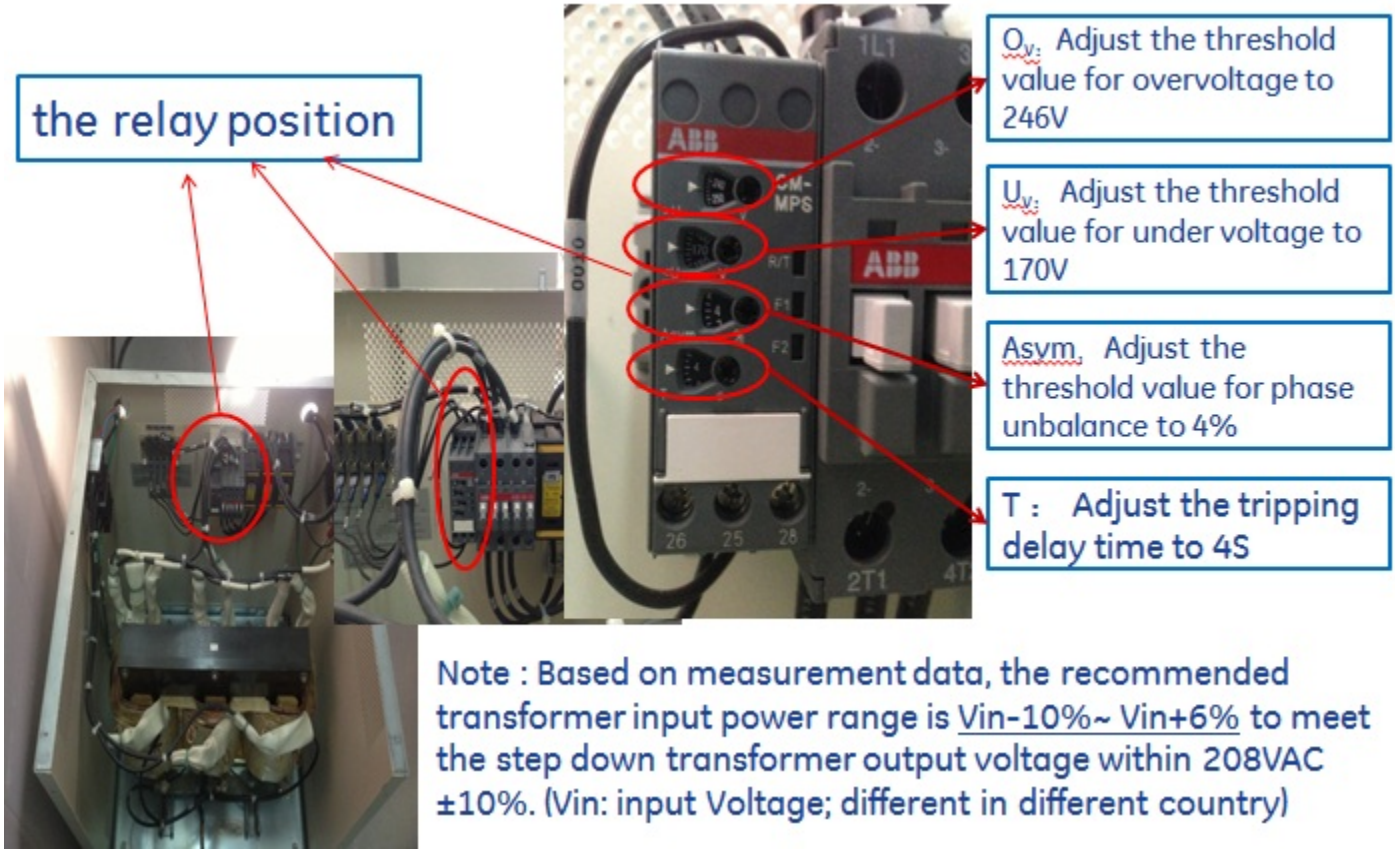
b. The Transformer Output Connection

Illustration 8-20: The Transformer Output Connection



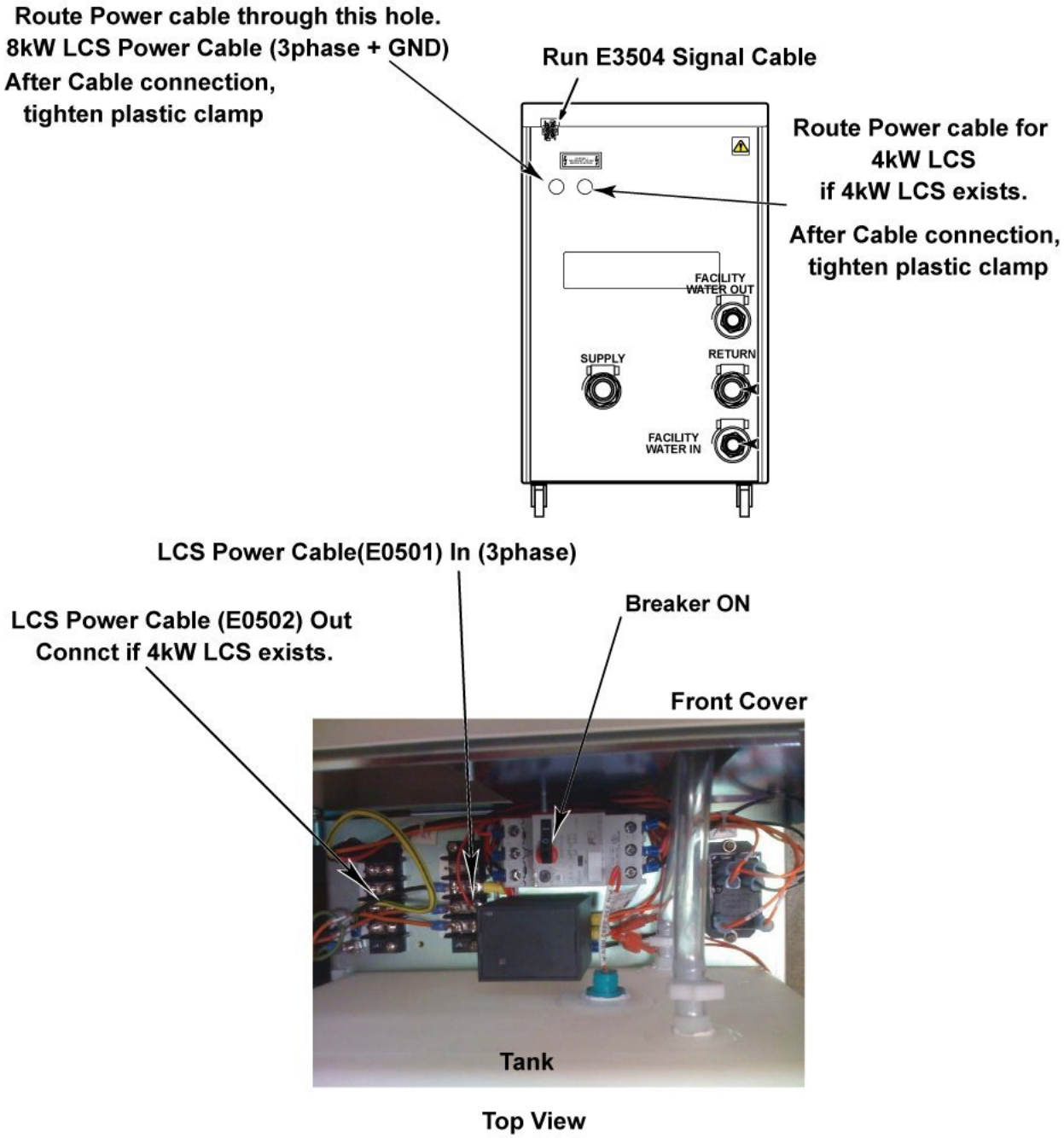
c. The Relay Setting and Adjustment

Illustration 8-21: The Relay Setting and Adjustment



2. Connect Power Cable.
    a. Open LCS Top cover.
    b. Route the cable through rear panel.
    c. Connect 3 phase, and Ground cable (Run E0501)
    d. After cable connection, tighten plastic clamp at the rear panel.
    e. Connect Run E3504 signal cable.

Illustration 8-22: Cable Connection for 8kW LCS



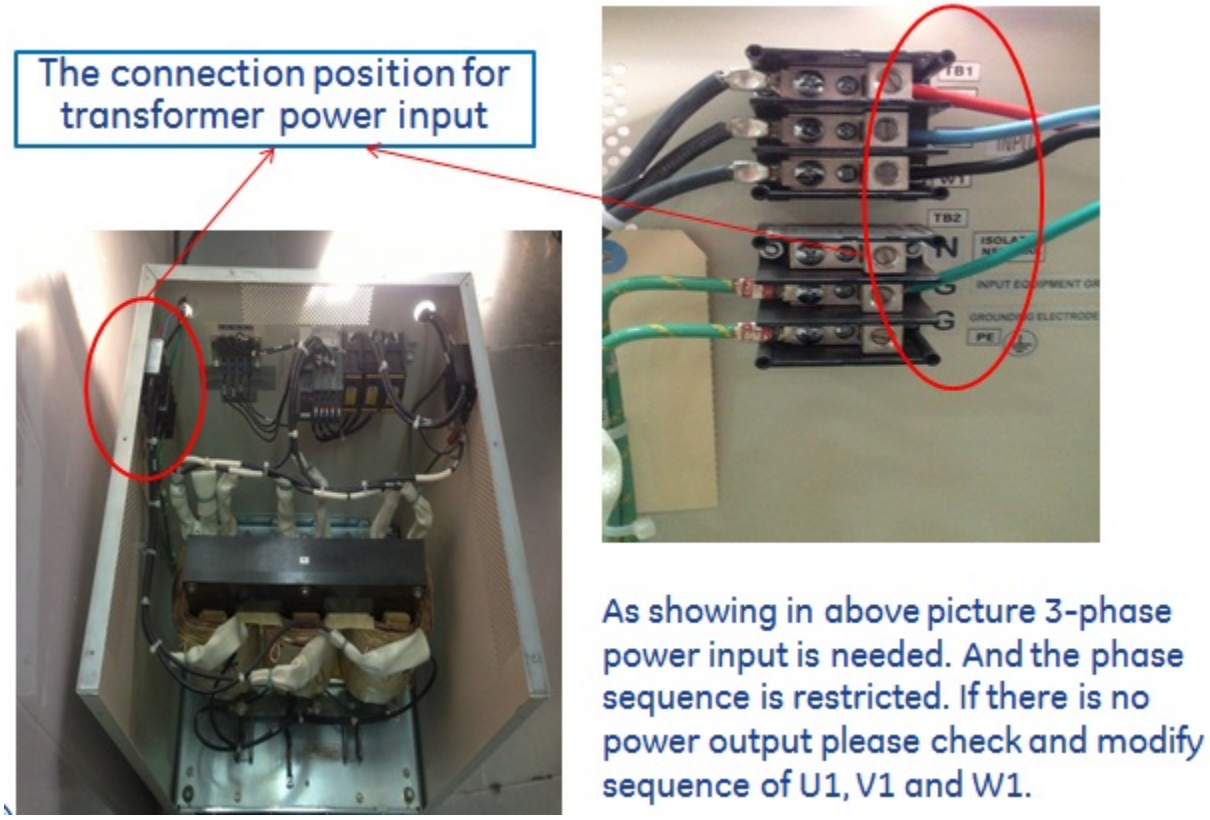
1.3.5 Power Cable Connection of 4kW LCS

1. Connect to the transformer

   Connect Step Down Transformer M3335TZ (three-phases) to the BRM chiller.

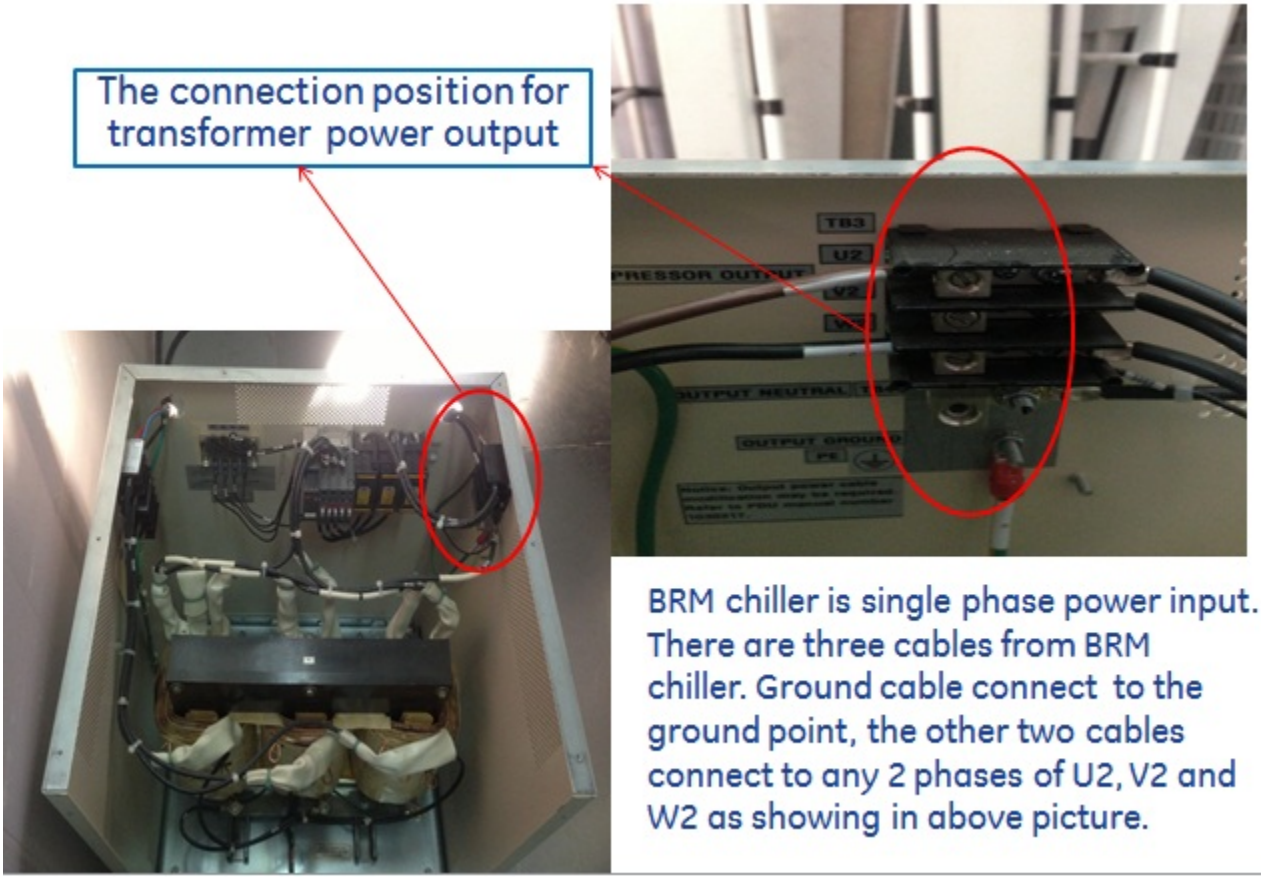
   a. The Transformer Input Connection

Illustration 8-23: Transformer Input Connection



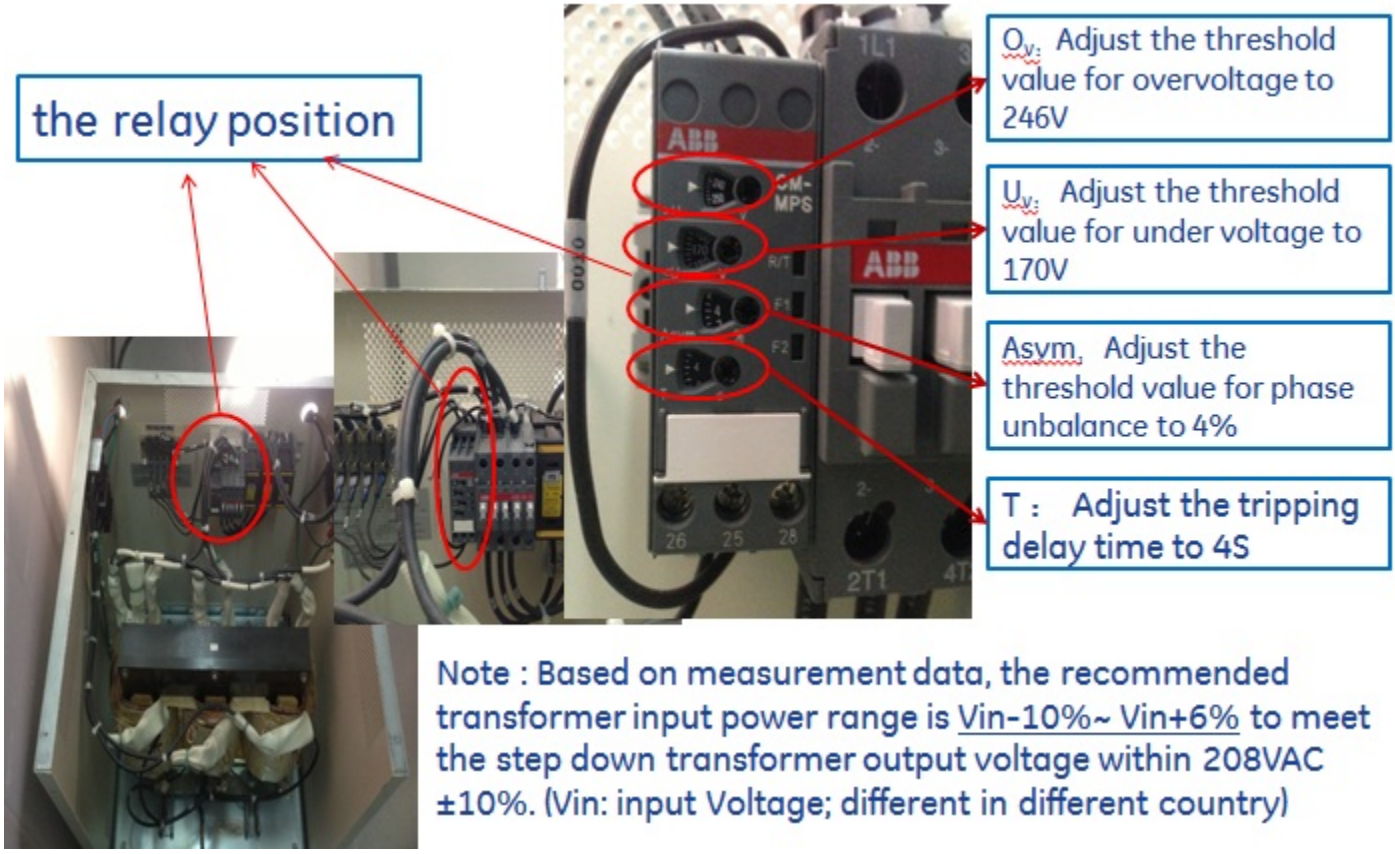
b. The Transformer Output Connection

Illustration 8-24: The Transformer Output Connection



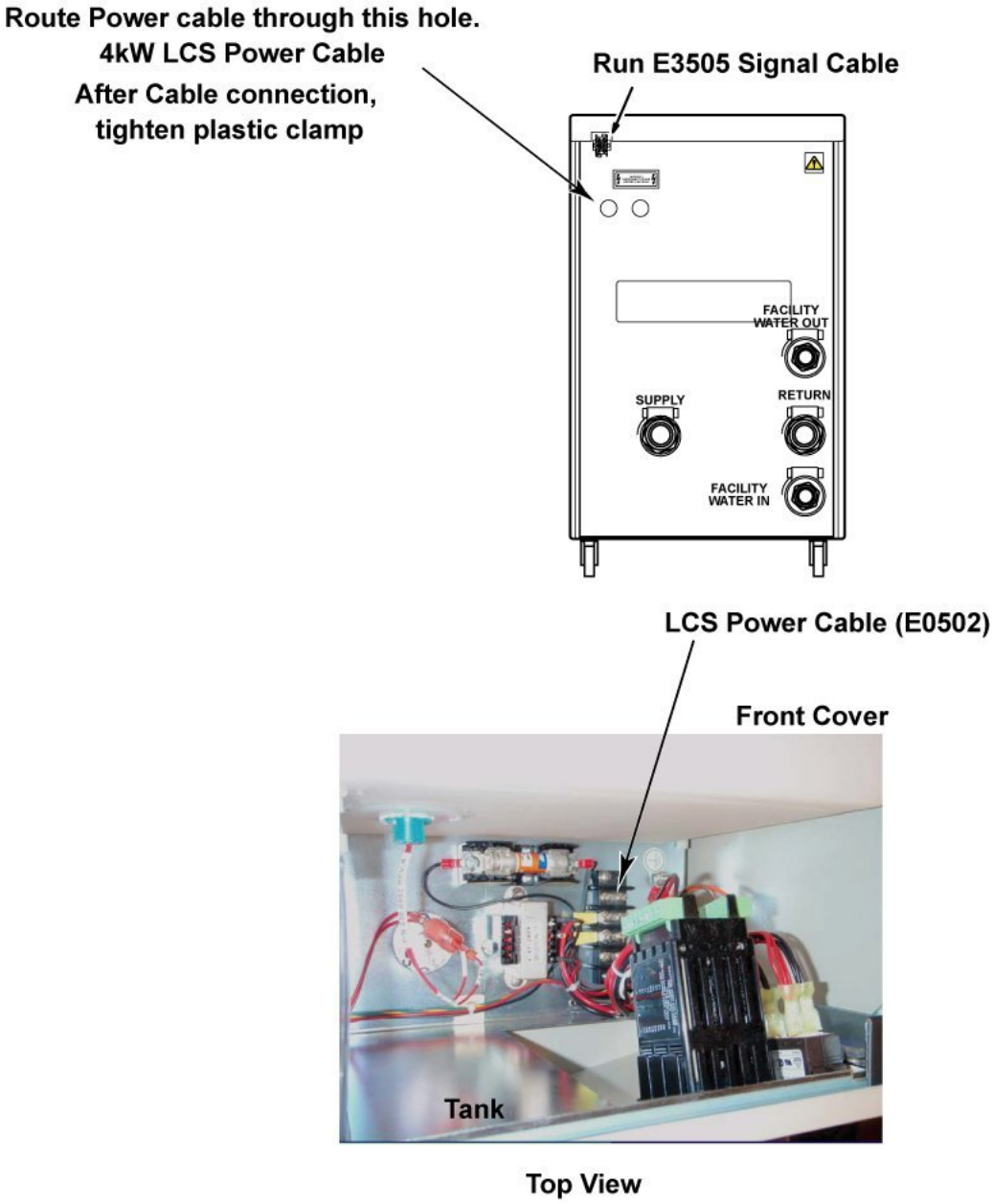
c. The Relay Setting and Adjustment

Illustration 8-25: The Relay Setting and Adjustment



2. Connect Power Cable.
    a. Open LCS Top cover.
    b. Route the cable through rear panel from 8KW LCS as shown in Illustration 8-22.
    c. Connect power cable (Run E0502).
    d. After cable connection, tighten plastic clamp at the rear panel.
    e. Connect Run E3505 signal cable.

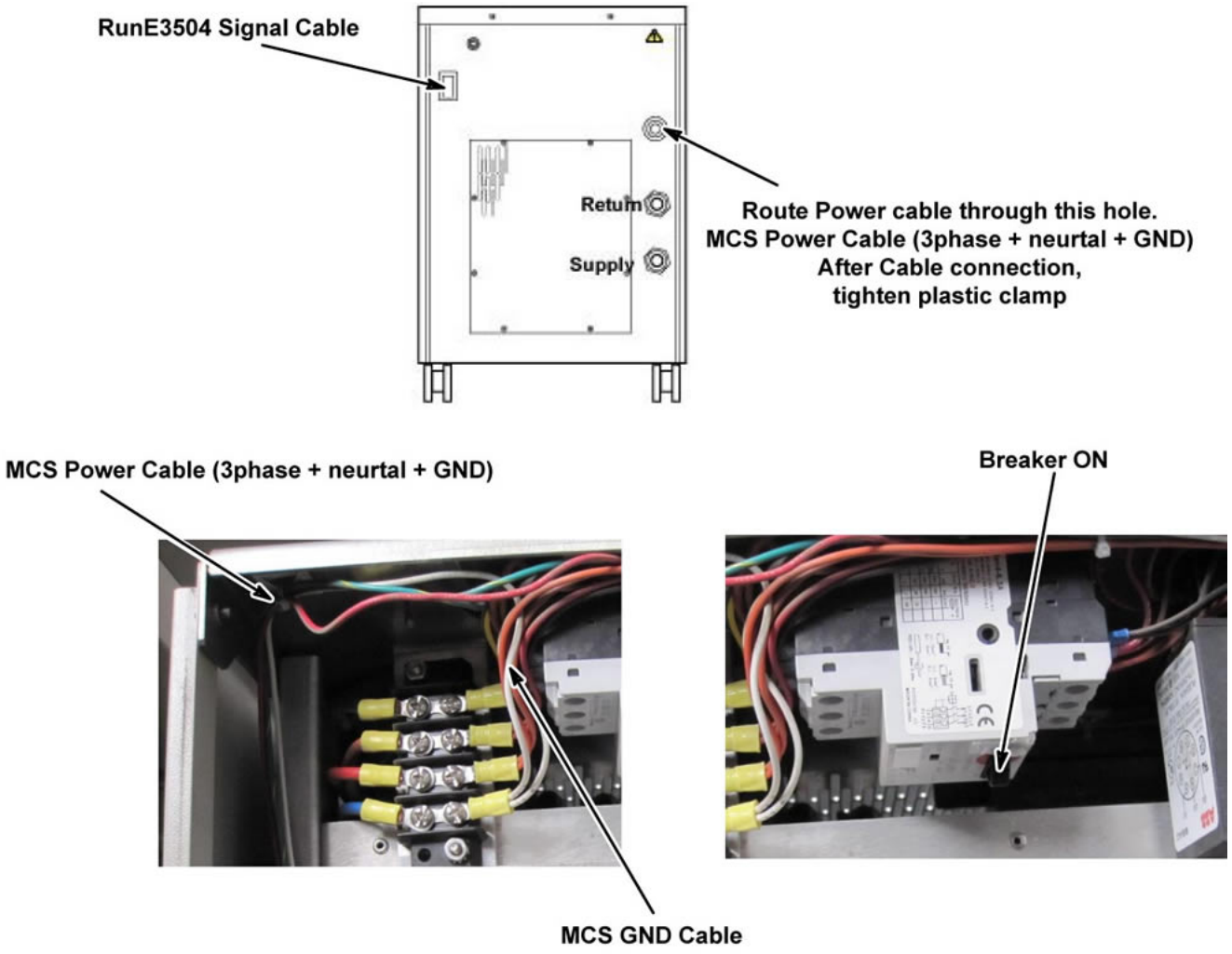
Illustration 8-26: Cable Connection for 4kW LCS



1.3.6 Power Cable Connection of MCS

1. Connect Power Cable.
    a. Open MCS Top cover.
    b. Route the cable through rear panel.
    c. Connect 3 phase, neutral, and Ground cable (E0503)
    d. After cable connection, tighten plastic clamp at the rear panel.
    e. Connect Run E3504 signal cable.

Illustration 8-27: Cable Connection for MCS



1.3.7 Power Cable Connection for BRM chiller

1. Route the cable (E0507) between BRM chiller and facility power/MDP.
2. Connect the cable (E0507) with facility power or MDP.
3. Connect the cable (E0507) with BRM chiller.

1.4 Finalization

No finalization steps.

Chapter 9 Cable Routing and Power/Ground Line Connection

1 Cable Routing and Power/Ground Line Connection

1.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	60 mins	Not Applicable

1.2 Preliminary Requirements

1.2.1 Safety

DANGER

MAKE SURE ALL POWER TO CABINET IS OFF, LOCKED, & TAGGED BEFORE CONNECTING WIRES.

NOTICE

If 3 phase WYE with neutral and ground (5 wire system) input is used the neutral must be terminated inside the main disconnect control and not brought to the System cabinet.

1.3 Procedure

1.3.1 System Cabinet PDU Input voltage selection

1. Remove the System Cabinet PDU bottom cover.
2. Before connecting the input power cables, determine the nominal value of the input voltage. The PDU allows for nominal input voltage of 200, 208, 380, 400, 415, and 480 VAC (Three phase). For each three phases, be sure the wire is connected to the proper terminal for actual input voltage at the site and that the terminal screw is tight to make a good connection. For Removal and Installation of cable, refer to Illustration 9-2.

Illustration 9-1: Terminal

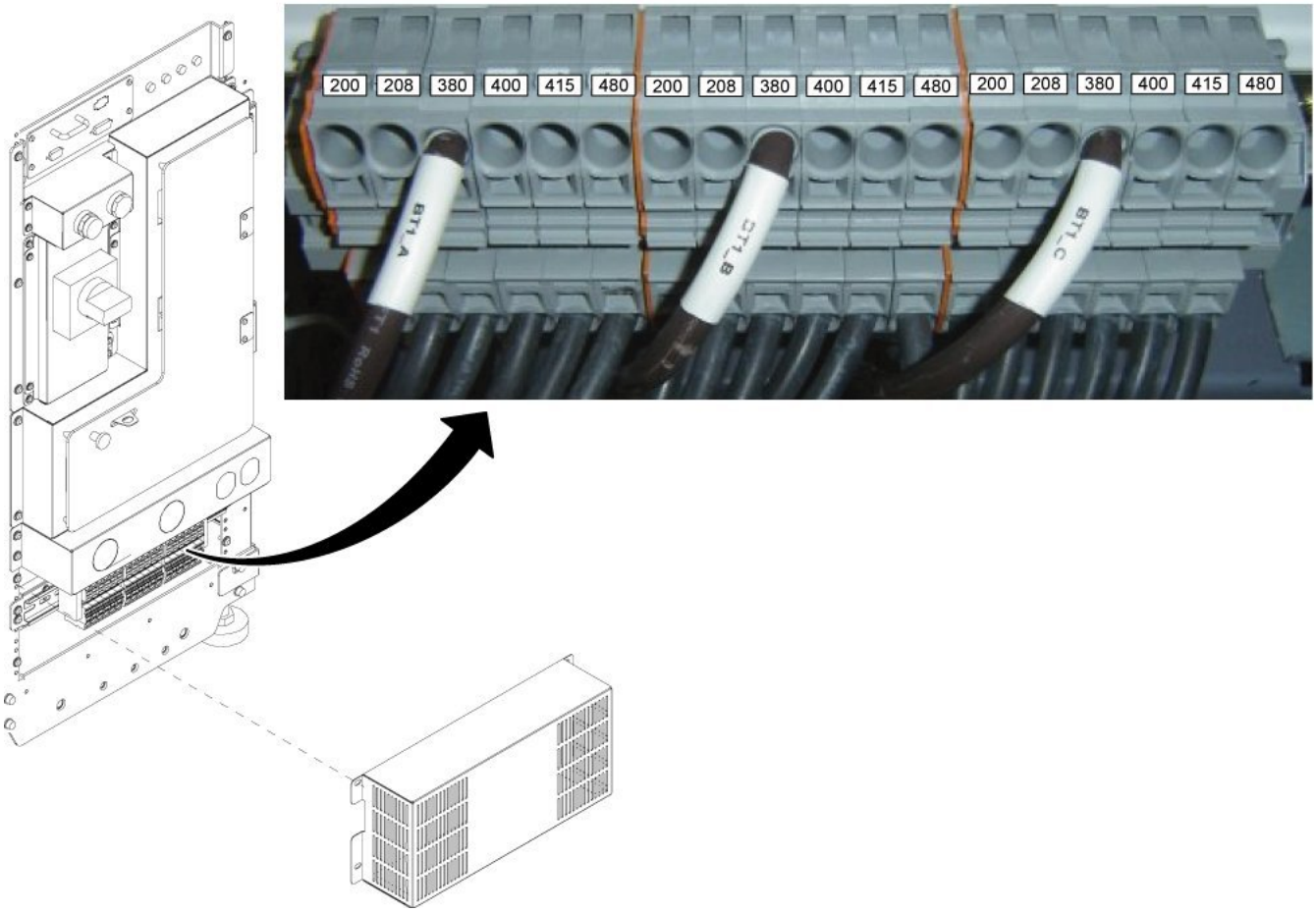
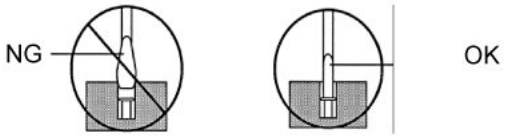


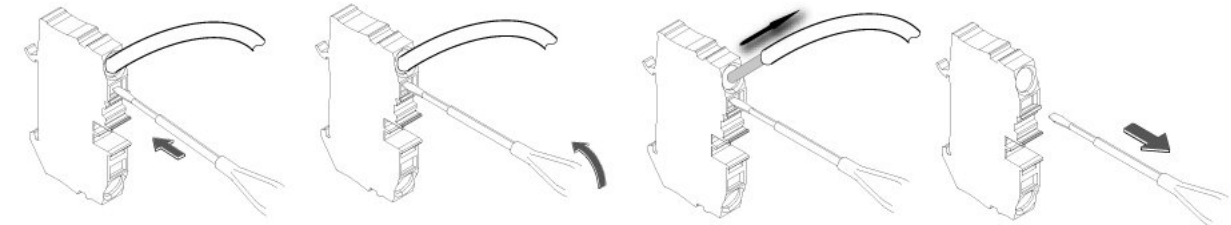
Illustration 9-2: How to remove/install terminal cable

Note

Use the flat head screw driver so that it's blade can be touched the hole edge to fix the cable securely.



Remove Cable



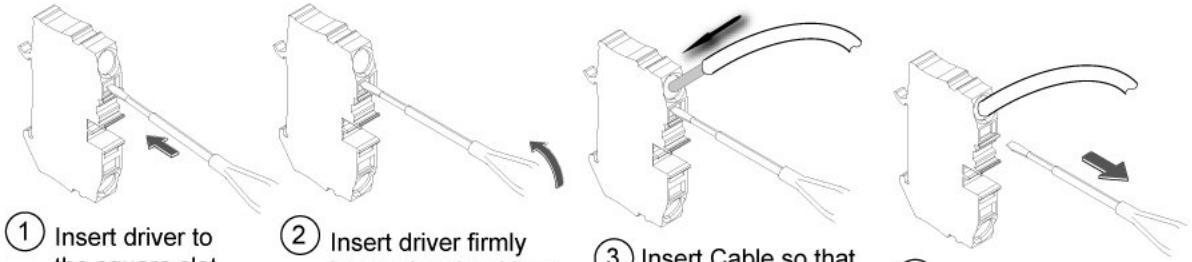
① Insert driver to the square slot.

② Insert driver firmly by moving the driver angle up to make it vertical to the termnial.

③ Remove the cable from terminal.

④ Remove driver.

Insert Cable



① Insert driver to the square slot.

② Insert driver firmly by moving the driver angle up to make it vertical to the termnial.

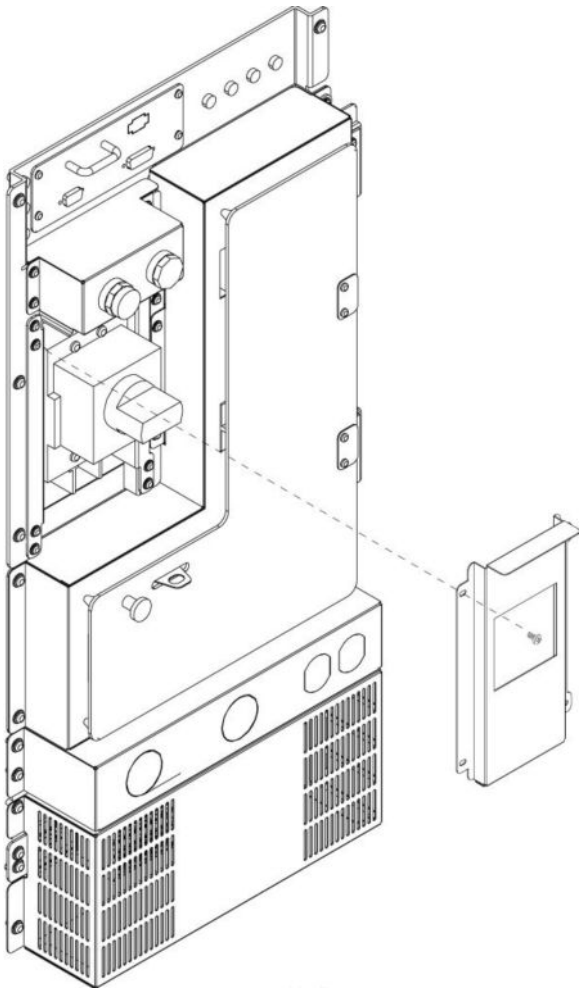
③ Insert Cable so that it reaches to the end of hole.

④ Remove the driver.

Pull the cable a little to confirm that cable is firmly installed.

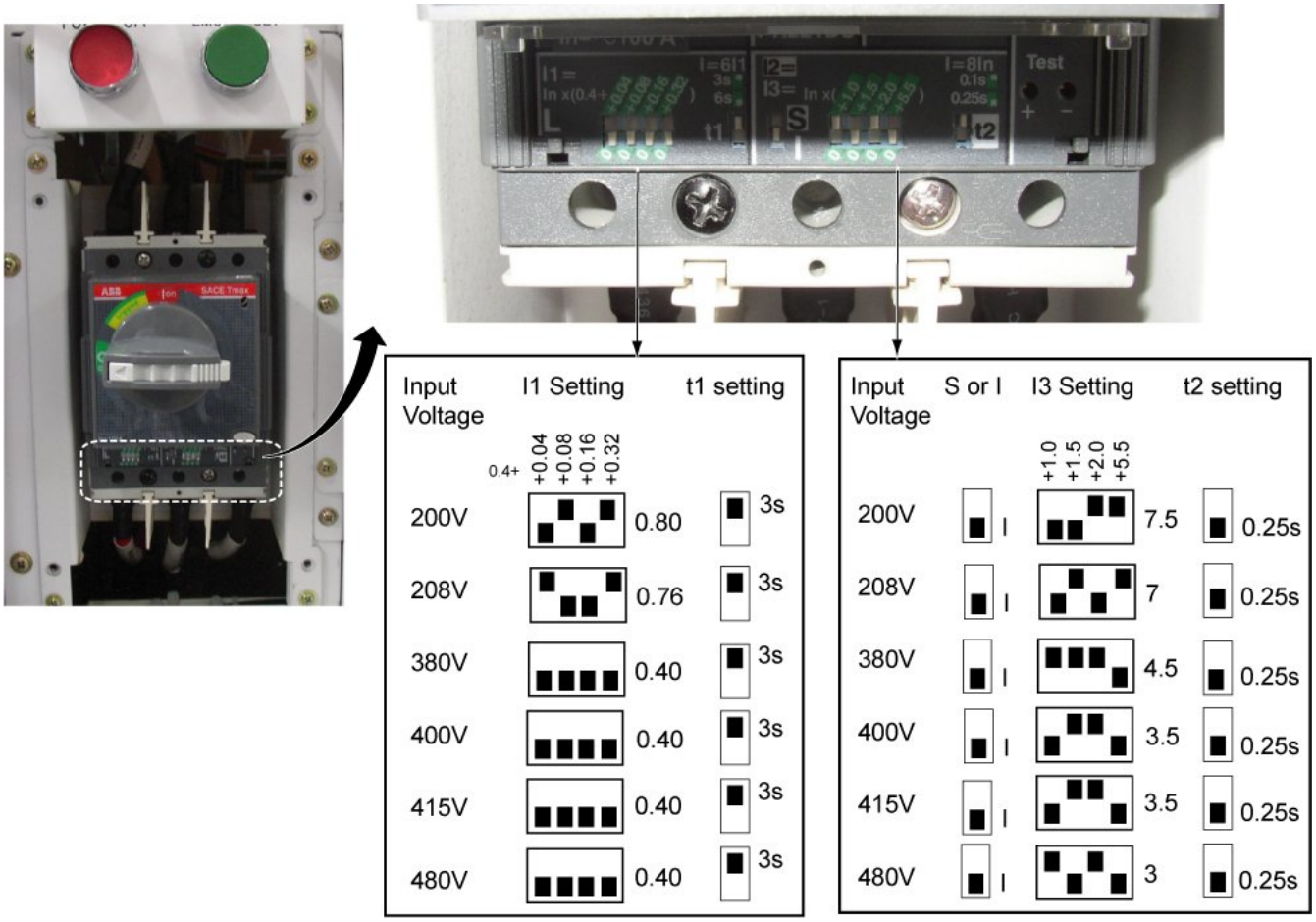
3. Restore the System Cabinet PDU bottom cover.
4. Remove the cover of the main breaker.

Illustration 9-3: Cover for Overload and short circuit trip dip SW



5. Set the Overload and short circuit trip dip SW to the correct value corresponding to the input voltage.

Illustration 9-4: DIP SW



6. Restore Cover.

1.3.2 Sorting And Routing Cables

⚠CAUTION

Ty-wraps must be cut flush with no protruding sharp edges or points. Failure to do so can result in numerous laceration hazards when servicing the equipment.

NOTE: System power, ground, and data cables are color coded at each end by destination per colors shown on Cable Map.

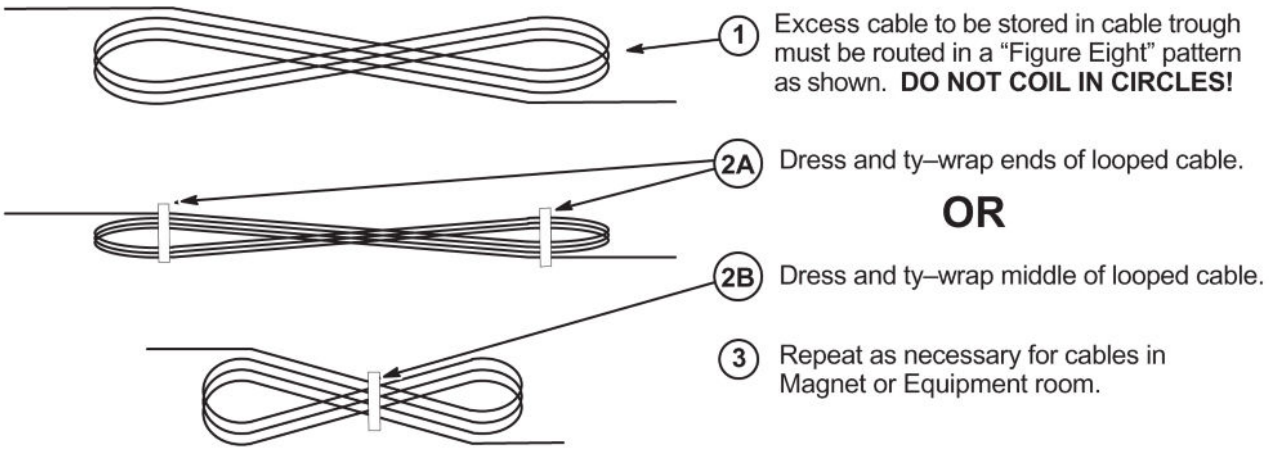
1. Sort cables by destination. Normally, it is best to sort cables originating from the farthest cabinet or component from the PDU first. This will make it easier to pull cables through the troughs.

   NOTE: Carefully review architectural drawings to insure that all ducts are properly installed and that all signal and power cables are accounted for before starting to route cable runs.

2. Unroll coiled cables along the intended route to insure that they will lay freely without twists or kinks. Route cables in accordance with the applicable System Interconnect Diagram.

3. Plan for storage location of coiled cable excess length if cables are to remain at delivered length. See Illustration 9-13. Some cables are usually cut to length such as gradient cables, power cables, Head and Body RF, and Fiber-optic cables.
4. Place cables in provided troughs, conduit, or ducts. Leave sufficient slack for later connection when cabinets are in final position according to site architectural plans. Route cables inside exam room to Rear Pedestal area with sufficient length remaining to complete routing and connecting within Magnet Enclosure.

Illustration 9-13: Proper Storage Of Excess Cables

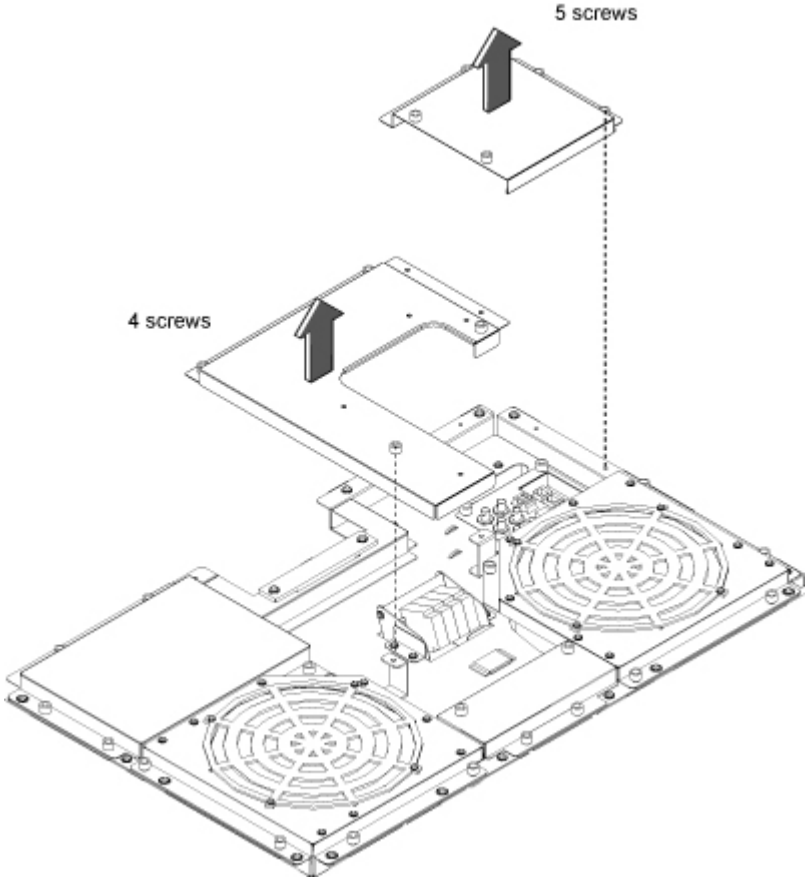


1.3.3 Power and Ground Cable Connection

1.3.3.1 System Cabinet Power Cable Connection

1. Remove System Cabinet Top covers. There is cable duct of two types. Refer to Illustration 9-14.

Illustration 9-14: Top Cover Removal for A type



NOTICE

Just connect Power and Ground Cable only. Ground resistance check will be performed.

NOTICE

Regarding the main Power cable, strip the cable covering material according to the Illustration 9-15

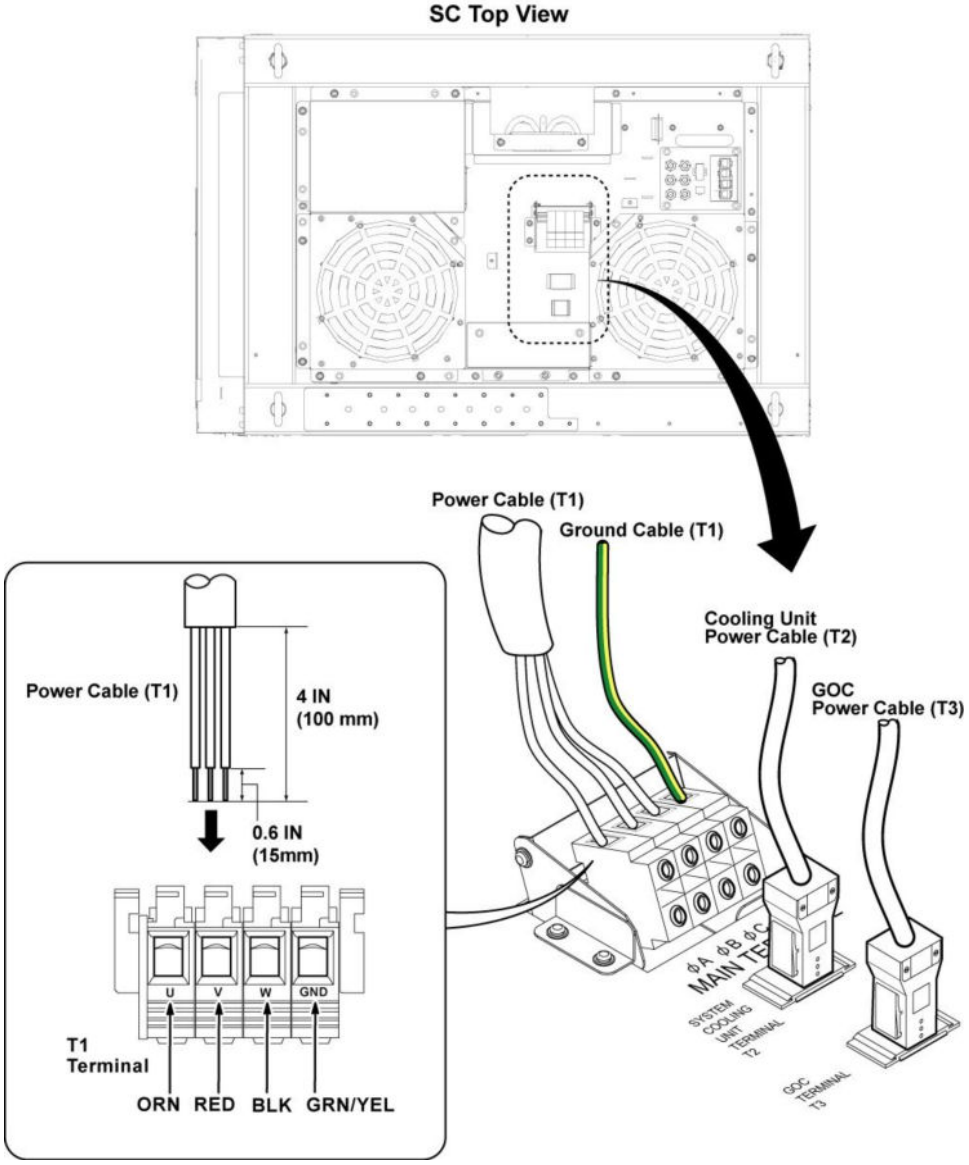
2. Route facility input power cable and ground wire to the SC Top Area.Route power cables and Ground Cable to the SC Top Area.
    - Terminal 1: Facility Power and Ground
    - Terminal 2: RUN E0501 for MCS or LCS.

      For 11KW Chiller or Lytron BRM Chiller, terminal is not prepared on System Cabinet.

      Power is connected from MDP or Facility PDU.
    - Terminal 3: RUN E0500 for Simple OC.
3. Connect T1, T2, T3 and T4 cables according to the following Illustration.

NOTE: Top Covers will be restored after Signal cable wiring. Leave the top covers removed during ground resistance check.

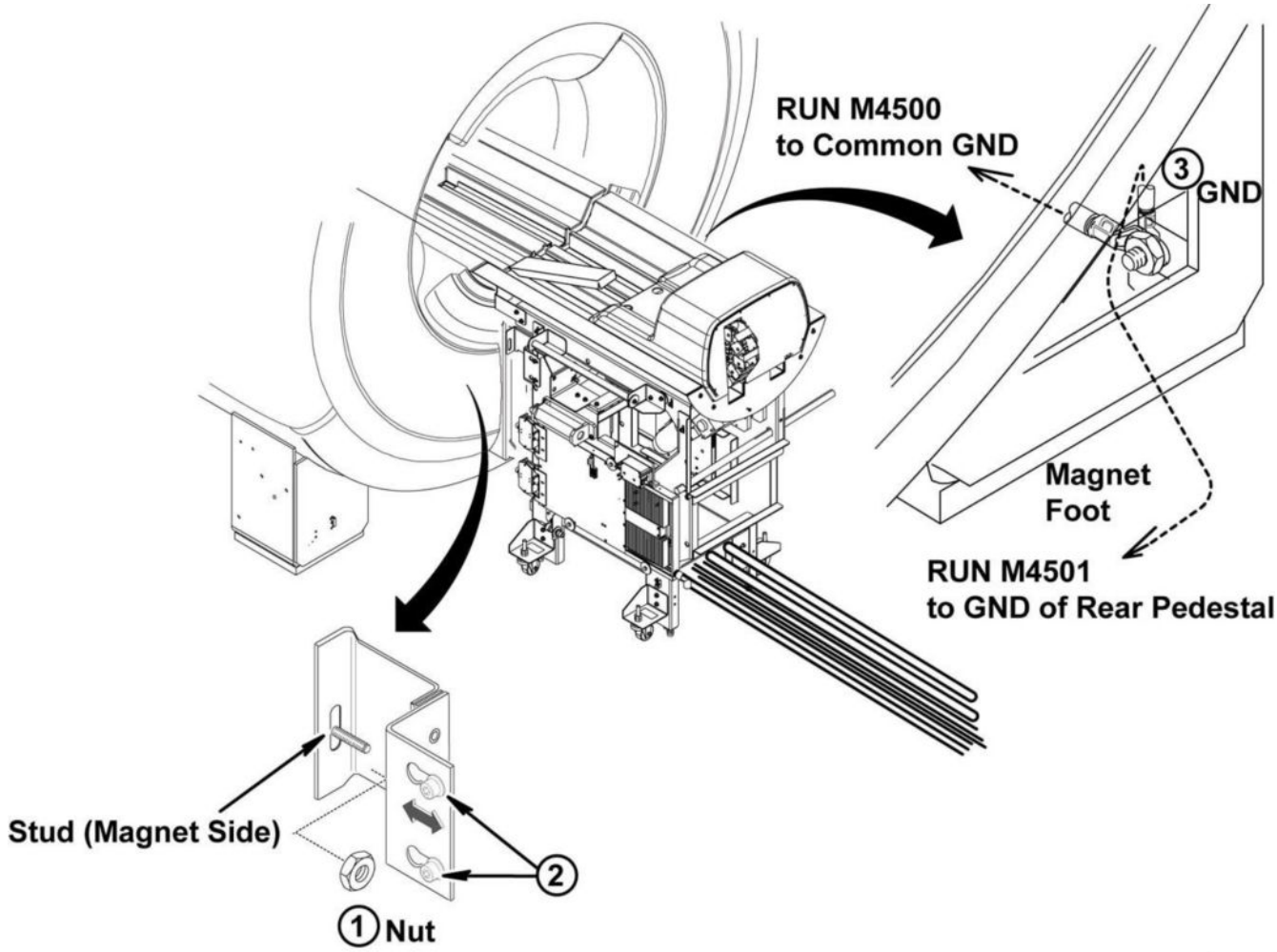
Illustration 9-15: Power Cable and Ground Cable Connection



1.3.3.2 Connection Of Magnet Ground, Run M4500, M4501 and M4503

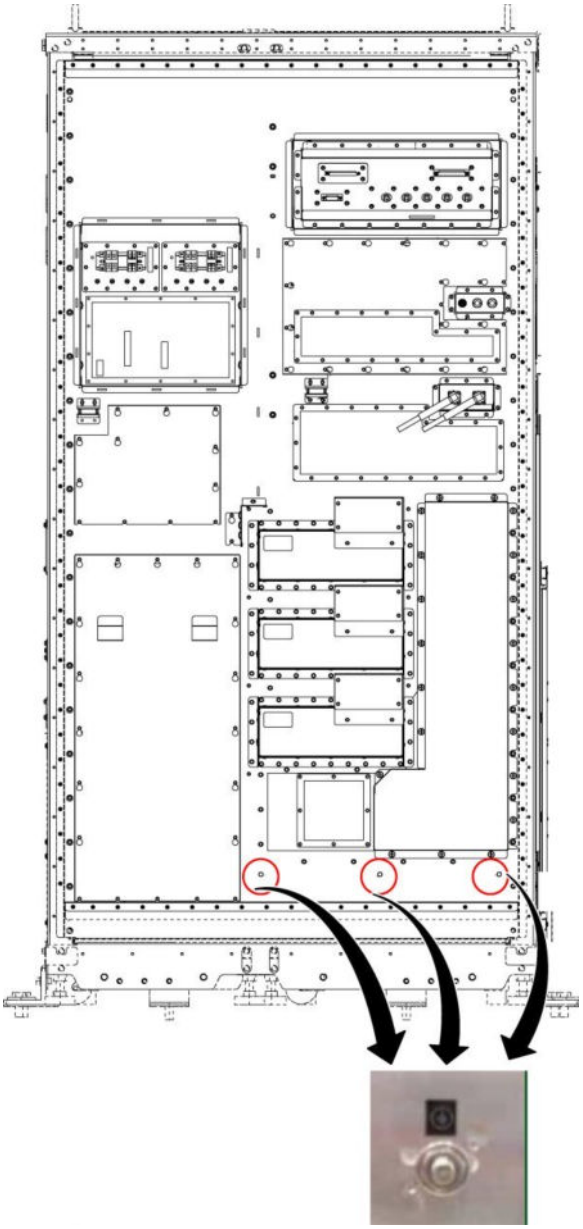
1. Check that the Magnet ground cables , Run M4500, M4501 and M4503, were connected to the opposite side rear left leg.

Illustration 9-16: Connect Front and Rear Split Bridge



2. The other end of Run 2050 is connected to the Ground stud of System Cabinet (Scan Room Side). Select one of three ground studs.

Illustration 9-17: Ground studs location



1.4 Finalization

No finalization steps.

Illustration 9-5: Cable Map (Type A Detachable Table)

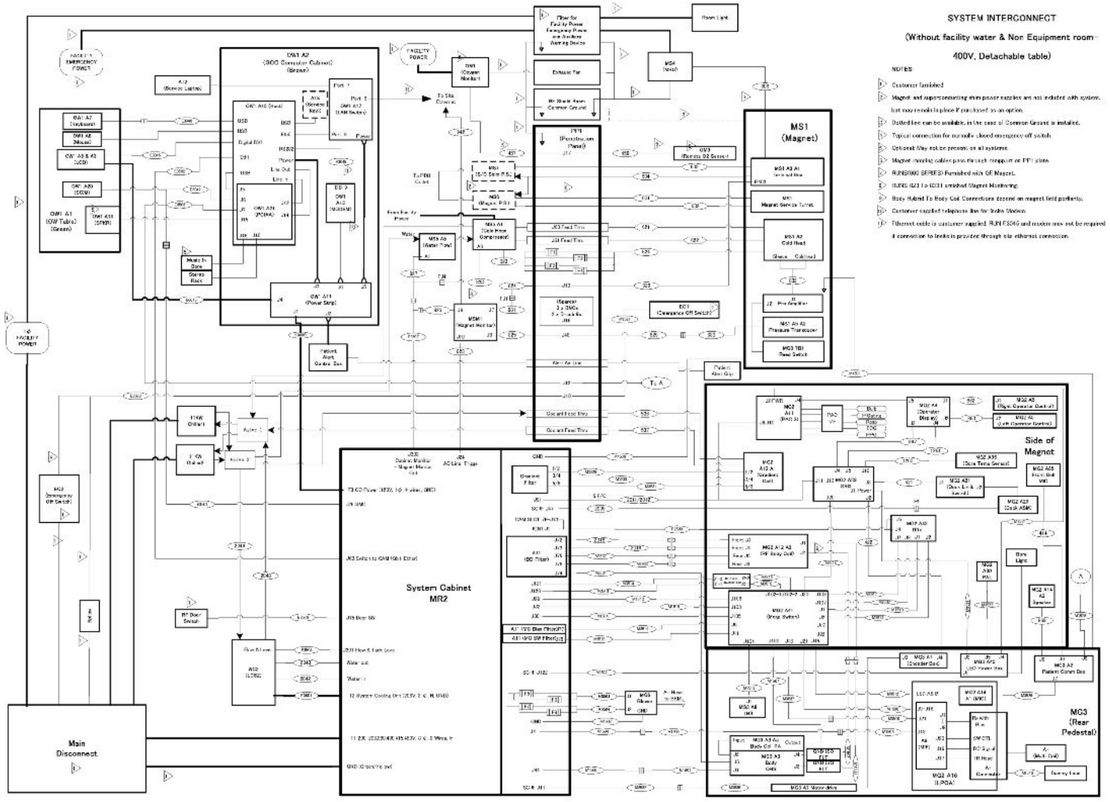


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Illustration 9-6: Cable Map (Type B Detachable Table)

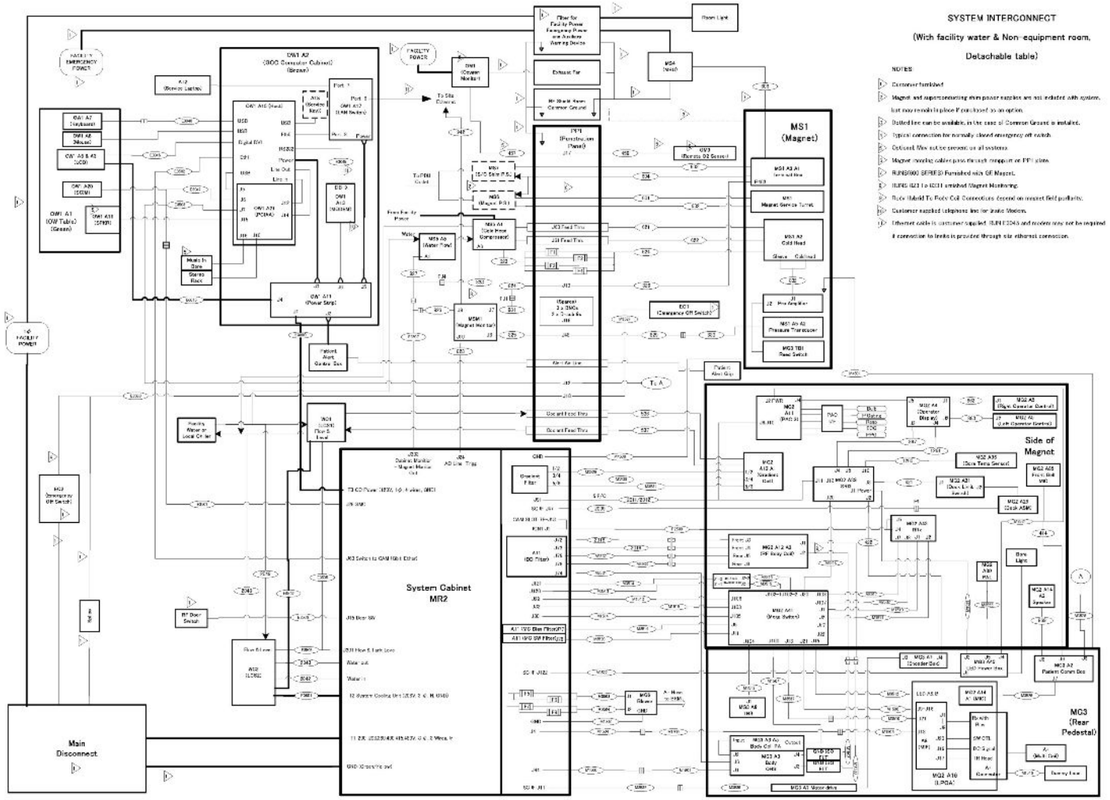

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Illustration 9-7: Cable Map (Type C Detachable Table)

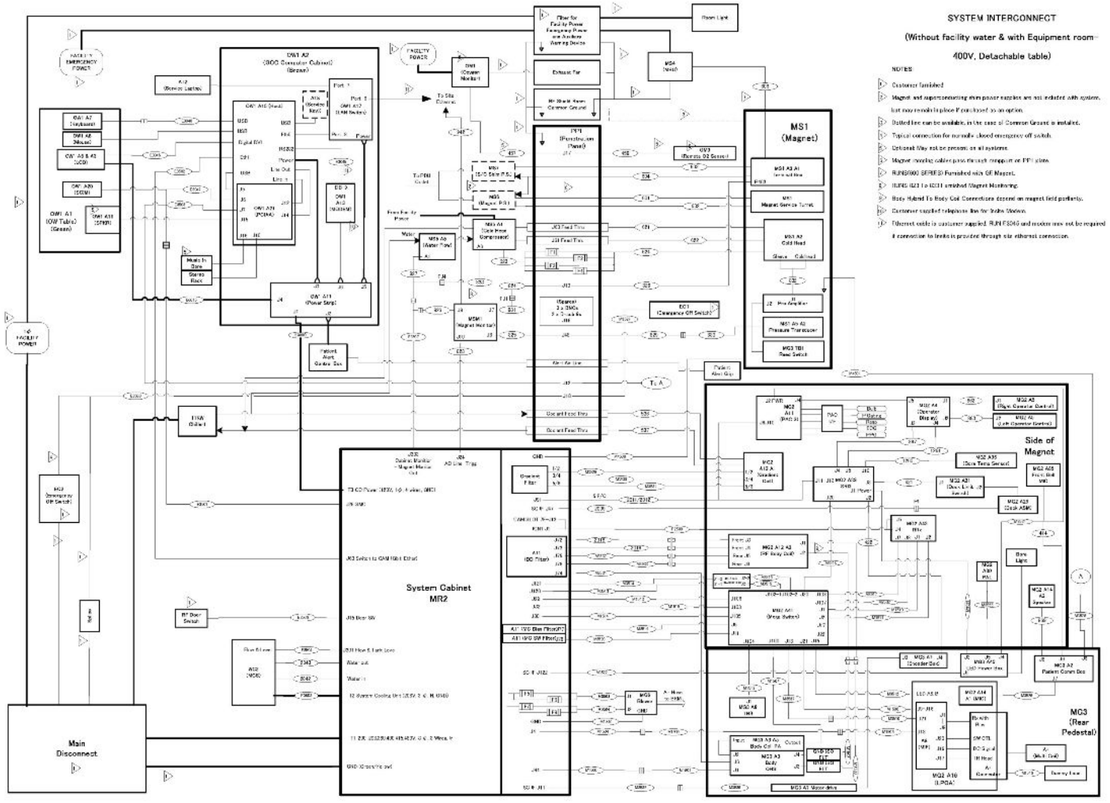

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Illustration 9-8: Cable Map (Type D Detachable Table)

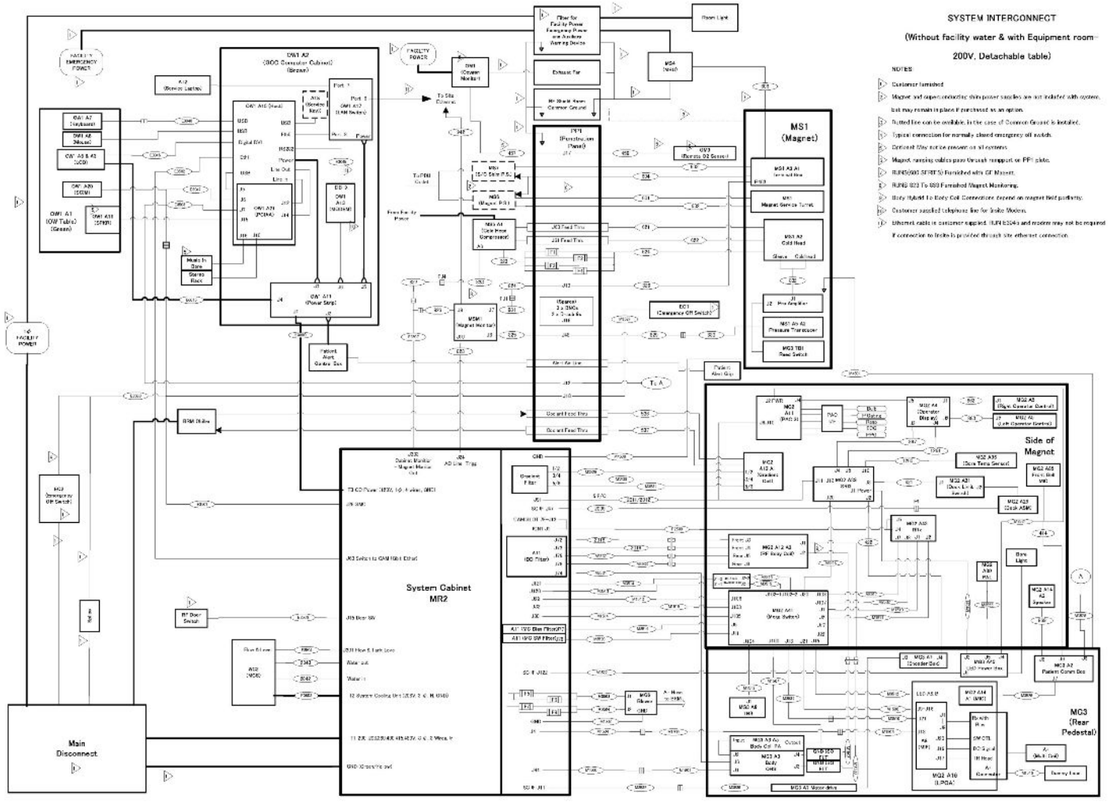

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Illustration 9-9: (Type A Fixed Table)

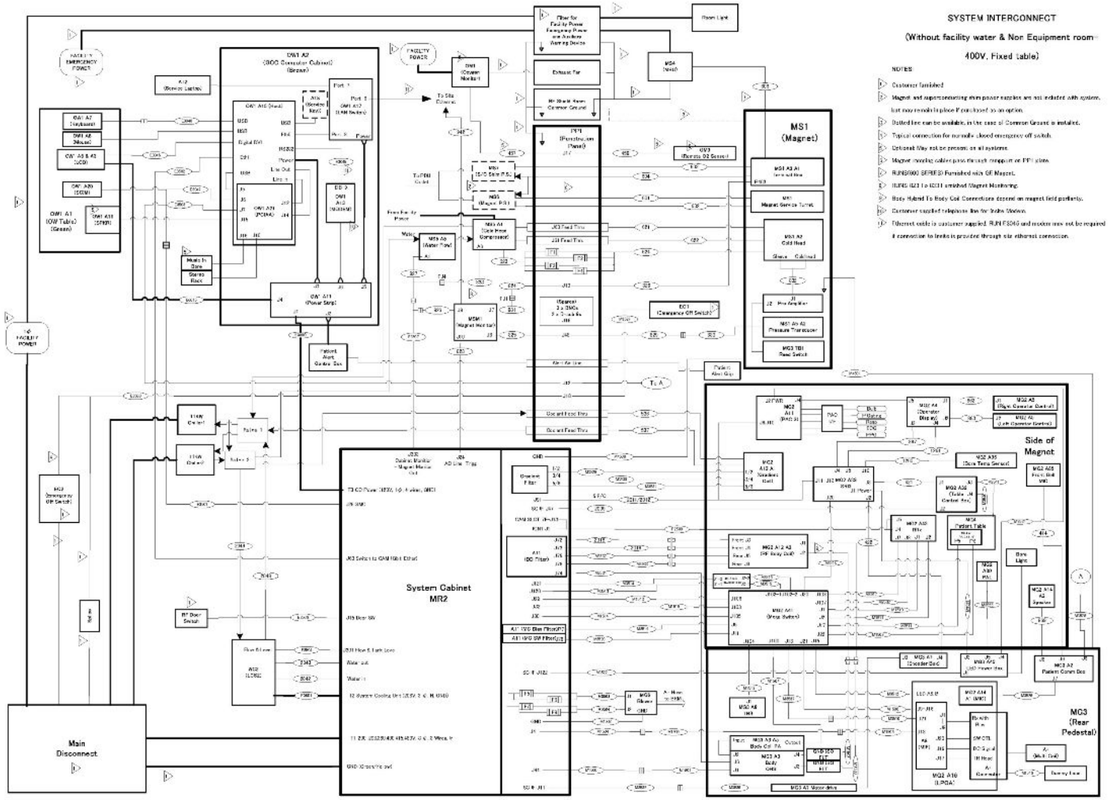

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Illustration 9-10: (Type B Fixed Table)

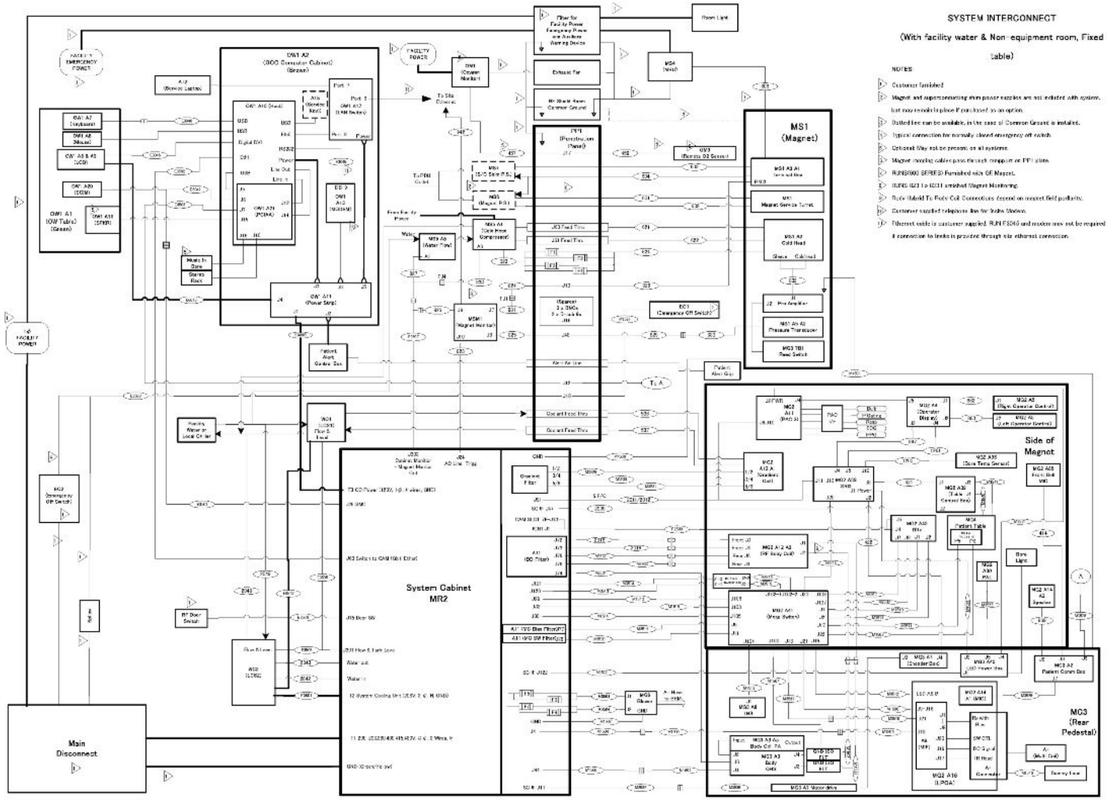

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Illustration 9-11: (Type C Fixed Table)

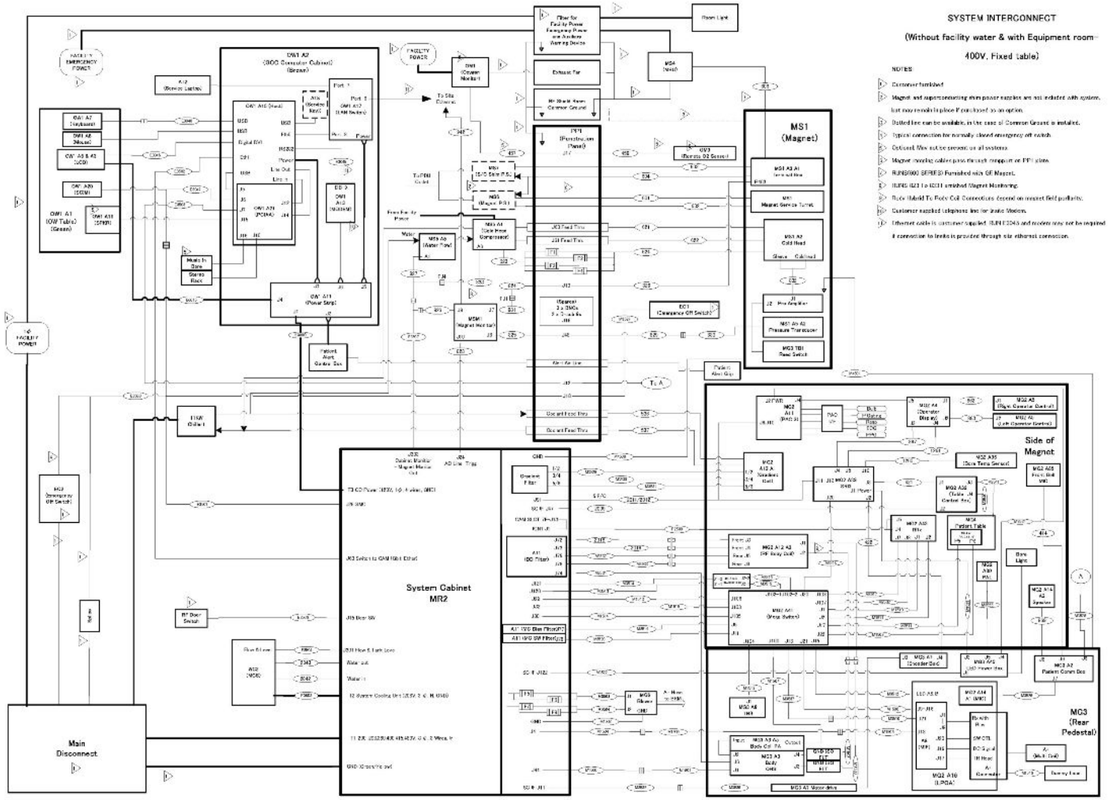

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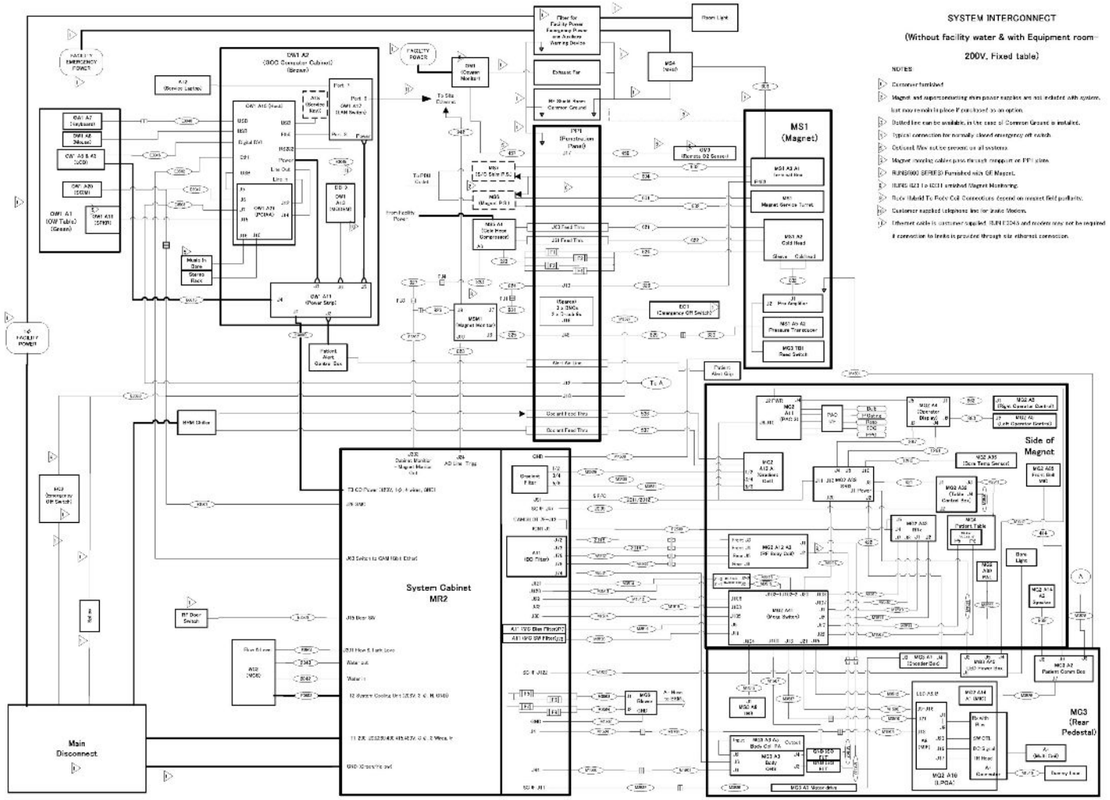
Illustration 9-12: (Type D Fixed Table)



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Chapter 10 Cable Installation

1 Cable Installation

1.1 Personnel Requirements

Personnel Requirements	Preliminary Reqs	Procedure	Finalization
1	Not Applicable	120 mins	Not Applicable

1.2 Preliminary Requirements

1.2.1 Safety

DANGER

MAKE SURE ALL POWER TO CABINET IS OFF, LOCKED, & TAGGED BEFORE CONNECTING WIRES.

1.3 Procedure

1.3.1 Cable Interconnect Documentation

The cable maps illustrate the Optima MR360/Brivo MR355 1.5T system interconnect for all supplied cables and interface with customer supplied wiring.

- Interconnects for additional cables supplied with other options are illustrated in the installation manual shipped with the option.
  - Instructions for connections for optional laser cameras are supplied with option.
  - Connection procedures for other options are covered in the installation manual shipped with the option.
- Interconnect details for magnet subsystem are covered in the applicable magnet subsystem manual.

1.3.2 Cable Interconnect Maps

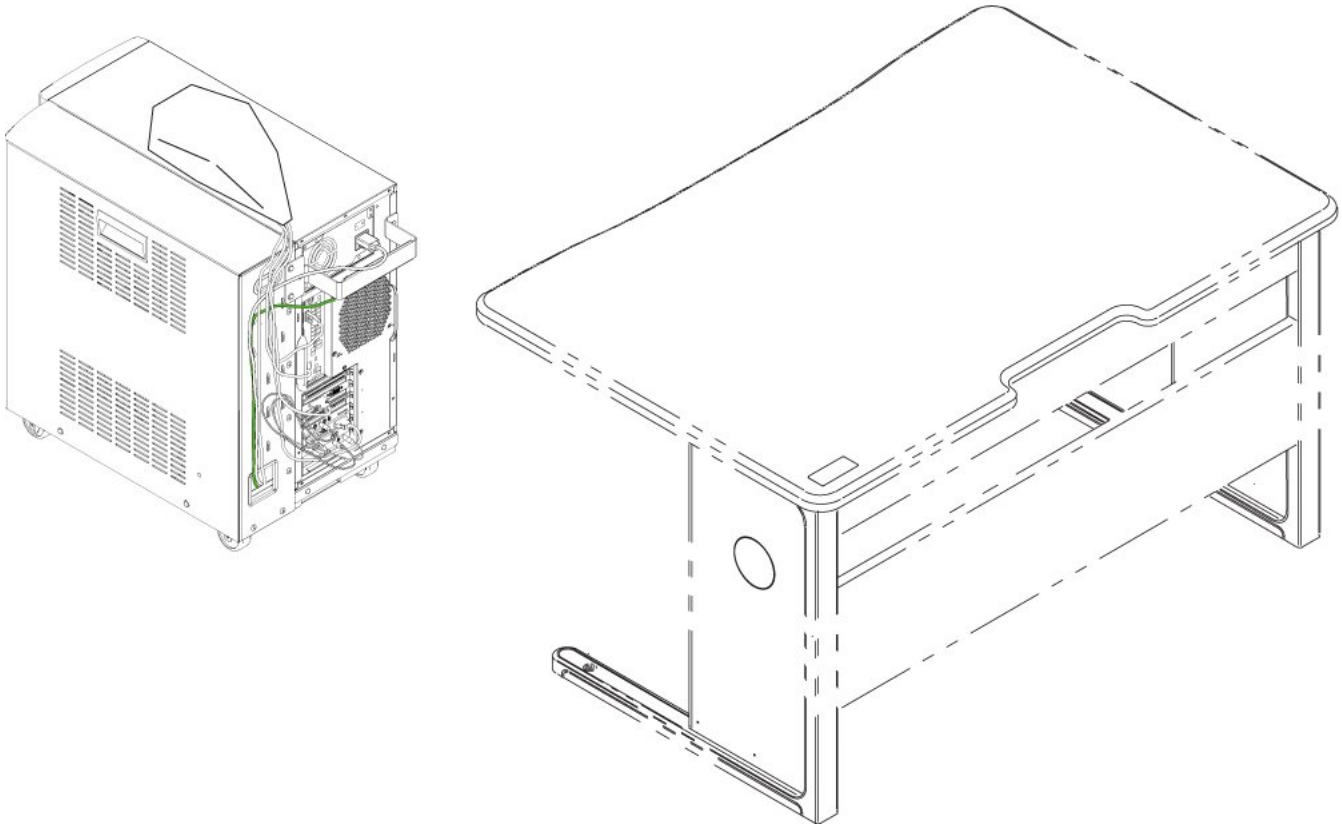
Signa Optima MR360/Brivo MR355 System Interconnect Cable Maps are provided in the following Illustrations:

1.3.3 Simple OC Cable Installation

1.3.3.1 POSITION COMPUTER CABINET

Consult with Site customer for exact location of Simple Operator Console (Simple OC). The location could be underneath the left or right side of the Operator Workspace table, or on the outside left or right side of the table.

Illustration 10-1: POSITION COMPUTER CABINET



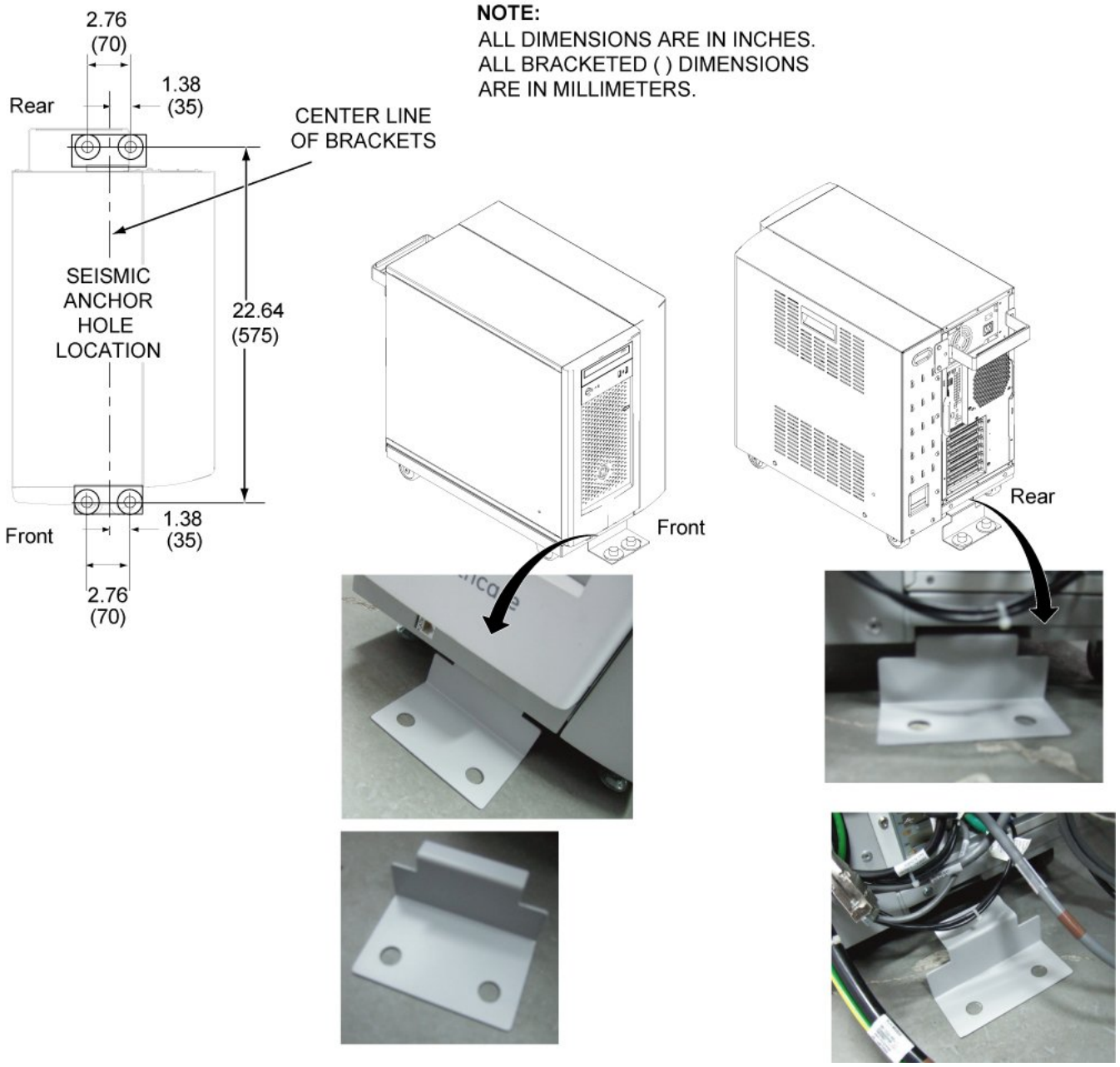
1.

2.

1.3.3.2 SEISMIC ANCHORING (IF REQUIRED)

Simple OC Seismic Mount kit is shipped with Simple OC. Find kit inside of plastic bag. If seismic anchoring is required, refer to site architectural drawings for fastener type details or applicable Pre–installation manual. Illustration below indicates hole location for installing brackets.

Illustration 10-2: SEISMIC ANCHORING (IF REQUIRED)



1.

2.

1.3.3.3 COMPUTER CABINET CABLE ROUTING AND CONNECTIONS

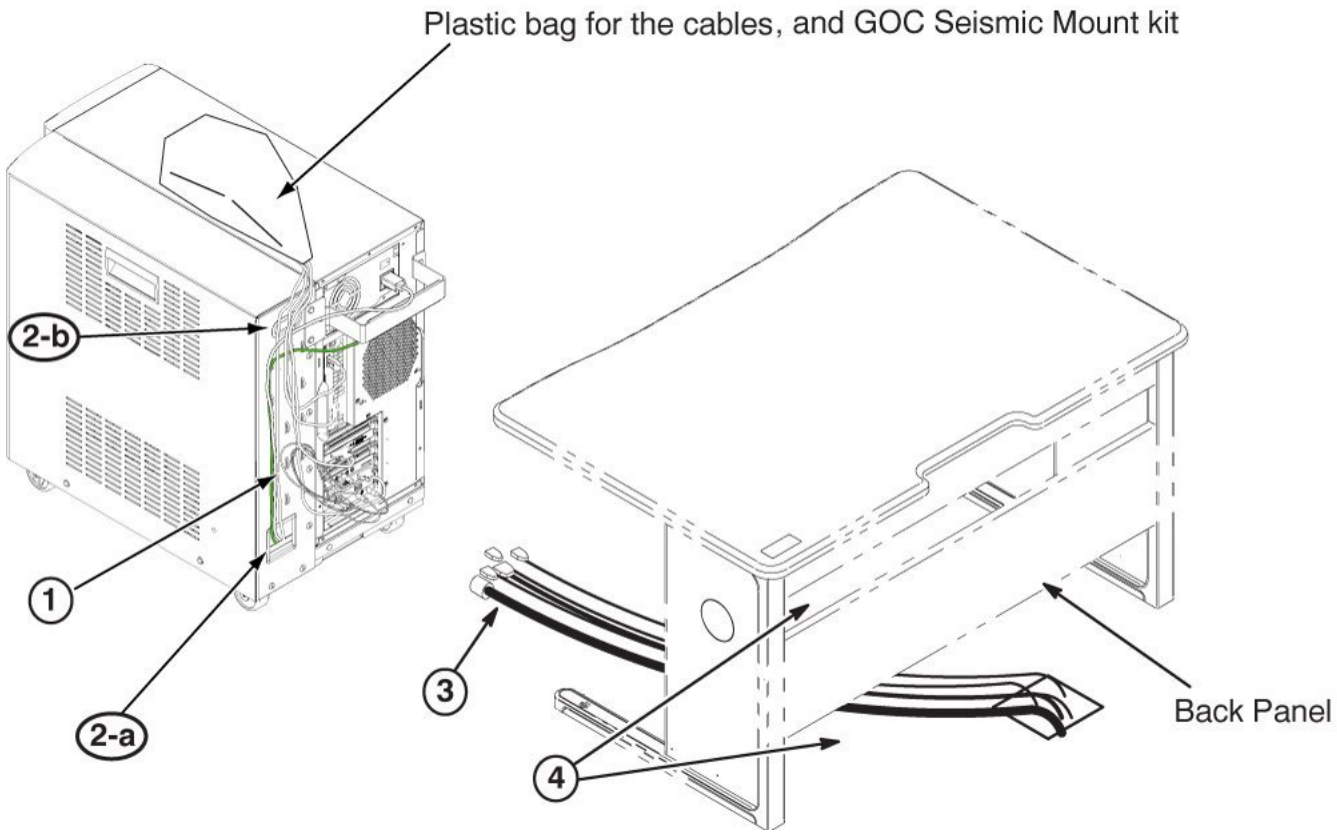
- One power cord
- One video output cable
- Keyboard output cable

- SCIM output cable

  These cables are already connected to the computer and routed thru the opening located at the top of the rear of the Simple OC cabinet as shown in the illustration below. The remainder of the cables to be connected to designated modules within the Simple OC Cabinet will have to be routed thru the lower opening.

1. Runs E3046, E3047, E3048 and E0015 are pre–connected to computer and are routed at top of opening. (These cables are inside of plastic bag)
2. Runs E0500, power cord for the Patient Alert system will be routed thru lower opening.
3. Route all cables before connecting any cables. Refer to cable map for connection information.
4. If Simple OC Cabinet is to be located under OW Table, the cable coming out of the top opening of the cabinet will be routed above the Back Panel. The cables coming out of the lower opening will be routed below the Back Panel.

Illustration 10-3: COMPUTER CABINET CABLE ROUTING AND CONNECTIONS

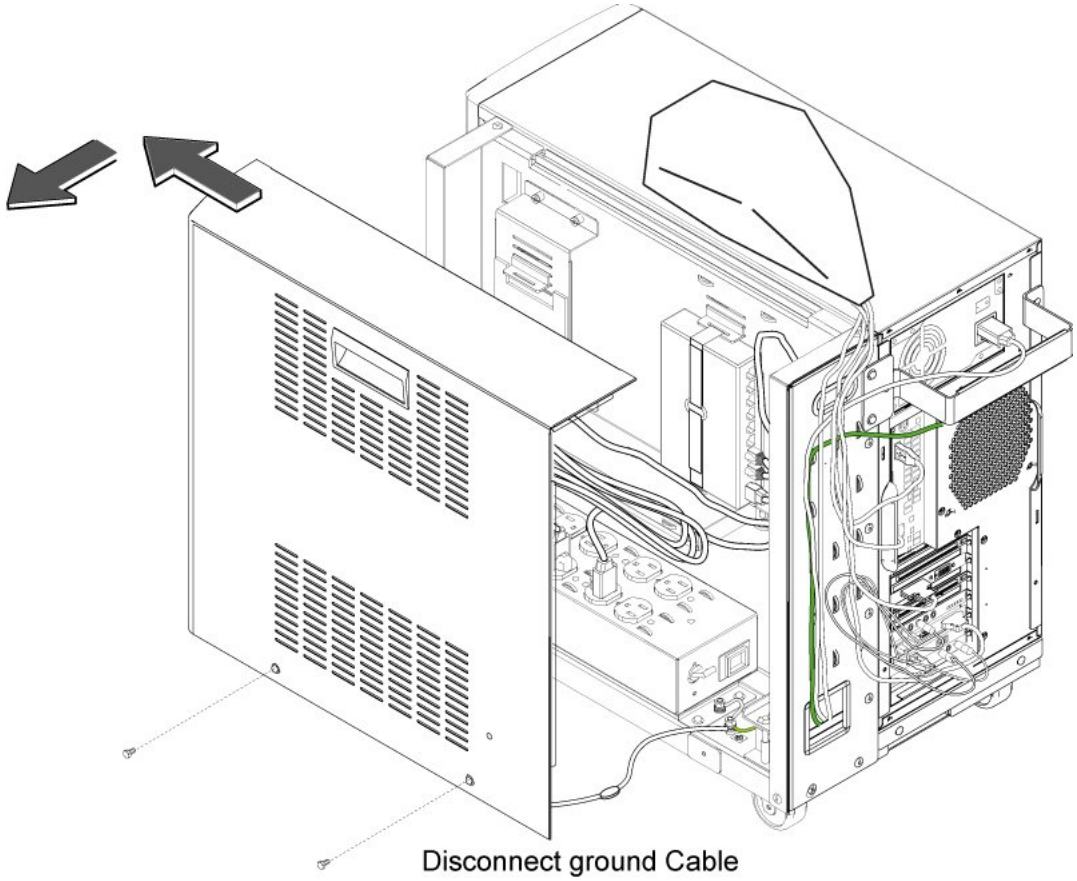


1.3.3.4 Simple OC CABINET COVER REMOVAL

The Computer Cabinet covers need to be removed to access the cable connection points.

1. Remove two screws of right side cover and lift up. Disconnect Ground cable connector and move the cover.

Illustration 10-4: Simple OC CABINET COVER REMOVAL

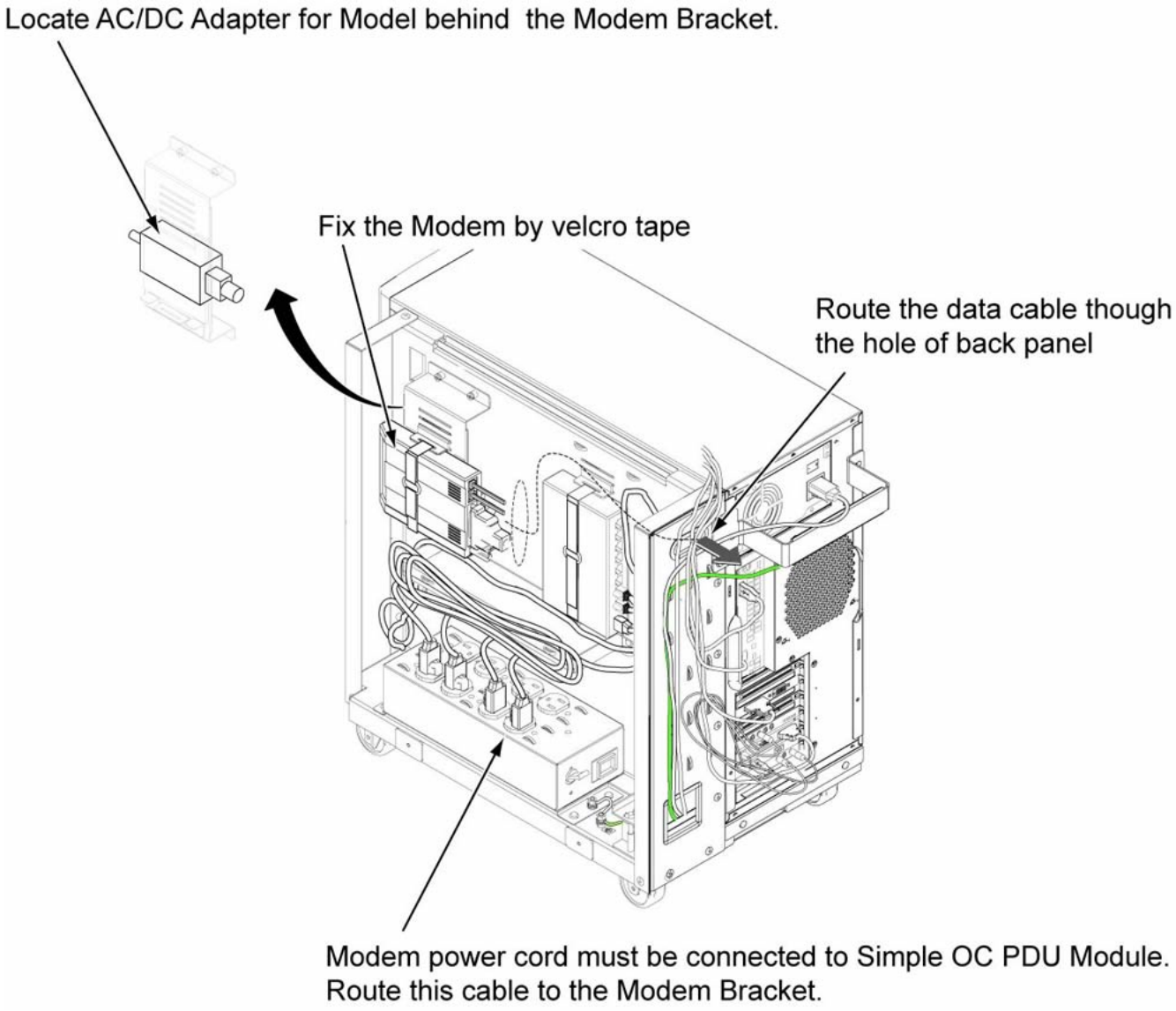


2.

1.3.3.5 INSTALL MODEM TO Simple OC CABINET (If Applicable)

Modem will be placed on Operator Table or GOC later.

Illustration 10-5: INSTALL MODEM CABLE TO Simple OC CABINET (If Applicable)



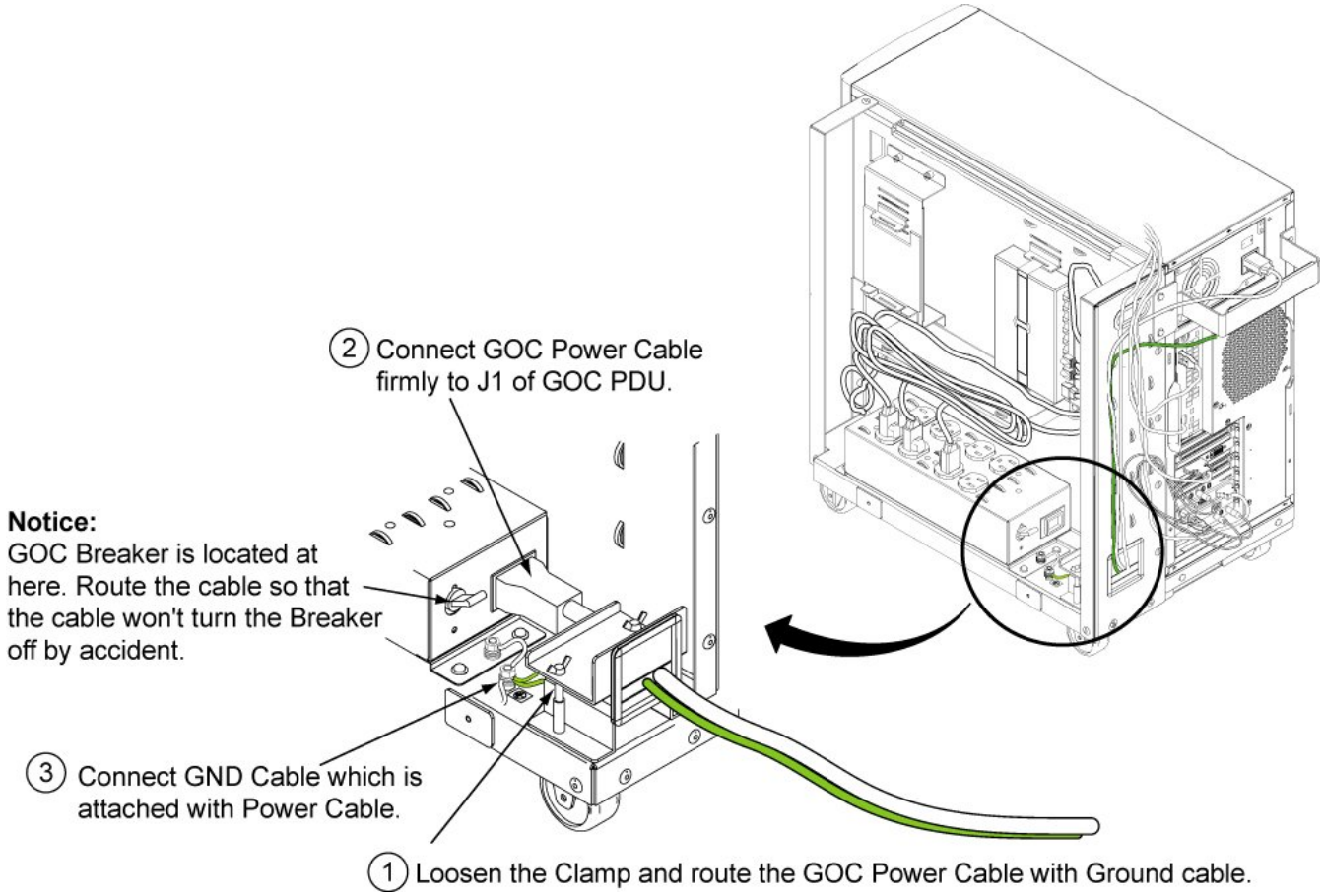
1.

2.

1.3.3.6 ROUTE CABLES FOR LOWER OPENING

- For PC wiring, refer to Section 1.3.3.7.
- Refer to cable map for information on cables to be connected thru lower opening.

Illustration 10-6: ROUTE CABLES FOR LOWER OPENING



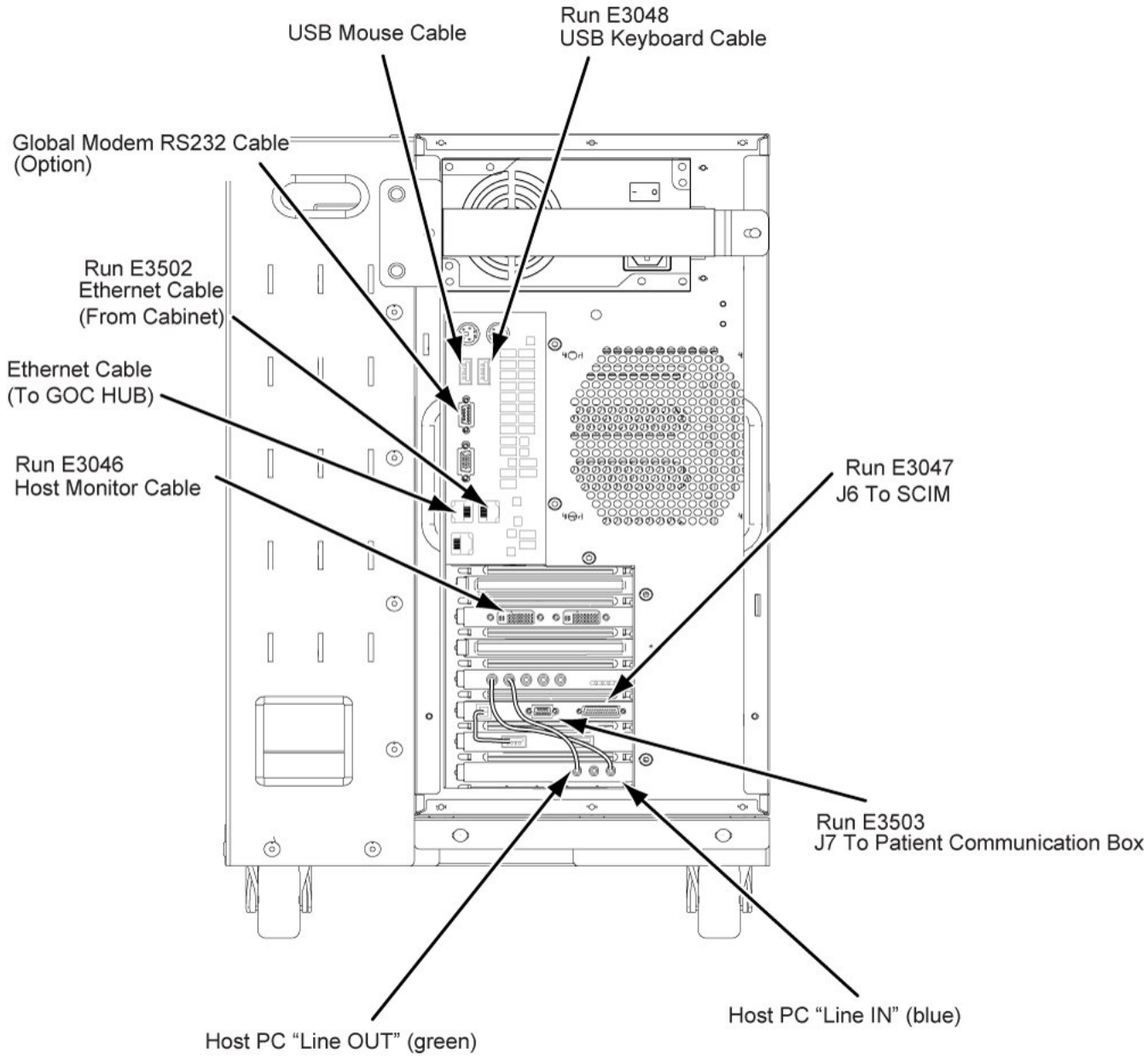
1.

2.

1.3.3.7 LINUX PC CABLE CONNECTIONS

The connection points of cables routed to the Simple OC PC are described in Illustration 10-7. All cables shown are preconnected except for Run 2036 and Mouse USB cable.

Illustration 10-7: LINUX PC CABLE CONNECTIONS



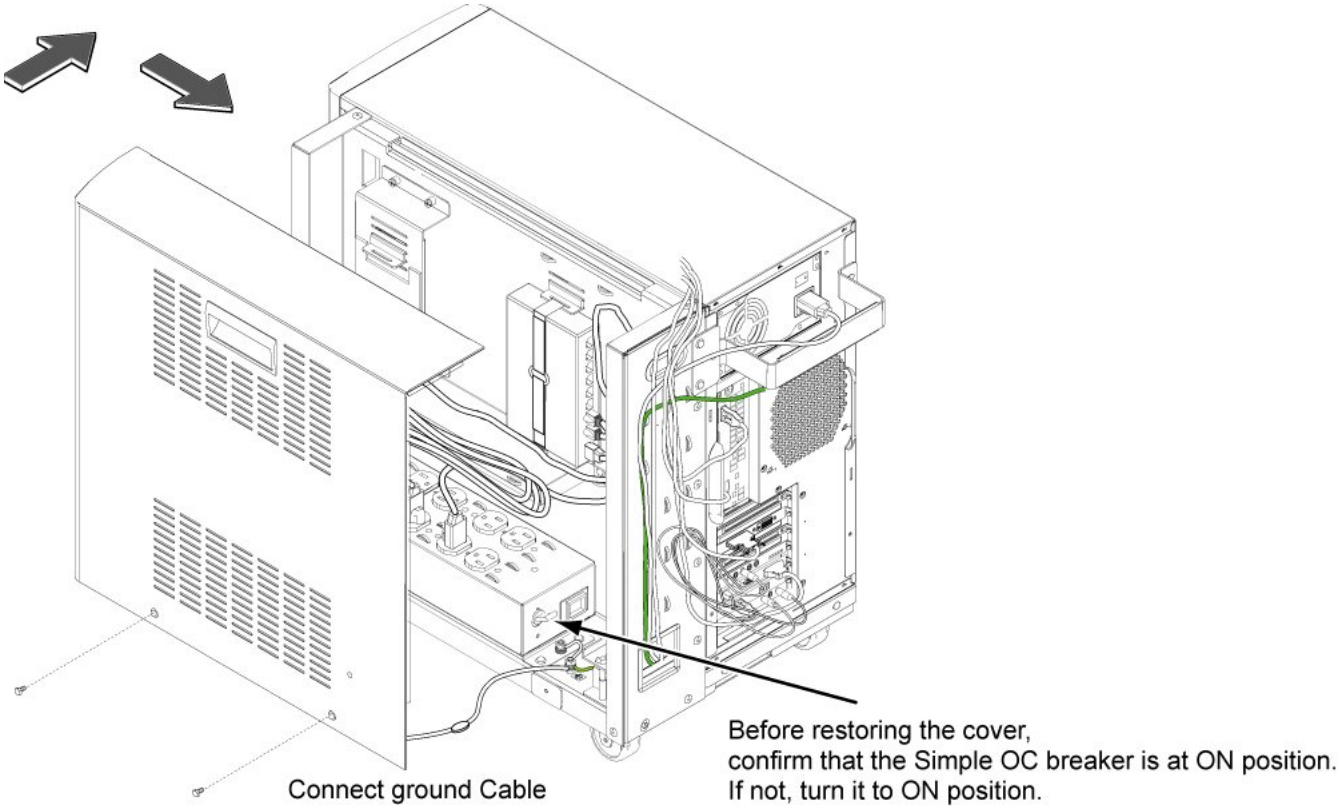
1.

2.

1.3.3.8 RESTORE Simple OC COVERS

1. Before restoring the cover, confirm that the Simple OC breaker is at ON position. If not, turn it to ON position.
2. Connect Ground cables and install both side covers by inserting tabs at top of covers into slots . Install screws that were removed in earlier procedure.

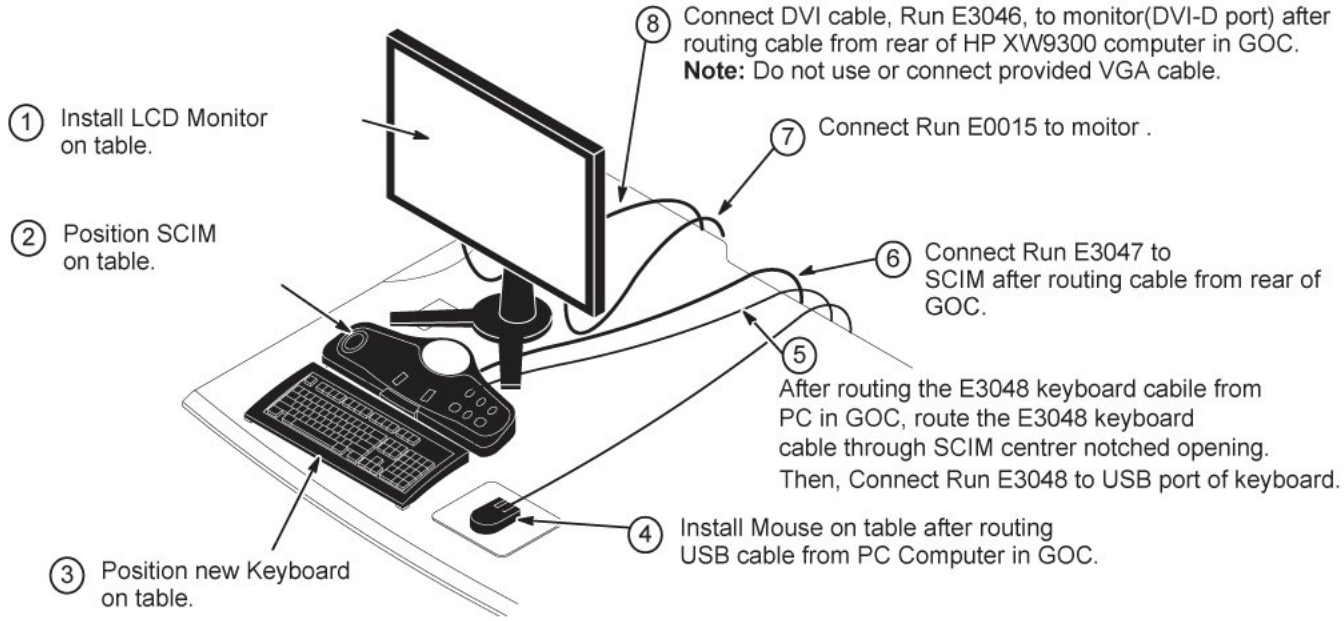
Illustration 10-8: RESTORE Simple OC COVERS



1.3.3.9 INSTALL MONITOR AND SCIM & KEYBOARD CABLES

The Scan–Control Intercom Module (SCIM) is the current keyboard on all Signa systems. Consult with Site customer for exact location of SCIM/Keyboard and Monitor on Operator Workspace (OW) Table.

Illustration 10-9: INSTALL MONITOR AND SCIM & KEYBOARD CABLES



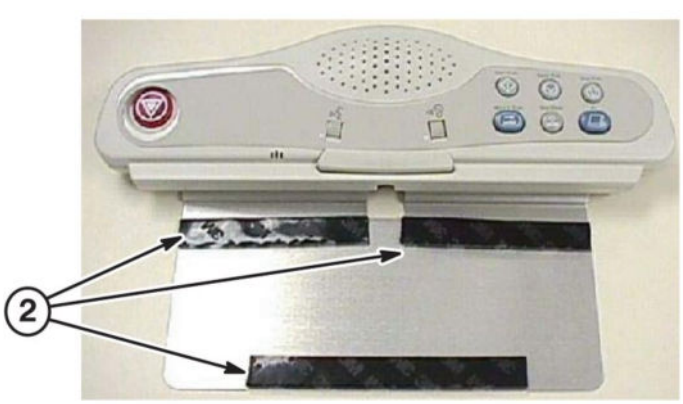
1.

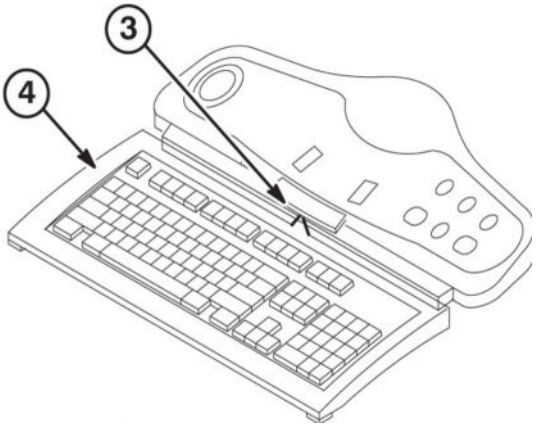
2.

1.3.3.10 INSTALL SCIM/KEYBOARD

1. Place keyboard in front of SCIM, pull the keyboard forward, flip it, and place on top of the SCIM up side down.
2. Remove the plastic strips from the velcro located on SCIM plate, exposing the adhesive surface (see Illustration 10-10).
3. Guide the cable back into the center notched opening until all the cable is under the SCIM base.
4. Place the keyboard tight against the SCIM, Center it as best as possible, and drop into place. The Velcro pads will now be sticking to the bottom of the keyboard.

Illustration 10-10: INSTALL SCIM/KEYBOARD



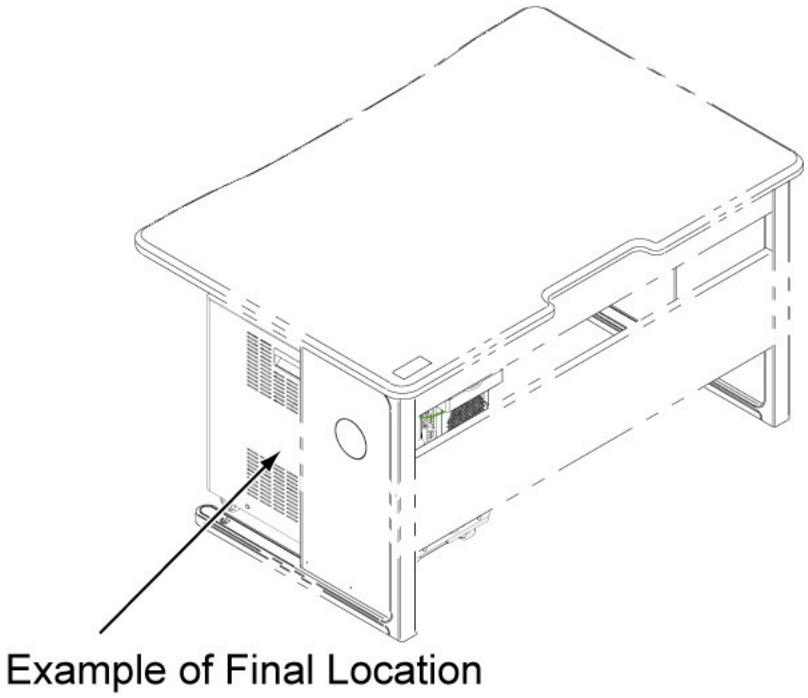


1.3.3.11 FINAL POSITIONING OF Simple OC CABINET

Complete positioning of Simple OC Cabinet.

1. Place cabinet in final position as determined by customer.

Illustration 10-11: FINAL POSITIONING OF Simple OC CABINET



2.

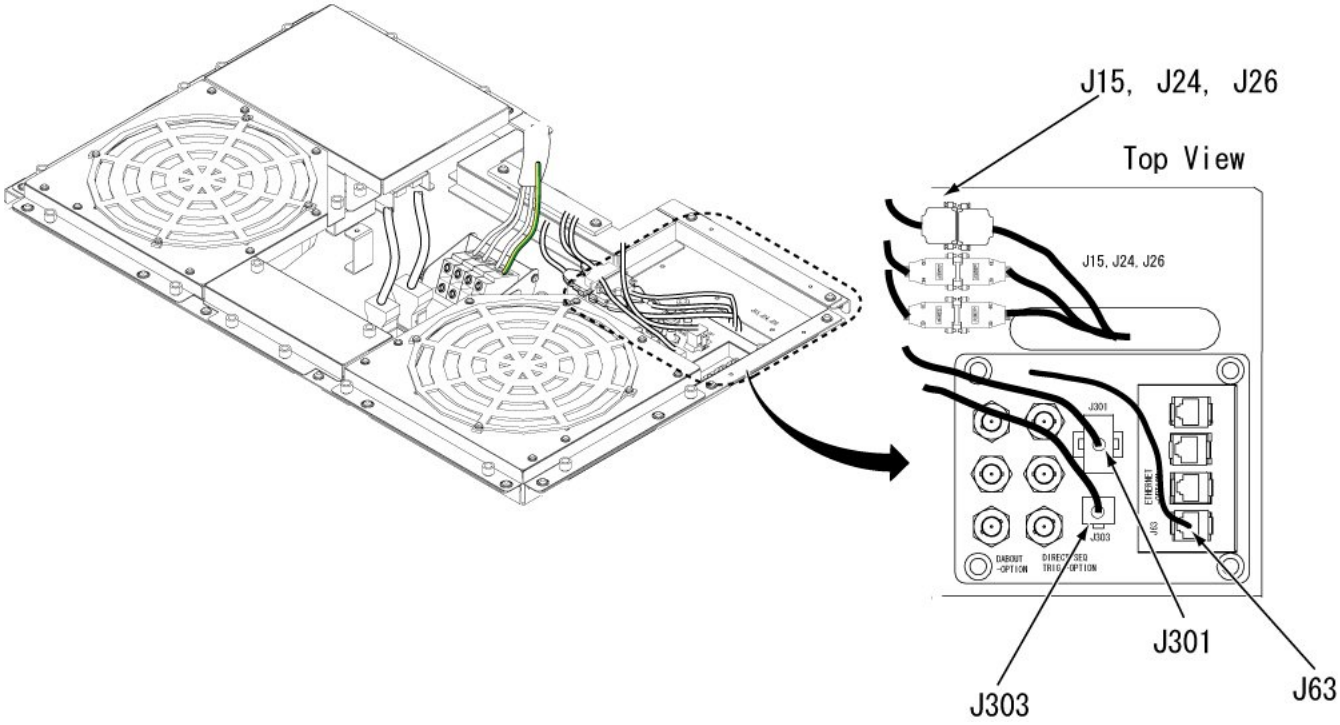
1.3.4 Equipment Room

1.3.4.1 System Cabinet Cable Installation (Equipment Room)

1. Route signal cables to the System Cabinet top area.
2. Connect the signal cables to the System Cabinet top area.

Illustration 10-12: Signal Cable connection

SC J#	RUN #	Cable Description
J15	E3506	Door SW
J24	823	AC Line Trigg
J26	E3501	SMC
J63-1	E3502	MGD Subnet (Gbit-Ether)
J301	E3504	Cabinet Monitor-Flow & Tank Level
J303	E3507	Cabinet Monitor-Magnet Monitor Out



3. Install rear center cover to SC Top. There is cable duct of two types. Refer to Illustration 10-13 or Illustration 10-14.
4. Install Rear Duct to rear center cover.
5. Clamp and route Power Cables and Signal Cables to Cable Cramps of rear duct.

Illustration 10-13: Cable Duct Installation

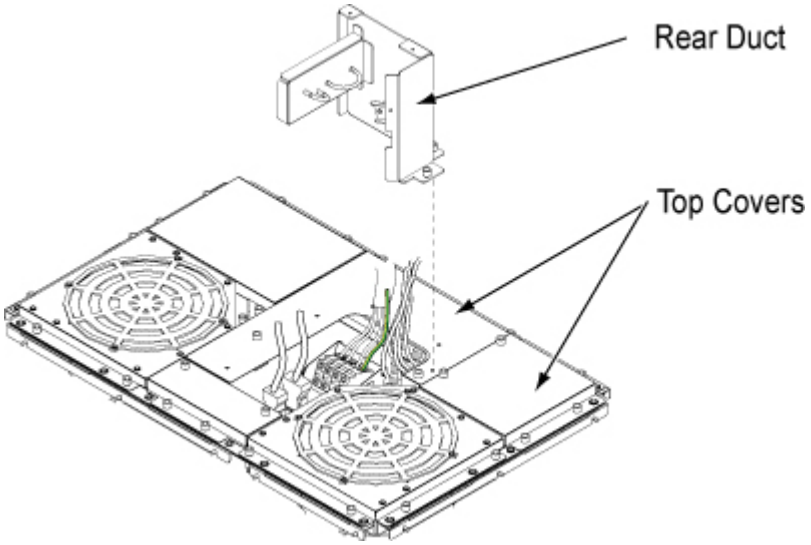
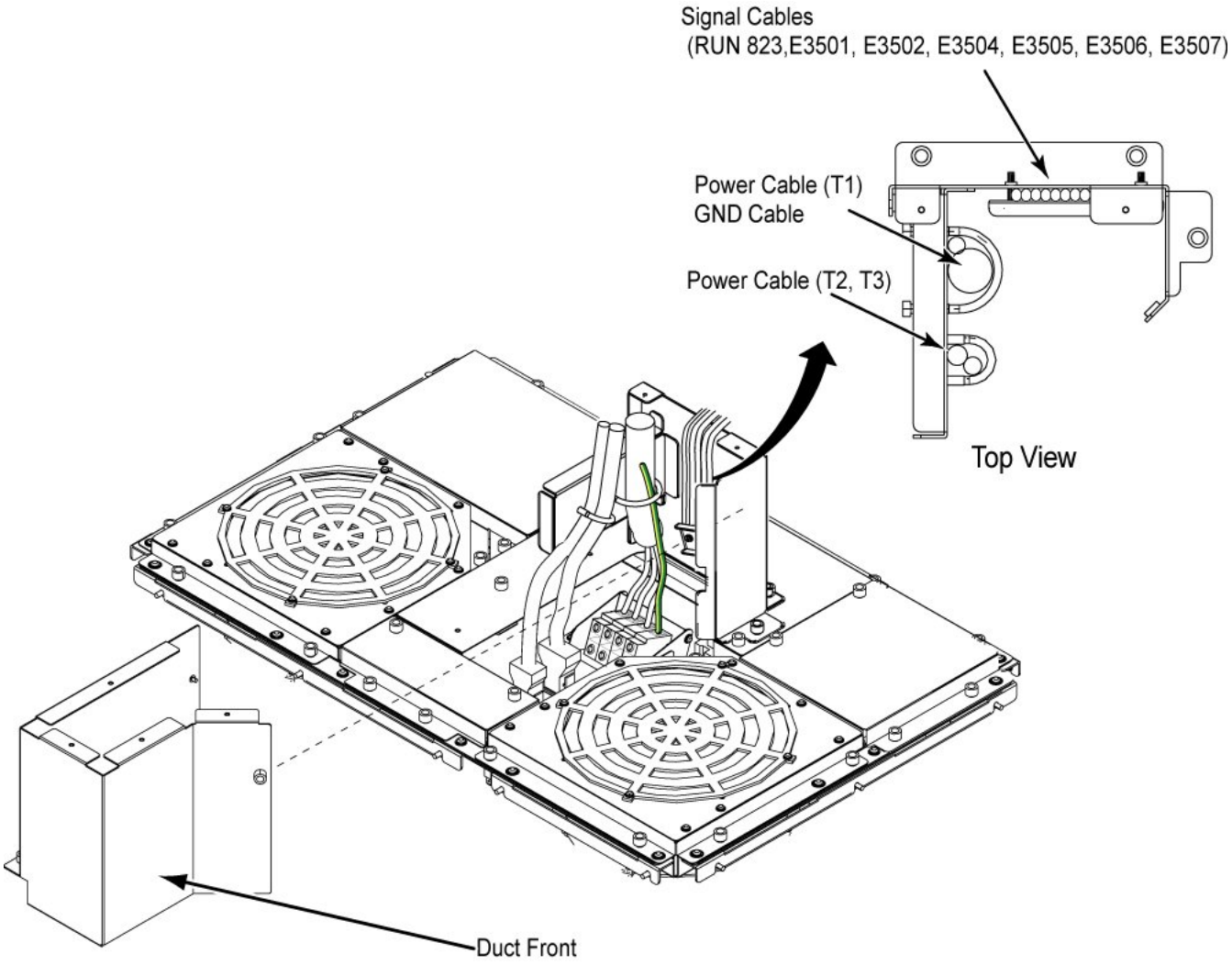
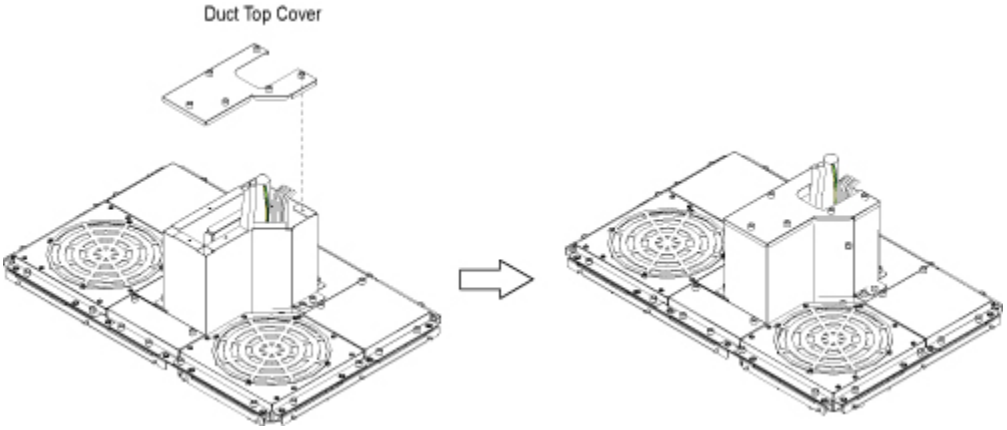


Illustration 10-14: Cable Duct Installation



6. Restore all Duct and Top Covers.
7. Tighten screws of top covers and duct covers with Phillips screw driver. Refer to Illustration 10-15.

Illustration 10-15: Top covers



1.3.4.2 Installation Of Magnet Monitoring Cables (Equipment Room)

1. Refer to Direction 2230681, Magnet Monitor Hardware Installation Manual, for instructions on connecting cables in the System Cabinet. This manual should be found in the box containing the parts for Magnet Monitoring.
2.

1.3.4.3 Install Run M3506 - RF Door Switch (Equipment Room)

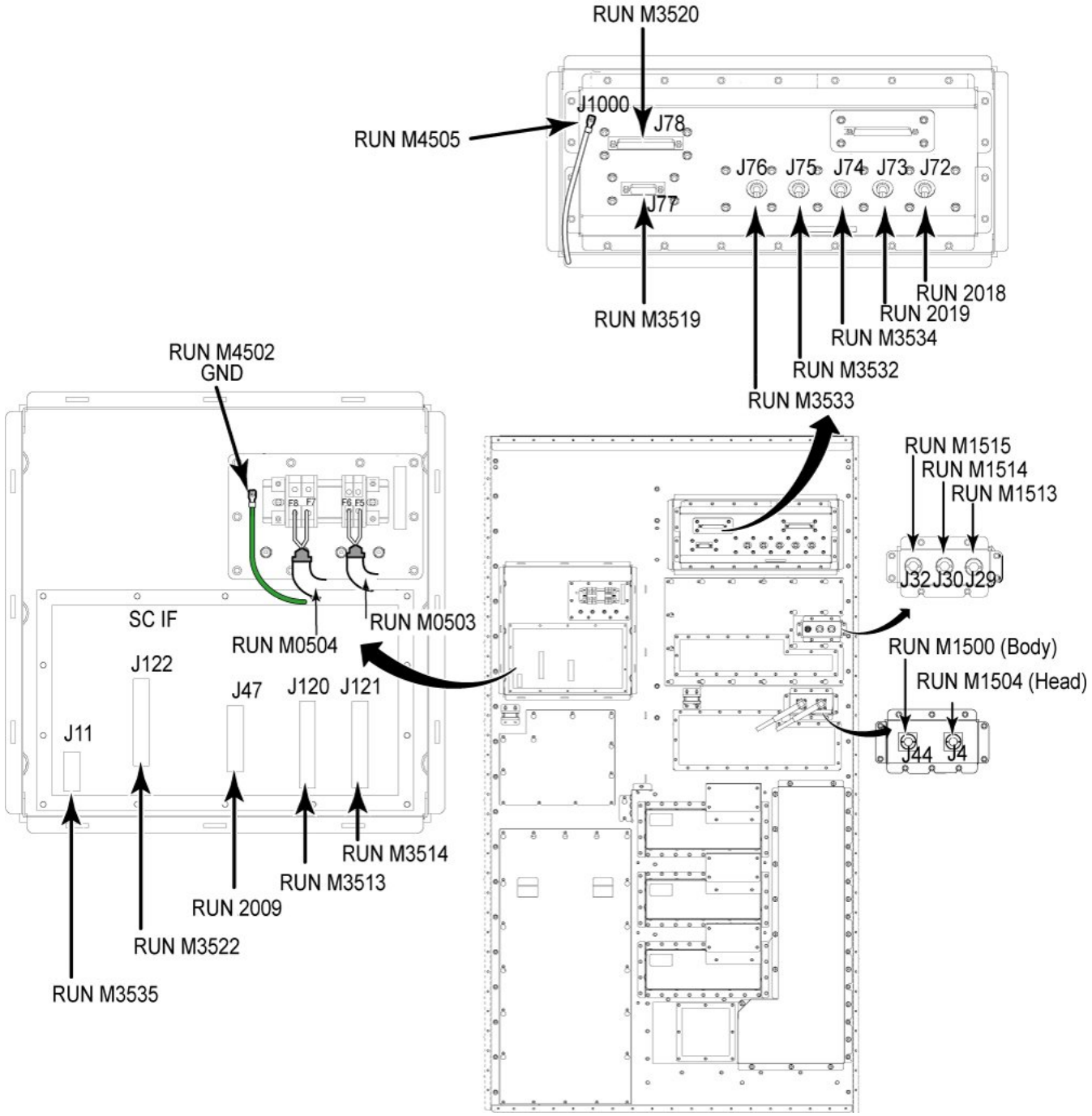
1. Route Run M3506 from System Cabinet Top to RF Door Switch. Refer to site engineering drawings for cable routing path.
2. Connect black lead on Run #M3506 to RF Door Switch COM (common) contact.
3. If RF door switch is normally open, proceed to step 4. If normally closed, proceed to step 5.
4. Connect red lead on Run #M3506 to RF Door Switch N.O. (normally open) contact.
5. If RF door switch is not normally open, connect red lead on Run #M3506 to RF Door Switch N.C. (normally closed) contact.

1.3.5 Magnet Room Cable Installation

1.3.5.1 Installation of System Cabinet Cables

1. Install the cables to system Cabinet by referring to cable map.

Illustration 10-16: System Cabinet Wiring



2.

1.3.5.2 Installation of Penetration Panel Cables

1. Install the cables to system Cabinet by referring to cable map.

2.

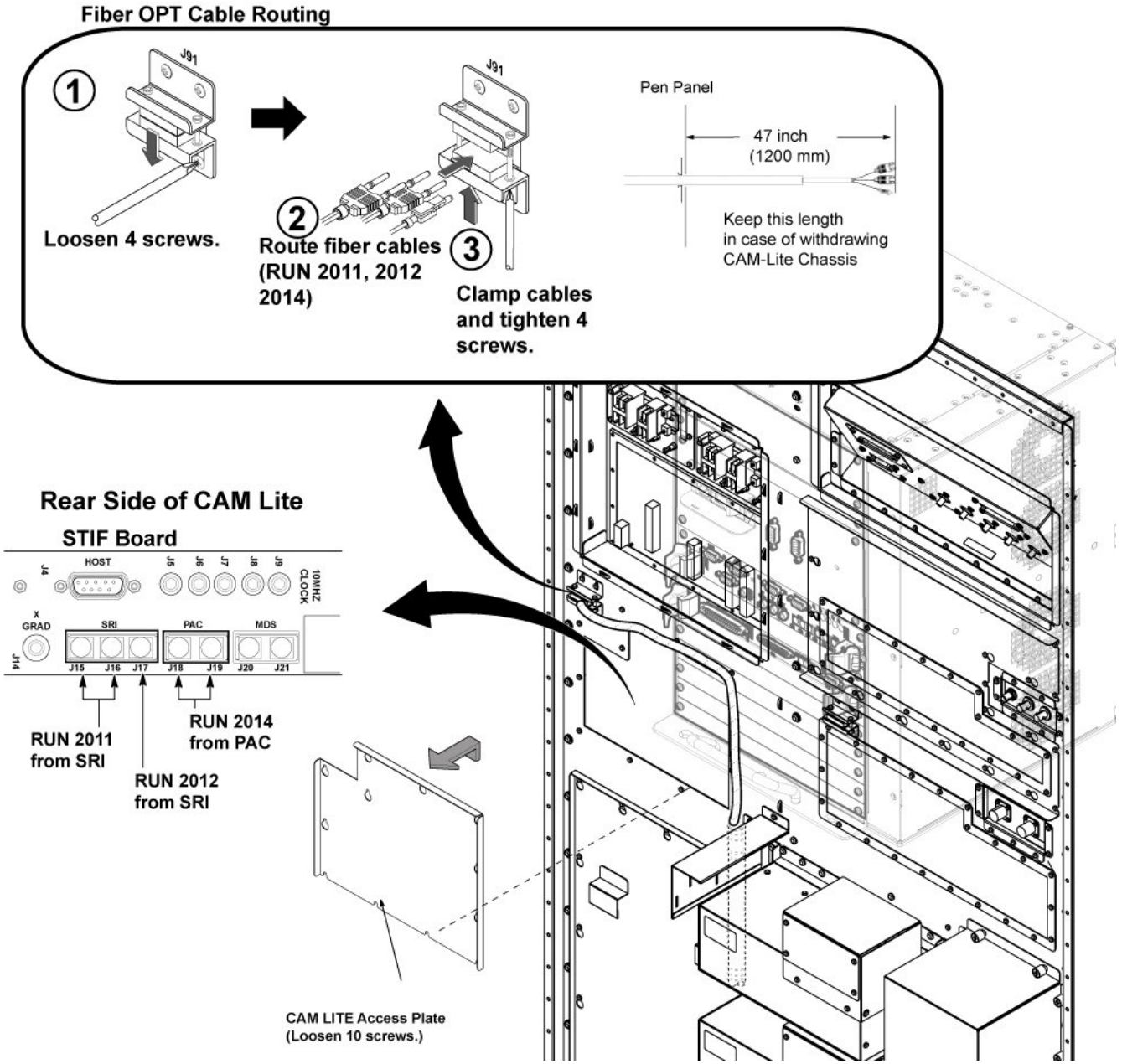
1.3.5.3 Installation Of Fiber Optic Cables

NOTICE

Handle fiber optic cables carefully. Do not bend fiber optic cables to radius smaller than two inches (50mm). Avoid scratching connector ends. Keep connectors protected until ready to connect.

1. Remove CAM Lite Access Plate from System Cabinet Rear Side.
2. Route Fiber cables (Run2014, 2011/2012) through opening.
3. Connect Fiber cables (Run2014, 2011/2012) to STIF Board.

Illustration 10-17: Opt cable connection 1



4. Restore CAM Lite Access Plate.
5. Remove ICN Access Plate from System Cabinet Rear Side.
6. Route Fiber cables (Run P2500) through opening.
7. Connect Fiber cable (Run P2500) to J1 of ICN.
8. Route the other Fiber cable (Run P2500) through Duct and connect it to J13 of IRF3.

Illustration 10-18: Opt cable connection 2

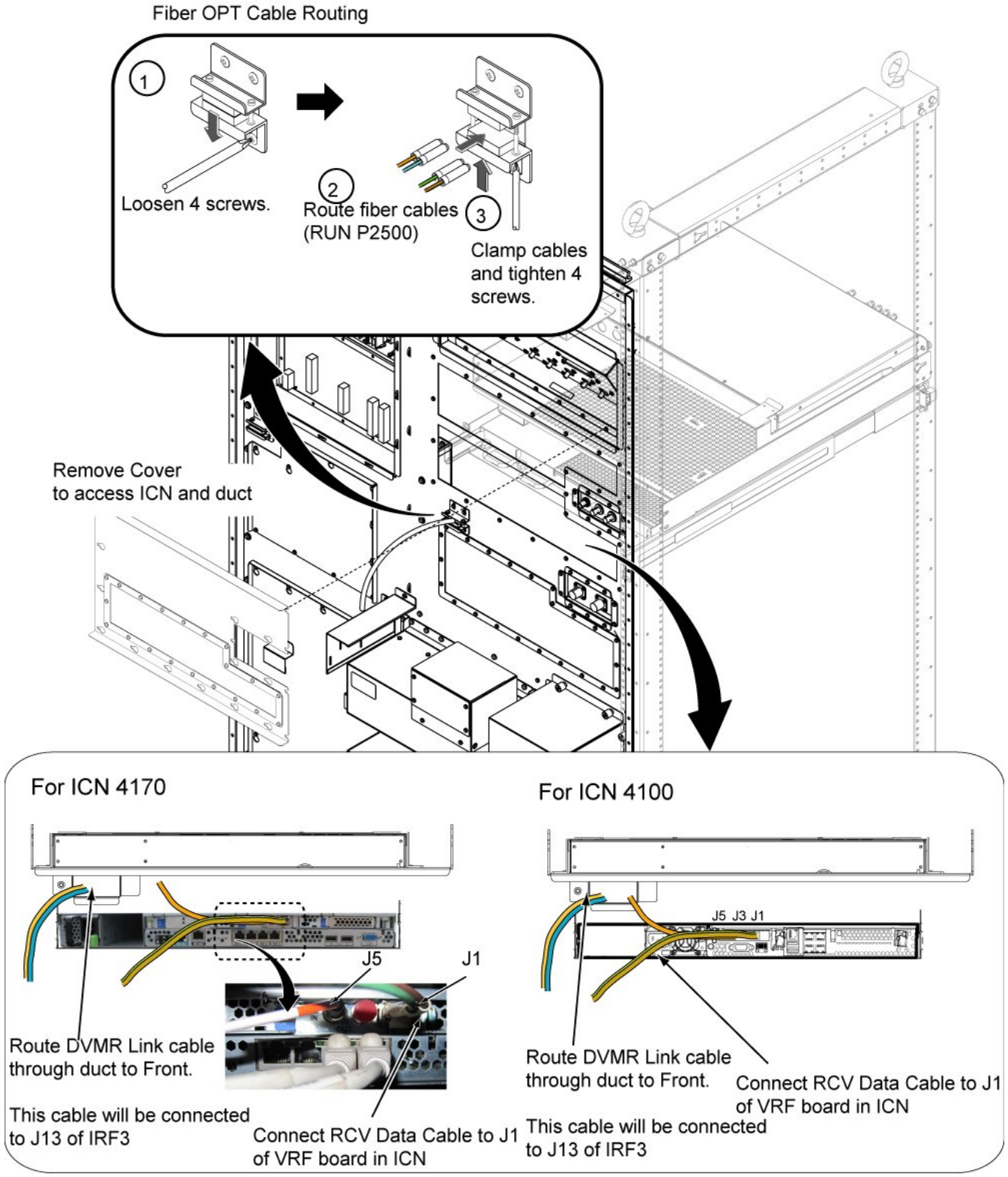
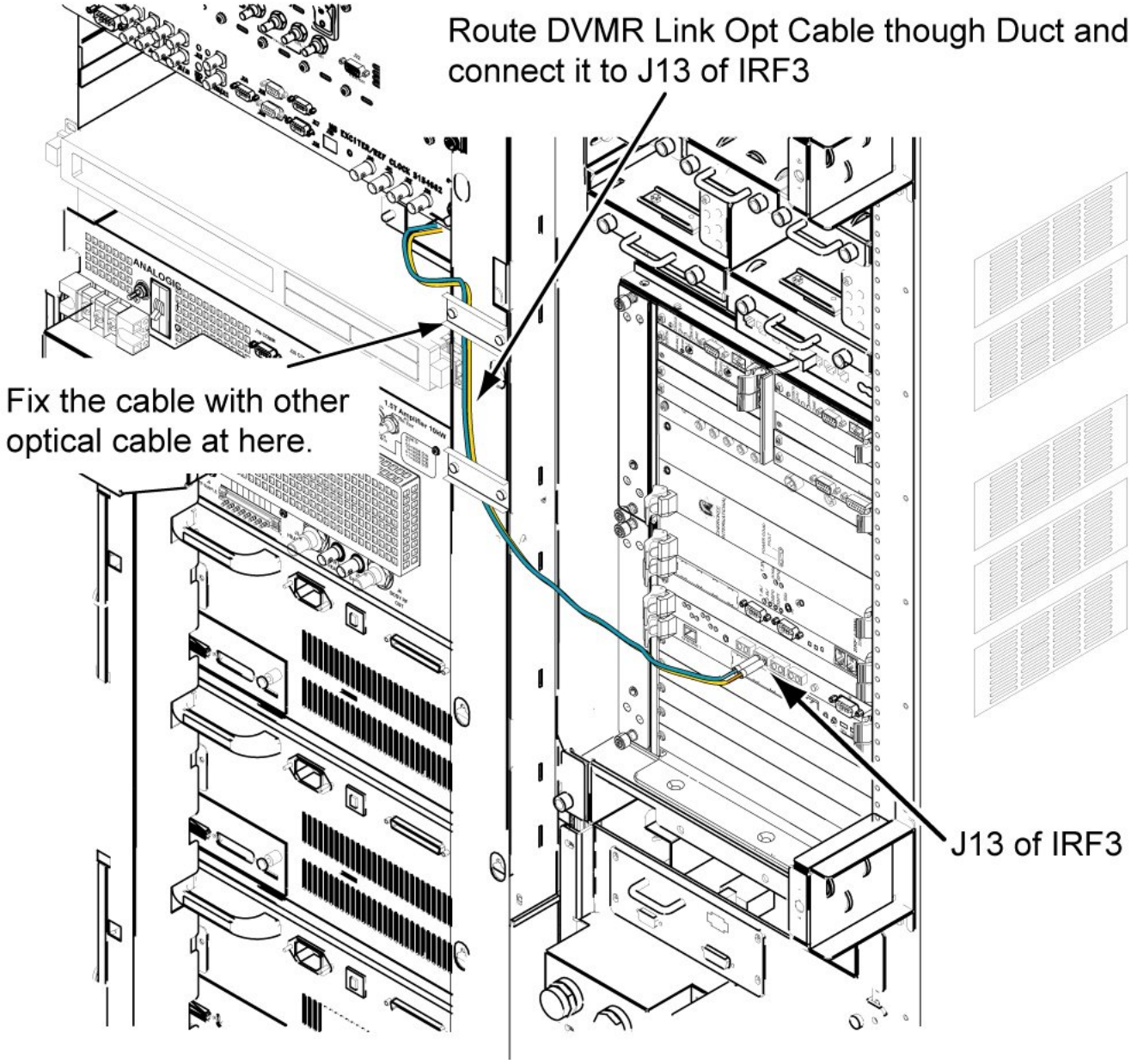


Illustration 10-19: Opt cable connection 3

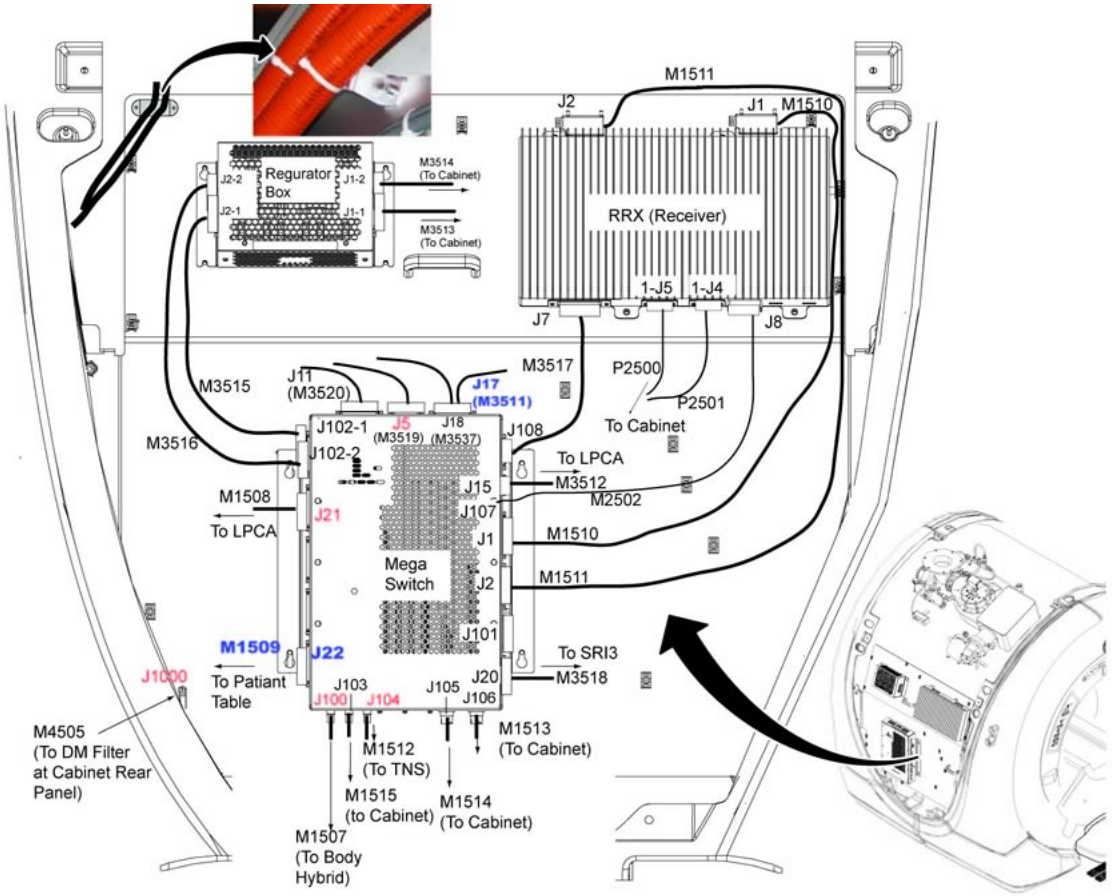


9. Restore CAM Lite Access Plate.

1.3.5.4 Magnet side electronics cable wiring

1. Connect the cables to the modules (Regulator Box, RRX, and Mega Switch) on Magnet Side Plate.

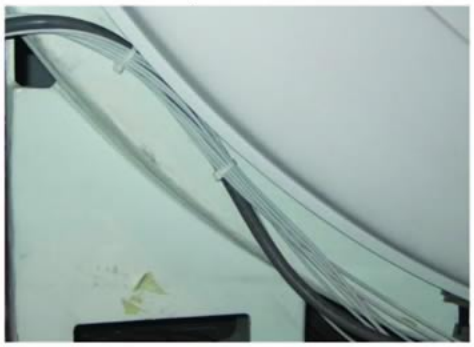
Illustration 10-20: Magnet side electronics cable wiring



The cables J5, J21, J100, J104, J1000 (Highilighted in Red at MegaSW) are routed to the Magnet Rear Routing Plate.

Magnet Rear View

The cables J17 and J22 (Highlighted in Blue at MegaSW) will be routed to the Magnet Front.



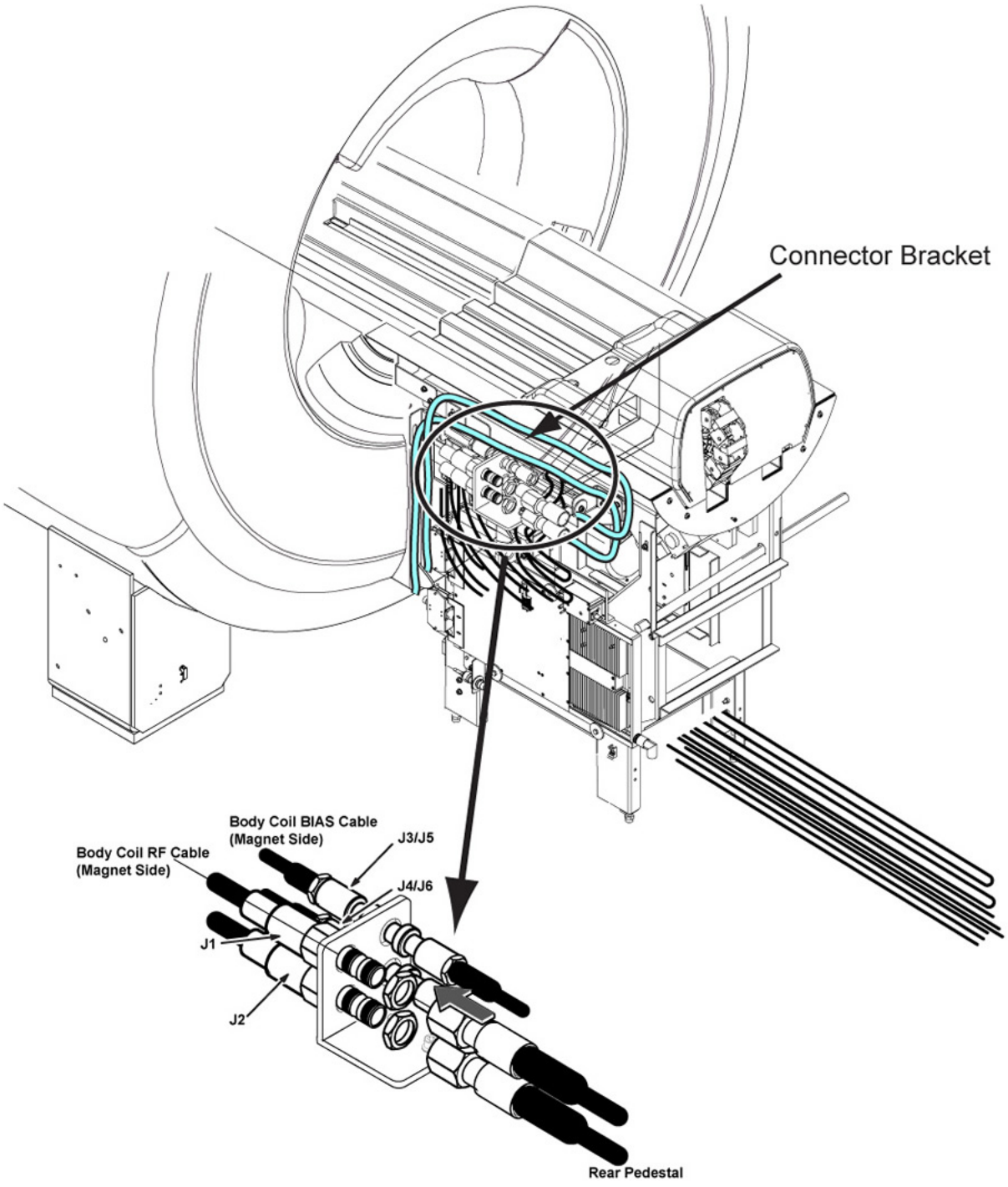
Magnet Front View

2.

1.3.5.5 Connect Cables At Rear Pedestal

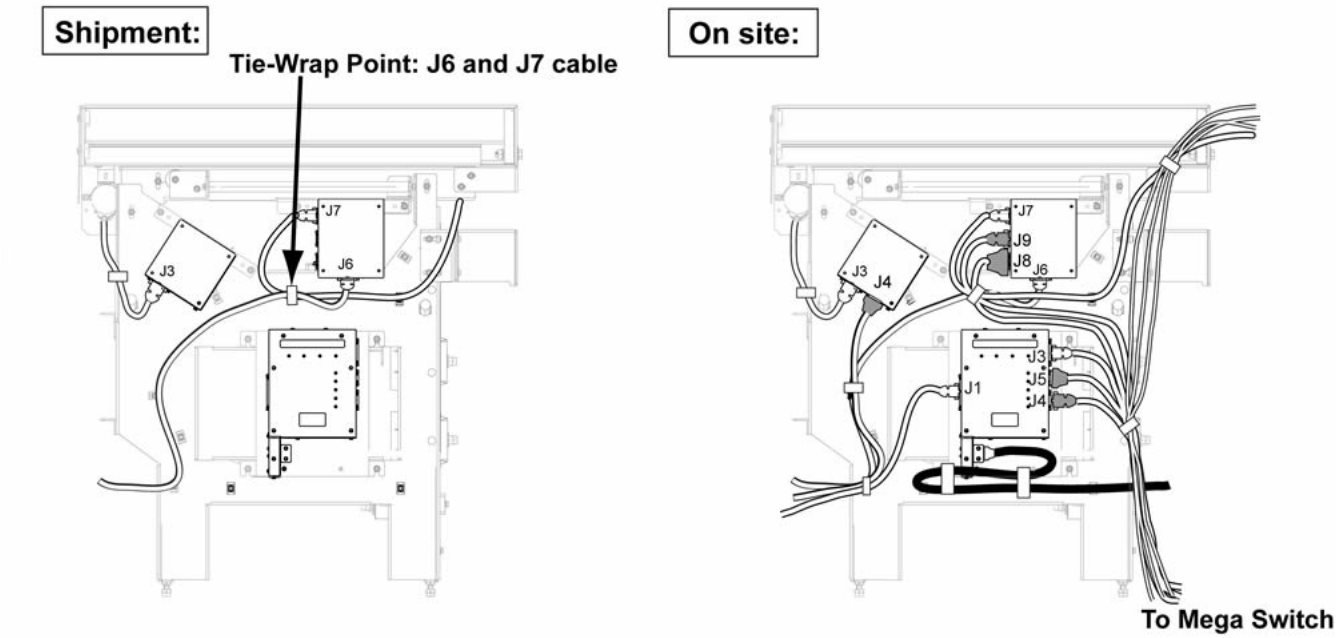
1. Connect rear pedestal cables and Body Coil RF/BIAS cables to connector bracket on right side of rear pedestal.

Illustration 10-21: Rear Pedestal Cable Wiring on right side



2. Cut the two tie-wraps of J7 and J6 cables on left side of rear pedestal.
3. Reconnect all cables illustration.
4. Connect Bore light fiber bundle to the LED power box.
5. Connect other cables of rear pedestal. Refer to system interconnect.

Illustration 10-22: Rear Pedestal Cable Wiring on left side



1.3.5.6 Gradient Cable Installation

Three cables have been delivered to site. All have two lead wires with terminals at each end. The leads on this cable end are connected to Magnet room side of the Gradient Filter on the Penetration Panel. This procedure cuts the cables to length and connects them to the cable leads from the BRM. Verify that 50 ft. (15 M) length of supplied Run M3529, M3530, and M3531 cable is sufficient to route from Penetration Panel to BRM Cables at rear of magnet. Each cable has identical terminations at each end for connection to both sides of the Penetration Panel Gradient Filter.

⚠WARNING

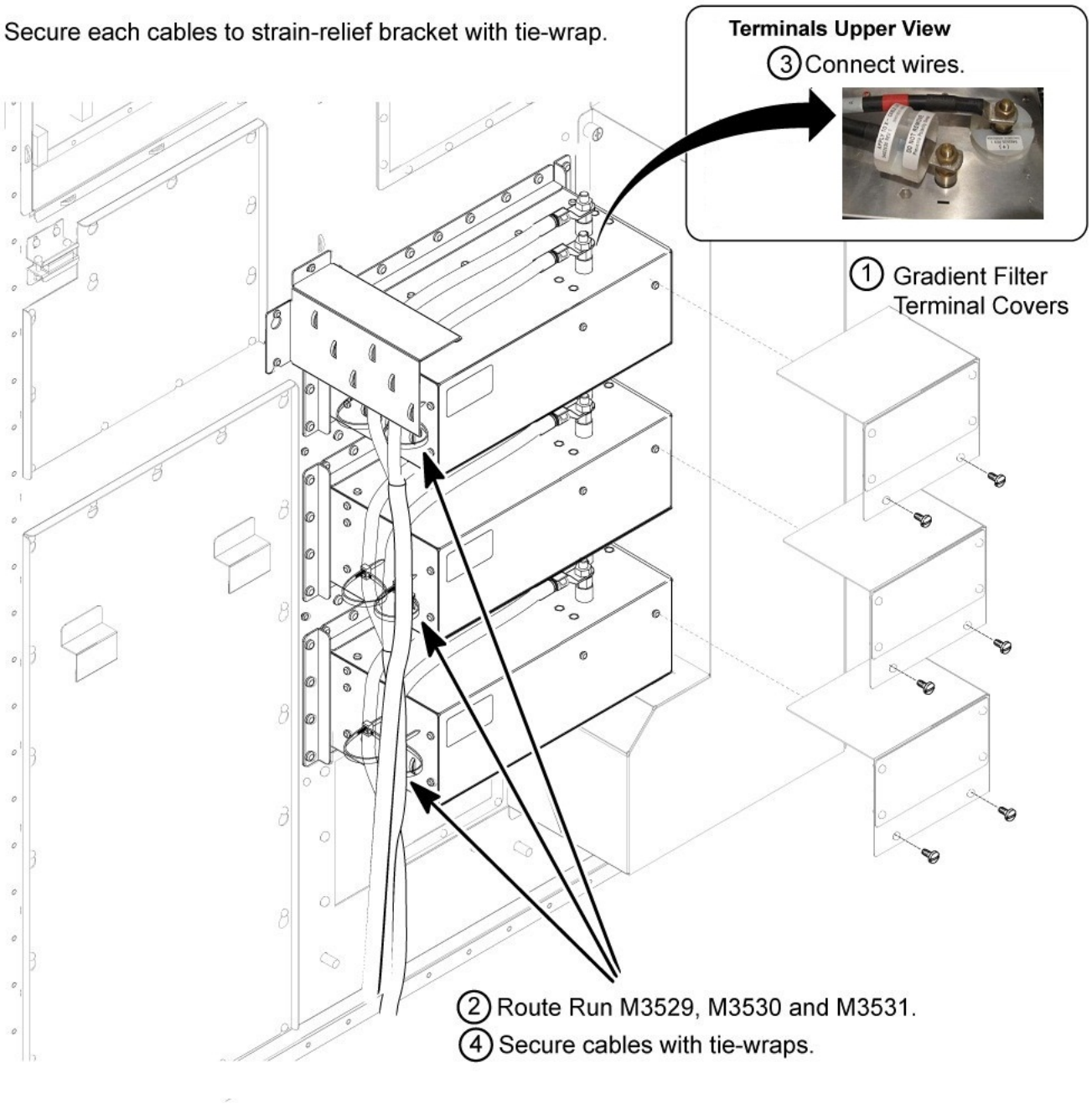
FERROUS MATERIAL HAZARD!
THE RATCHETING CRIMP TOOL REQUIRED FOR THIS PROCEDURE CONTAINS FERROUS MATERIAL AND WILL BE STRONGLY ATTRACTED TO MAGNET AND MAY BECOME A DANGEROUS PROJECTILE.
KEEP ALL FERROUS TOOLS AT LEAST 10 FEET AWAY FROM THE MAGNET. IF MAGNET IS AT FULL FIELD - CUT GRADIENT CABLE TO LENGTH AND REMOVE FROM MAGNET ROOM TO PERFORM CABLE TERMINATION PROCEDURES.

1. Connect Gradient Cables To Magnet Room Side Of System Cabinet

Illustration 10-23: Connect Gradient Cables To Magnet Room Side Of Penetration Panel

① Remove Gradient Filter Terminal Covers.
② Route Run M3529, M3530 and M3531 to Gradient filter.
③ Connect wires to gradient filter terminals as marked. Align terminals to obtain maximum spacing from other terminals and conductive metal objects. Tighten nuts with a torque wrench to 7.4 ft-lbs (10 N m).
Notice!: Do NOT overtighten. Otherwise, stud will be broken.

④ Secure each cables to strain-relief bracket with tie-wrap.

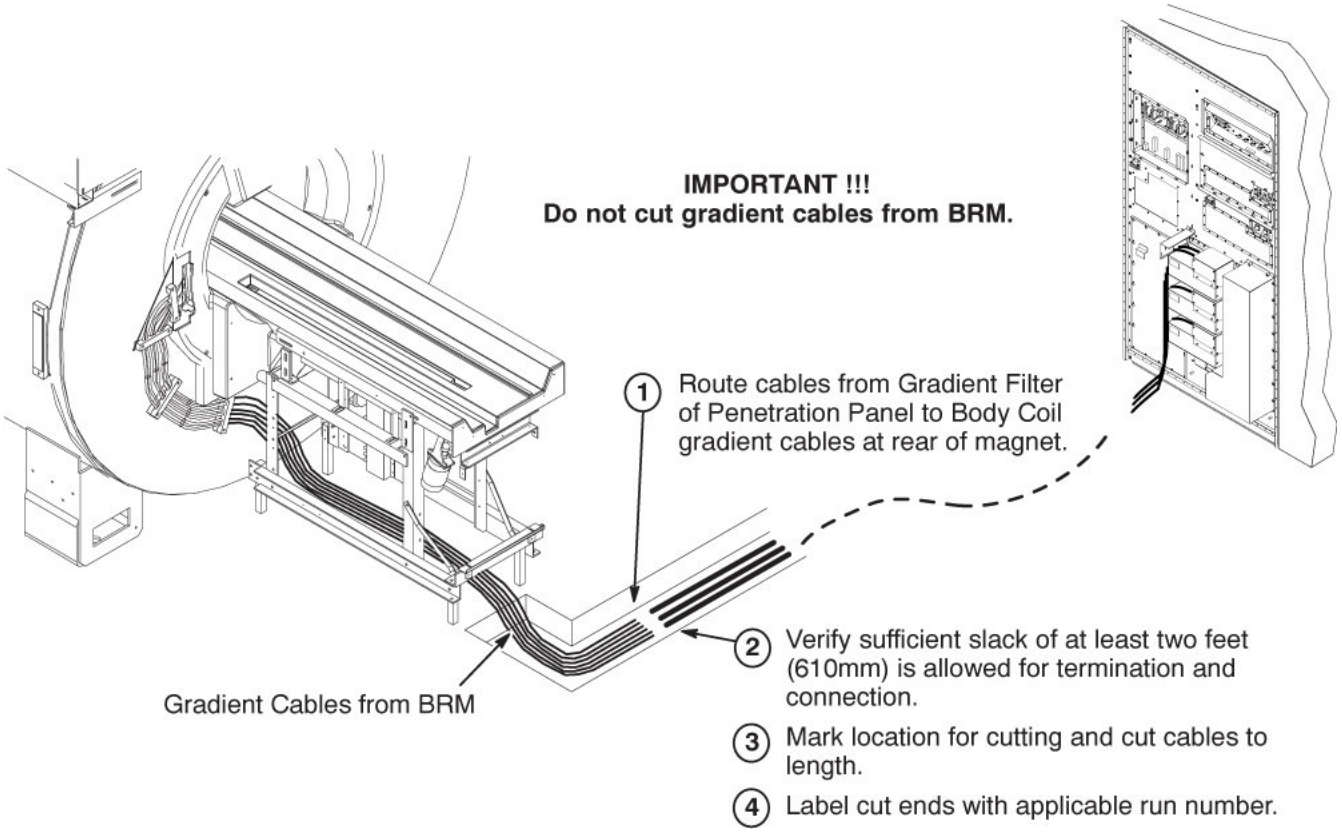


NOTICE

Do not cut gradient cables from BRM.

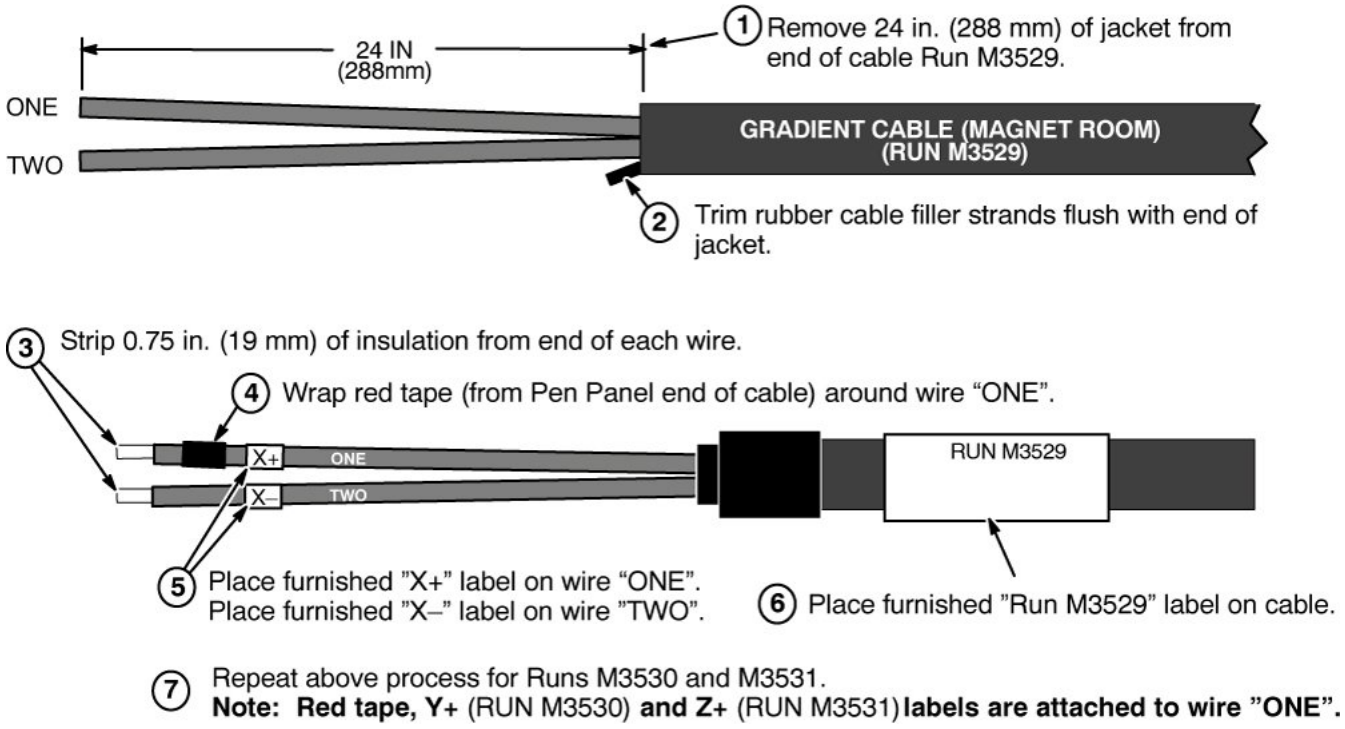
2. Route Runs M3529, M3530, and M3531 To Rear Pedestal Area

Illustration 10-24: Route Runs M3529, M3530, and M3531 To Rear Pedestal Area



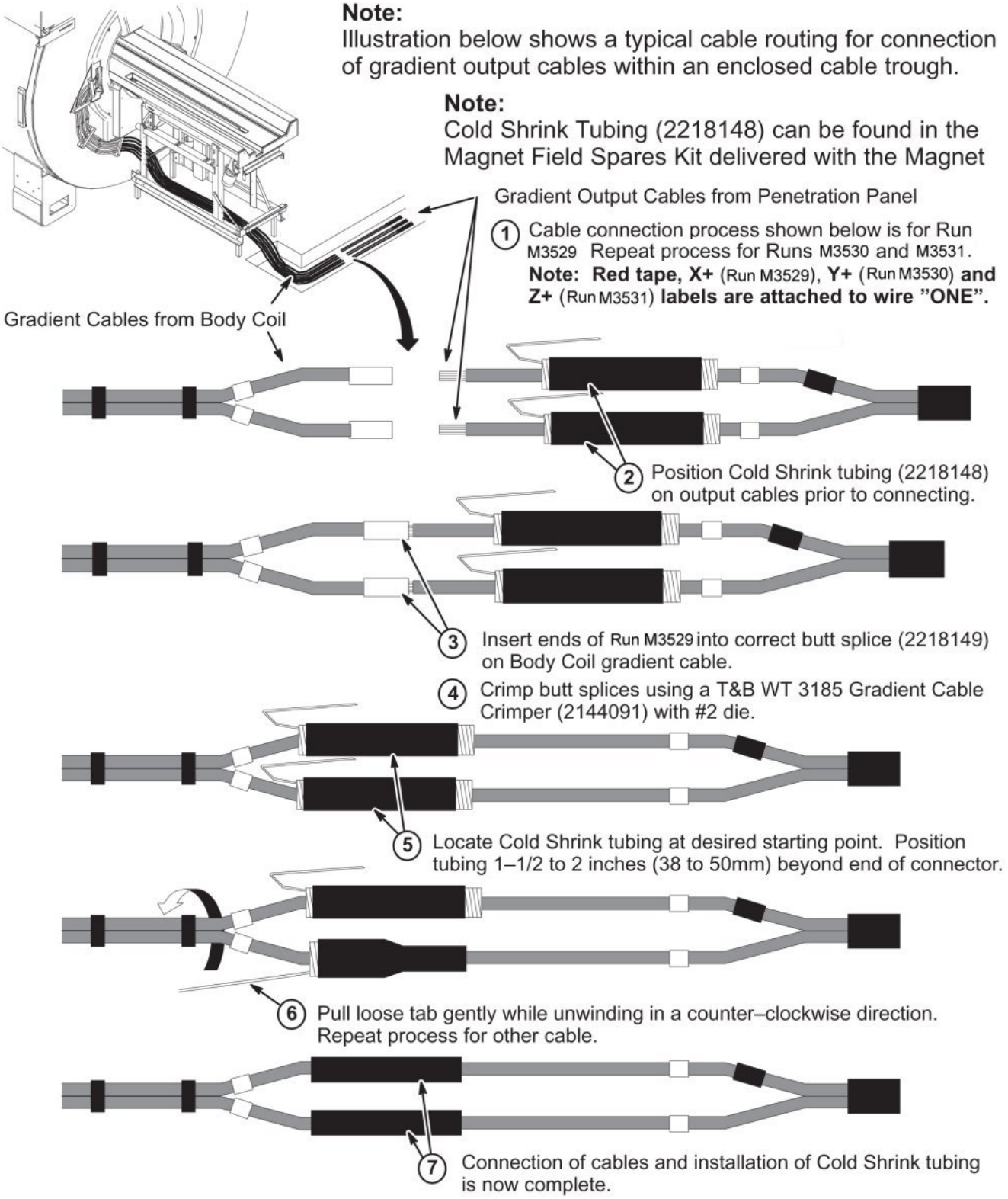
3. Terminate Runs M3529, M3530, and M3531 For Magnet Room.

Illustration 10-25: Terminate Runs M3529, M3530, and M3531 For Magnet Room



4. Connection Of Gradient Cables from BRM To Runs M3529, M3530, and M3531

Illustration 10-26: Connection Of Body Coil Gradient Cables To Runs M3529, M3530, and M3531



1.3.5.7 Installation Of Air Hose From Rear Of Magnet To Blower Box

Install Blower Cabinet (2241999) according to Site Design (architectural) specifications.

⚠WARNING

RF SHIELD INTEGRITY MUST BE MAINTAINED FOR MOUNTING BLOWER BOX WITHIN THE MAGNET ROOM

NOTICE

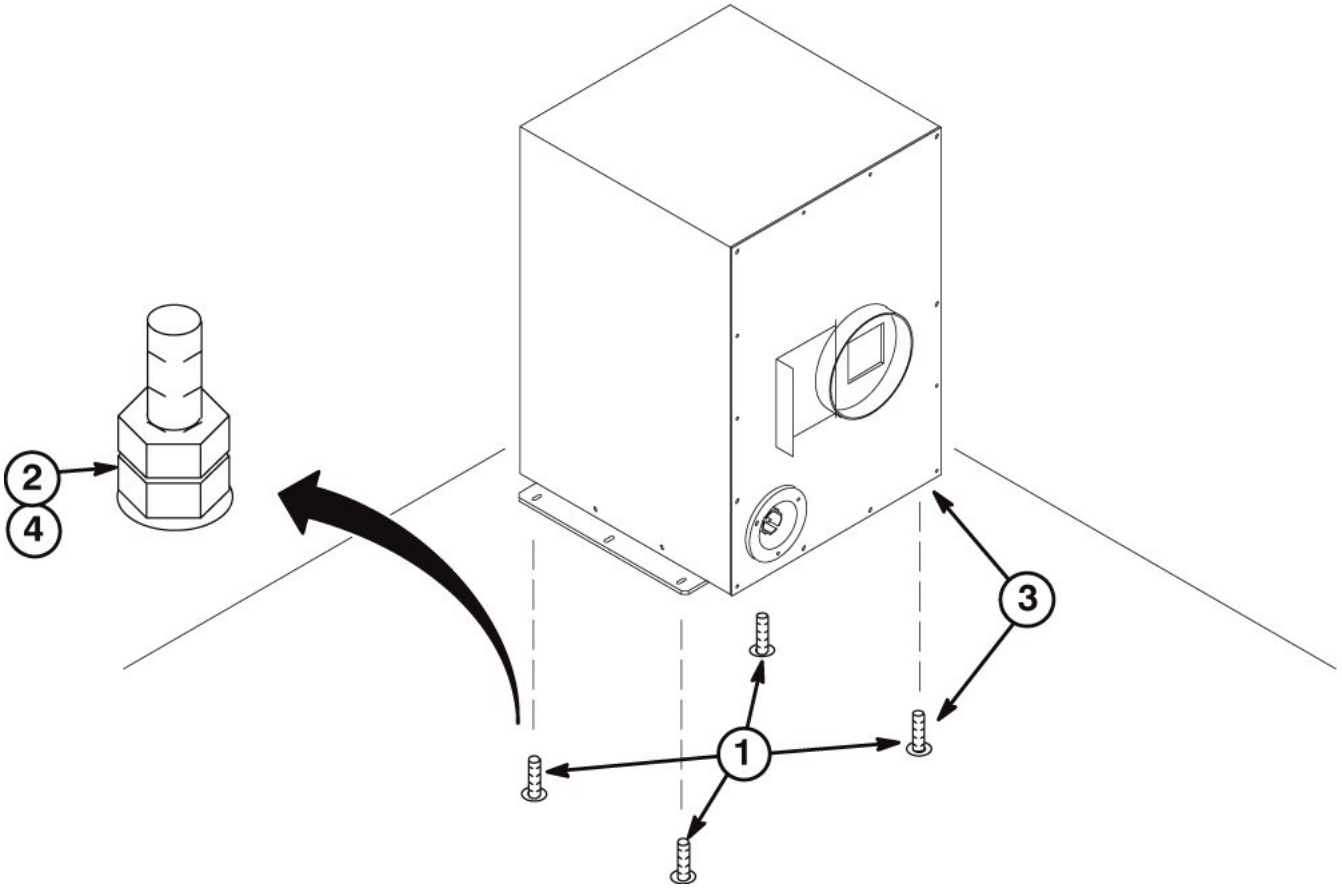
Location of cabinet and type of fastener used for securing Blower Box outside of minimum service area should be specified in the Site Design document. If proper mounting area is not specified, contact the Project Manager of Installation (PMI).

NOTICE

The Blower Box contains ferrous material. The proper mounting of the Blower Box is critical to safety. It MUST be mounted per these instructions.

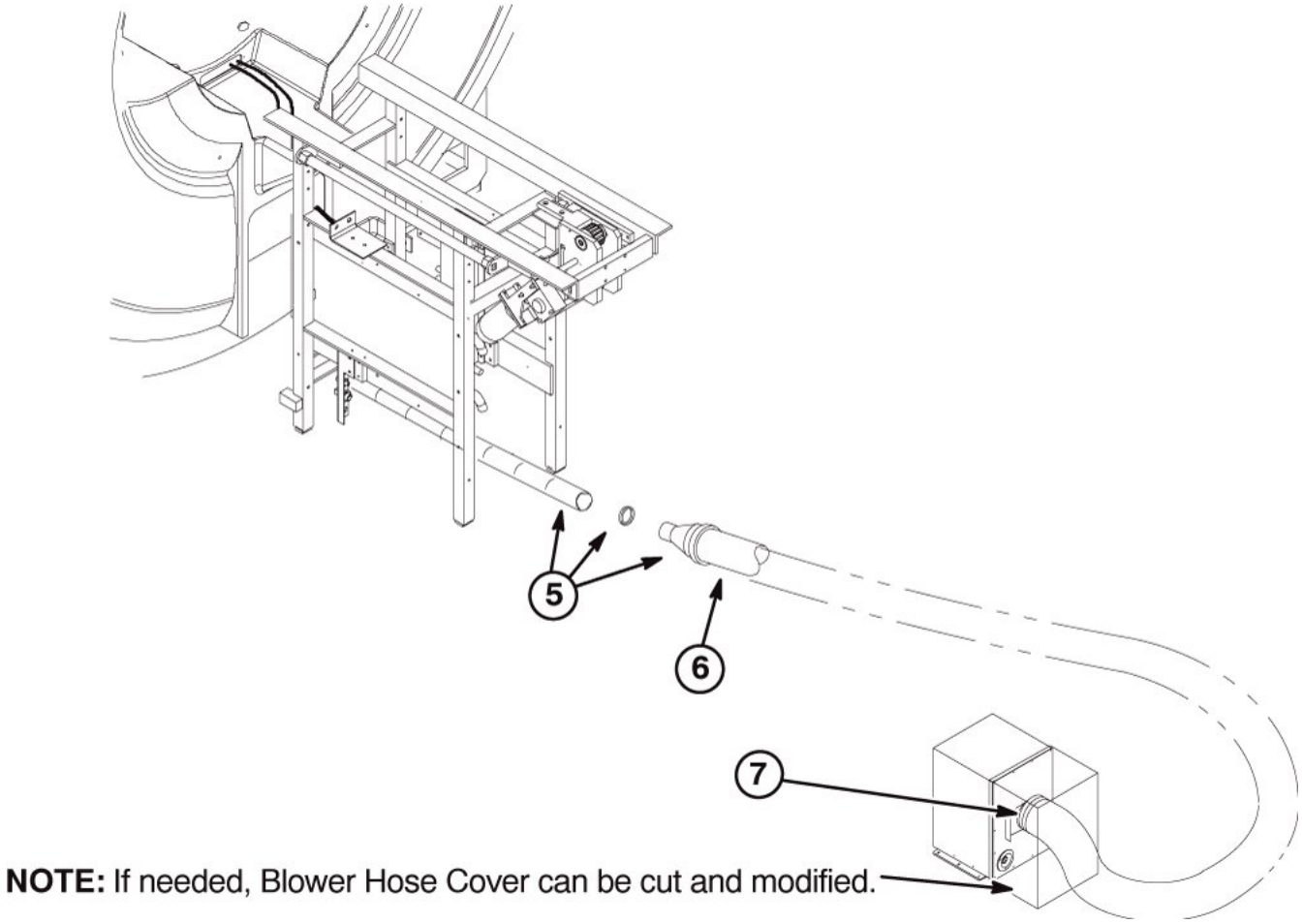
1. Check for correct installation of the anchors:
    - Confirm that the anchors are physically secured to the building structure through expansion anchors.
    - Confirm there are at least four (4) anchors.
    - If any or the anchors appears wobbly or loose, stop the installation and contact the PMI to fix anchoring.
2. Remove any mounting hardware from the anchors.
3. Position the blower box on top of anchors.
4. Secure the blower box using the hardware provided by the RF shield room vendor to attach.

Illustration 10-27: Secure the blower box



5. Connect 2 inch air hose from Rear End Bell to Reducer (2175143) with 2 inch clamp (46-208765P28). Do not cut or reduce the length of the 2 inch hose.
6. Connect 4 inch air hose (46-282666P11) to reducer with 4 inch clamp (46-208765P34). If necessary, the 4 inch hose may need to be cut to reduce length.
7. Route 4 inch hose to Blower Cabinet. Trim to appropriate length and attach to vent opening with 4 inch Hose Clamp (46-208765P34).

Illustration 10-28: Installation Of Air Hose From Rear Of Magnet To Blower Box



1.3.5.8 Emergency Off Connections

Run M3500 is routed to EO2 (Equipment Room Emergency Off) and connected to EO2 and wire from Facility Disconnect. Run M3527 is routed from Penetration Panel to EO1 (Magnet Room Emergency Off Button).

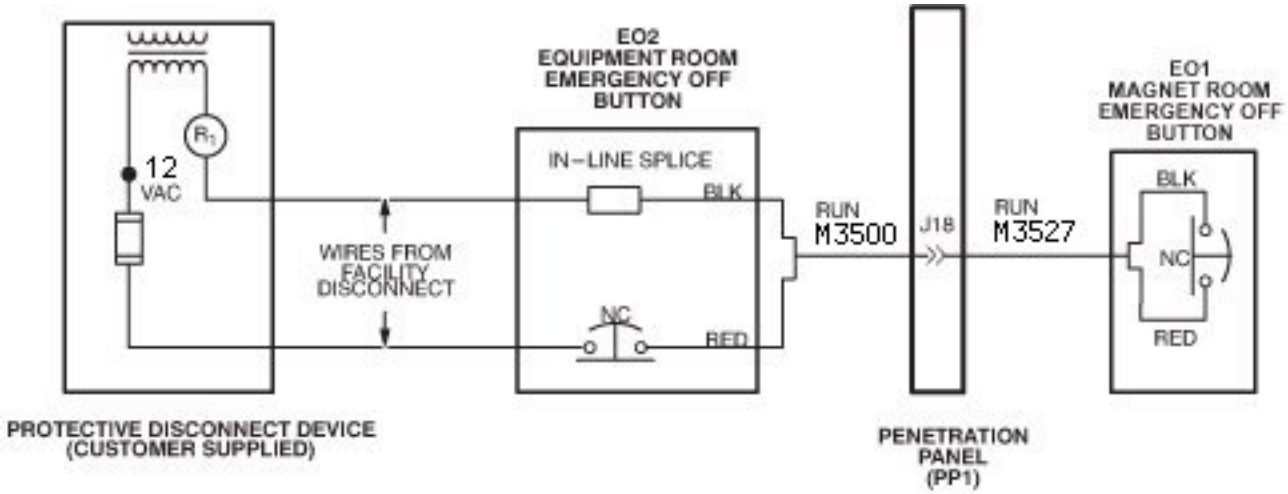
1. Complete routing of Run M3500 to EO2 (Equipment Room Emergency Off) location, and trim cable to length. Locate red and black pair of wires and prepare ends for applicable terminals.

   NOTE: In Illustration below, black and red wires are used for connections in Runs M3500 and M3527. Actually any pair of wires on these runs could be used so long as both ends are consistent with one another. Runs M3500 and M3527 are actually nine wire cables.

2. At equipment room “Emergency Off” (EO2) location, terminate red wire at end of Run M3500 with local supplied terminal and connect to customer supplied Equipment Room Emergency Off Button (EO2).
3. Terminate customer supplied wire (from fuse in Protective Disconnect Device) with local supplied applicable terminal and connect to customer supplied Emergency Off Button (EO2).

4. Terminate customer supplied wire from R1 in Protective Disconnect Device with local supplied push-on terminal.
5. Terminate black wire at end of Run M3500 with local supplied “push-on” terminal.
6. Connect black wire from end of Run M3500 to customer supplied wire from protective disconnect device with local supplied in-line splice.
7. Complete routing of Run M3527 to EO1 (Magnet Room Emergency Off) location, and trim cable to length. Locate red and black pair of wires and prepare ends for applicable terminals.
8. Terminate red and black wires at end of Run M3527 with local supplied terminals and connect to customer supplied Magnet Room Emergency Off Button (EO1).

Illustration 10-29: Emergency Off Connections



1.4 Finalization

No finalization steps.

Chapter 11 Pneumatic Patient Alert Installation

1 Pneumatic Patient Alert

The customer and users should be involved in the following decisions:

- Routing of Pneumatic Tubing
- Location of Control Box

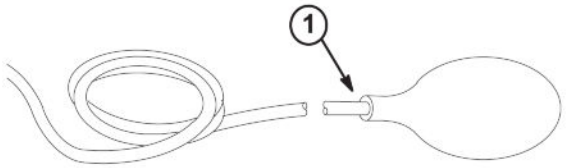
NOTICE

Do not substitute other types of tubing for the pneumatic tubing supplied with this Installation Kit. Substitution of other types of tubing may cause a control box malfunction.

1.1 Squeeze Bulb Installation

1. Insert end of Pneumatic Tubing into Squeeze Bulb approximately 1/2 inch (13mm). For ease of pneumatic tubing insertion, pinch pneumatic tubing in one hand while squeezing squeeze bulb and pushing pneumatic tubing in with the other hand. This will create a positive pressure and expand squeeze bulb opening.
2. Before cutting pneumatic tubing from roll to length required, verify that when the squeeze bulb is held by a patient being scanned, the tubing length can be routed to the “CALL” connector on the Remote PAC Interface Assembly without getting in the way of operator or patient during use.

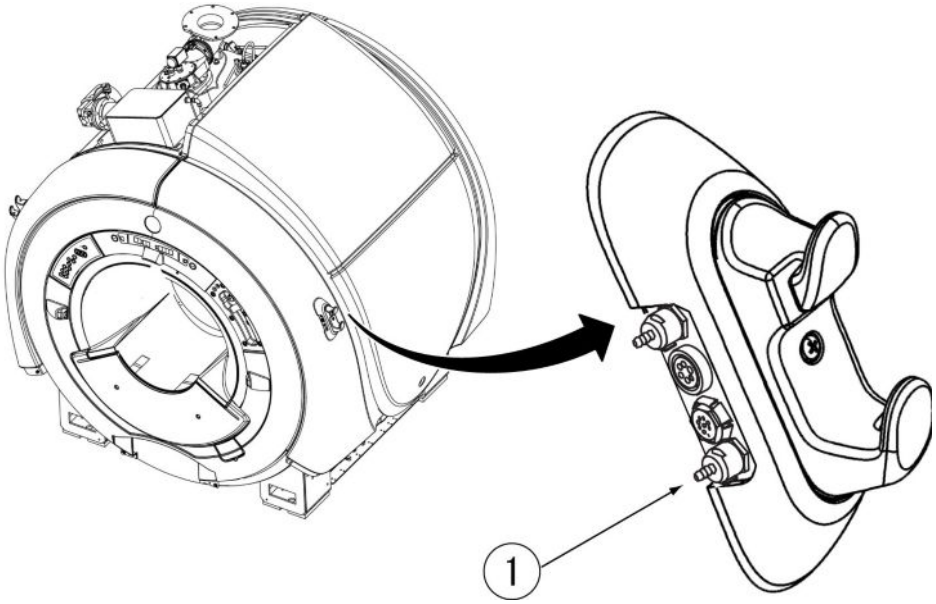
Illustration 11-1: Squeeze Bulb Installation



1.2 Connect Tube To Remote PAC Interface Assembly

1. Connect end of tubing to ”CALL” connection on Remote PAC Interface Assembly.

Illustration 11-2: Connect Tube to Remote PAC Interface Assembly



1.3 Magnet Room Routing Of Tubing & Wave Guide Installation

NOTICE

Make sure that pneumatic tubing is not routed where it can be stepped on, pinched, or have an object set on it. The control box alarm will not work if pneumatic tubing is pinched.

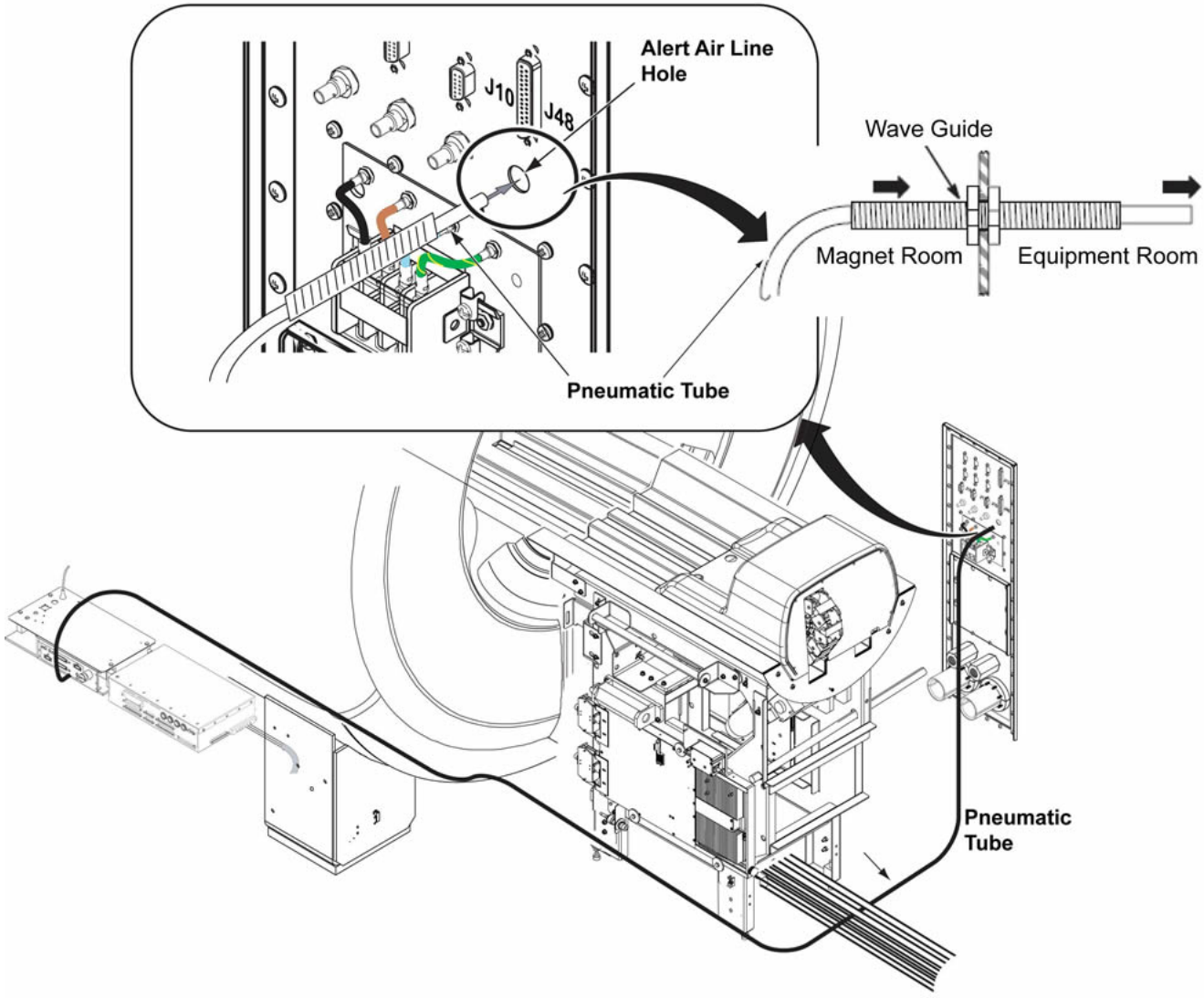
Also, make sure that the pneumatic tubing can be routed from the PAC connector through the Rear Pedestal, and to the Penetration panel without being pinched along the route by other cables.

1. Push end of pneumatic tubing onto PAC-II tubing connector.

   NOTE: If the pneumatic tubing is to be pulled thru fiber-optic conduit, coat with baby powder, not grease, to allow easier pulling.

2. Route Pneumatic Tubing from Rear Pedestal to Penetration Panel with other system cables.
3. Insert Wave Guide thru “ALERT AIR LINE” hole.
4. Route end of pneumatic tubing from Magnet Room side of Penetration Panel thru Wave Guide into the Equipment Room where the Control Box will be installed.

Illustration 11-3: Magnet Room Routing Of Tubing & Wave Guide Installation



1.4 Determining Need Of Extender Box

If installation requires greater than 115 feet of pneumatic tubing between the squeeze bulb (hanging on Magnet Enclosure) and control box (near Operator's Console), Extender Kit, 46-317758P2, must be ordered.

- If the pneumatic tubing is long enough to reach control box: The extender is not needed. Proceed to Section 1.6, CONTROL BOX INSTALLATION.
- If the pneumatic tubing is not long enough to reach control box: The extender is needed. Proceed to Section 1.5, INSTALLATION OF EXTENDER KIT.

1.5 Installation Of Extender Kit (46-317758P2)

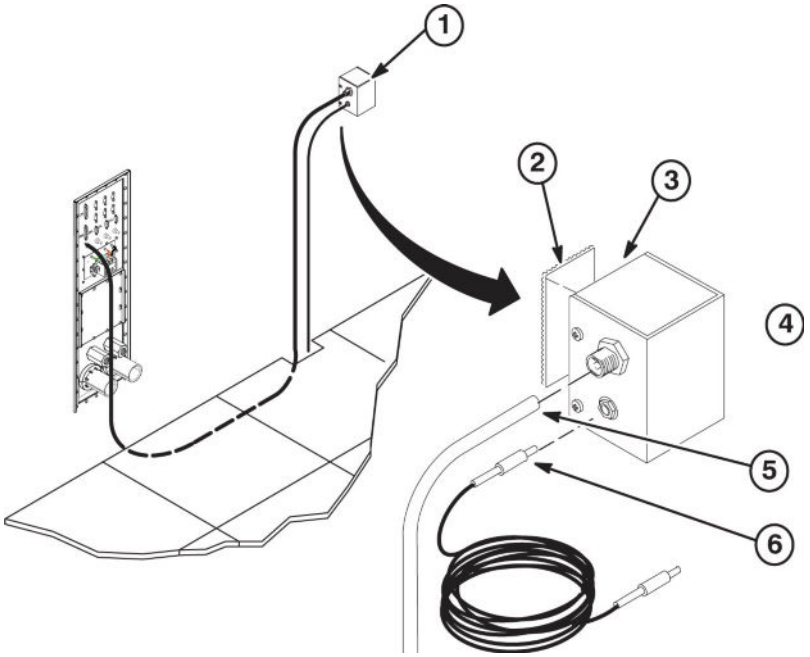
⚠CAUTION

Do not mount Extender Box in Magnet Room because the box contains ferrous parts.

Install Extender Box

1. Choose the mounting location for extender box on equipment room wall next to Penetration Panel. Extender box will be mounted with pneumatic and electrical jacks on side of extender box.
2. Cut a two inch long piece of Velcro loops and a two inch long piece of Velcro hooks. Both are obtained from the Pneumatic Patient Alert Kit.
3. Clean the back of extender box, remove protective paper from back of Velcro loops, and attach Velcro to center of extender box back.
4. Clean wall in the area where extender box will be mounted, remove protective paper from back of Velcro hooks, and attach Velcro to wall in same orientation as Velcro loops on extender box.
5. Push end of pneumatic tubing fully onto Feed-thru connector on Extender Box.
6. Push the jack on one end of the 65 foot Extender Wire into the plug on side of Extender Box.

Illustration 11-4: Install Extender Box

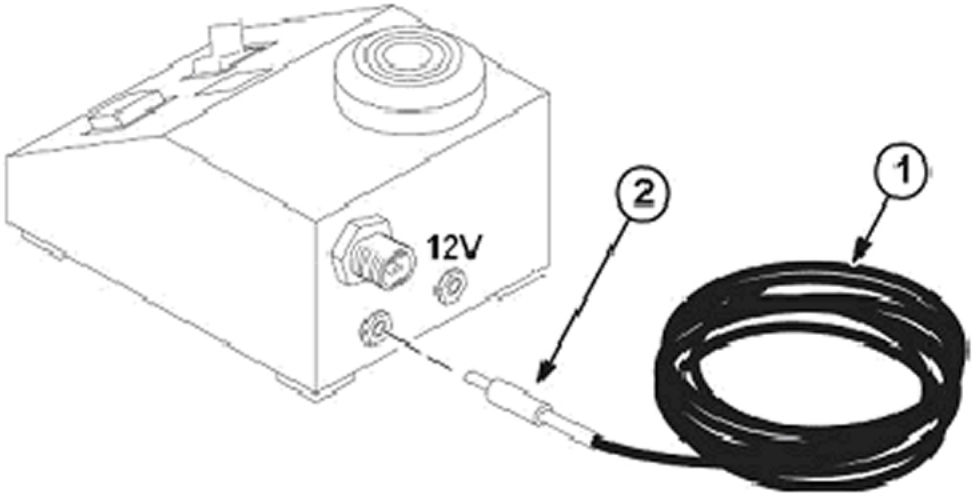


Connection Of Extender Wire To Control Box

1. Route the extender wire from extender box to control box. Control box will be installed near Operator Console, within five feet of an electrical outlet.

2. Push the jack at other end of extender wire into the plug on back of control box.

Illustration 11-5: Connection Of Extender Wire To Control Box



1.6 Control Box Installation Options

Consult with the operator in choosing the mounting orientation for the control box. Some key factors to consider are ease of use by operator, remaining within sight of operator, and remaining within five feet of an electrical outlet. Choose one of the following control box locations:

- Mount control box on a wall or other vertical surface per Section 1.7, CONTROL BOX INSTALLATION ON WALL OR UNDER SHELF.
- Mount control box under shelf per Procedure Section 1.7, CONTROL BOX INSTALLATION ON WALL OR UNDER SHELF.
- Place Control Box on a counter top, desk top, or other horizontal surface. Set the Control Box near Operator Console and within five feet of electrical outlet. Control Box should be placed within sight of operator. Proceed to Section 1.11, FINAL CONNECTIONS TO CONTROL BOX.

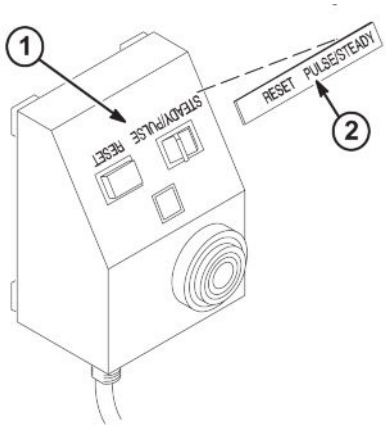
NOTE: The installer must provide additional mounting hardware if supplied screws or adhesive backed Velcro are not adequate for installation of the control box.

1.7 Control Box Installation On Wall Or Under Shelf

1. Clean Control Box surface.
2. Remove adhesive backing from metallized nameplate and apply over silk screened lettering as shown.
3. Select one of the following for installation of Control Box:
   - If control box will be mounted to WALL or SHELF with Velcro, go to Section 1.8
   - If control box will be mounted to WALL with screws, go to Section 1.9

- If control box will be mounted to SHELF with screws, go to Section 1.10

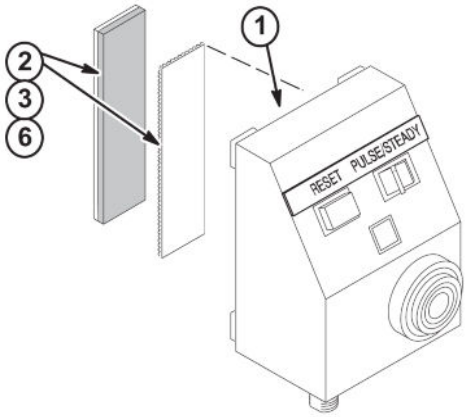
Illustration 11-6: Control Box Installation On Wall Or Under Shelf



1.8 Control Box Mounted With Velcro

1. Clean the bottom surface of the Control Box.
2. From the Pneumatic Patient Alert Kit, cut a three inch long piece of Velcro loops and a three inch piece of Velcro hooks.
3. Remove protective paper from back of Velcro loops, and attach Velcro to center bottom of control box.
4. Choose the mounting location for control box on wall (or under shelf) next to operator console. Control box should be mounted within sight of operator.
5. Clean the area where control box will be mounted.
6. Remove protective paper from back of Velcro hooks and attach to mounting location in same orientation as Velcro on box.
7. Mount the control box by pressing Velcro on control box against Velcro on mounting location and twisting slightly.
8. Proceed to Section 1.11, FINAL CONNECTIONS TO CONTROL BOX.

Illustration 11-7: Control Box Mounted With Velcro

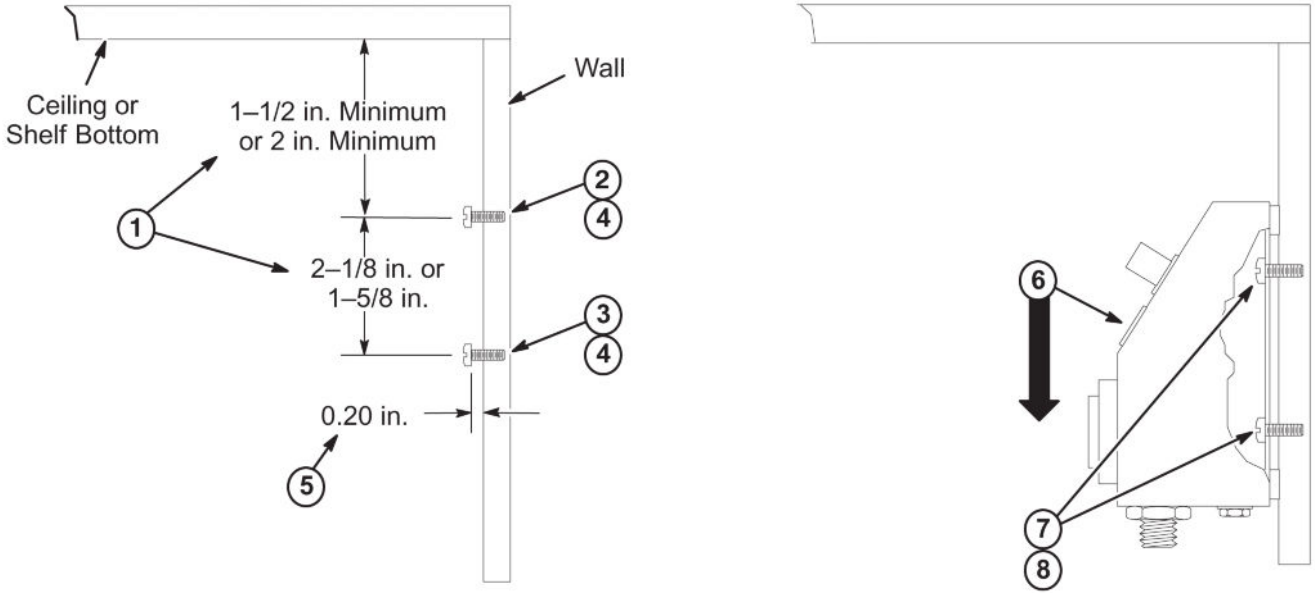


1.9 Installing Control Box With Mounting Screws On Vertical Surface

Choose the mounting area near the Operator Console and install mounting screws (item 9). Control box should be mounted within sight of operator.

1. Determine which of the shown keyhole slot spacings are applicable to Control Box and select appropriate dimensions to use.
2. Mark top mounting hole position on wall.
3. Mark bottom mounting hole position on wall.
4. Drill a 1/16 in. pilot hole at locations if furnished screws are used.
5. Install screws to depth as shown.
6. Center box keyhole slots over screws, push in on box, and then push downward to seat screws within slots.
7. Tighten or loosen screws as necessary to obtain a snug fit of box against wall.
8. Proceed to Section 1.11, FINAL CONNECTIONS TO CONTROL BOX.

Illustration 11-8: Installing Control Box With Mounting Screws On Vertical Surface

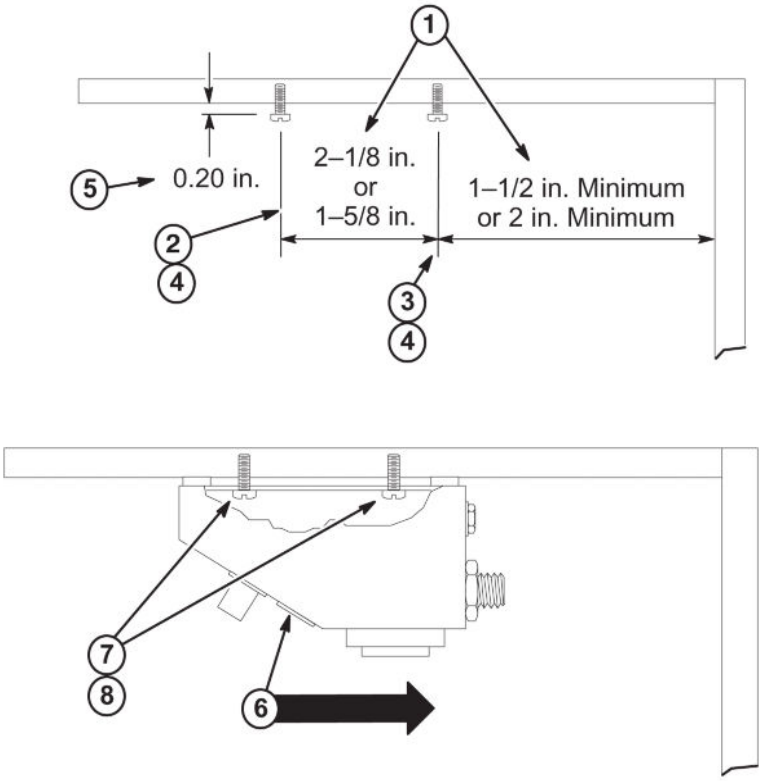


1.10 Installing Control Box With Mounting Screws Under Shelf

Choose the mounting area near the Operator Console and install mounting screws (item 9). Control box should be mounted within sight of operator.

1. Determine which of the shown keyhole slot spacings are applicable to Control Box and select appropriate dimensions to use.
2. Mark front mounting hole position on underside of shelf.
3. Mark rear mounting hole position on underside of shelf.
4. Drill a 1/16 in. pilot hole at locations if furnished screws are used.
5. Install screws to depth as shown.
6. Center box keyhole slots over screws, push in on box, and then push inward to seat screws within slots.
7. Tighten or loosen screws as necessary to obtain a snug fit of box against wall.
8. Proceed to Section 1.11, FINAL CONNECTIONS TO CONTROL BOX.

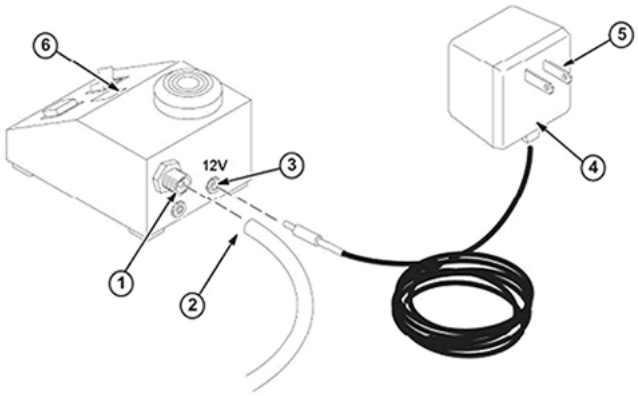
Illustration 11-9: Installing Control Box With Mounting Screws Under Shelf



1.11 Final Connections To Control Box

1. Bring the pneumatic tubing to back of control box and mark length. Leave two inches of extra pneumatic tubing for connection.
2. Cut tubing and push fully onto feed-thru connector on back of control box.
3. Plug Power Supply Jack into Control Box.
4. Two AC Adapters (115VAC or 230VAC) are provided in the Pneumatic Patient Alert Kit. Choose one of them to use..
5. Plug Power Supply into AC outlet (115VAC or 230VAC) according to the selected AC Adapter.
6. Check that green LED is on.

Illustration 11-10: Final Connections To Control Box



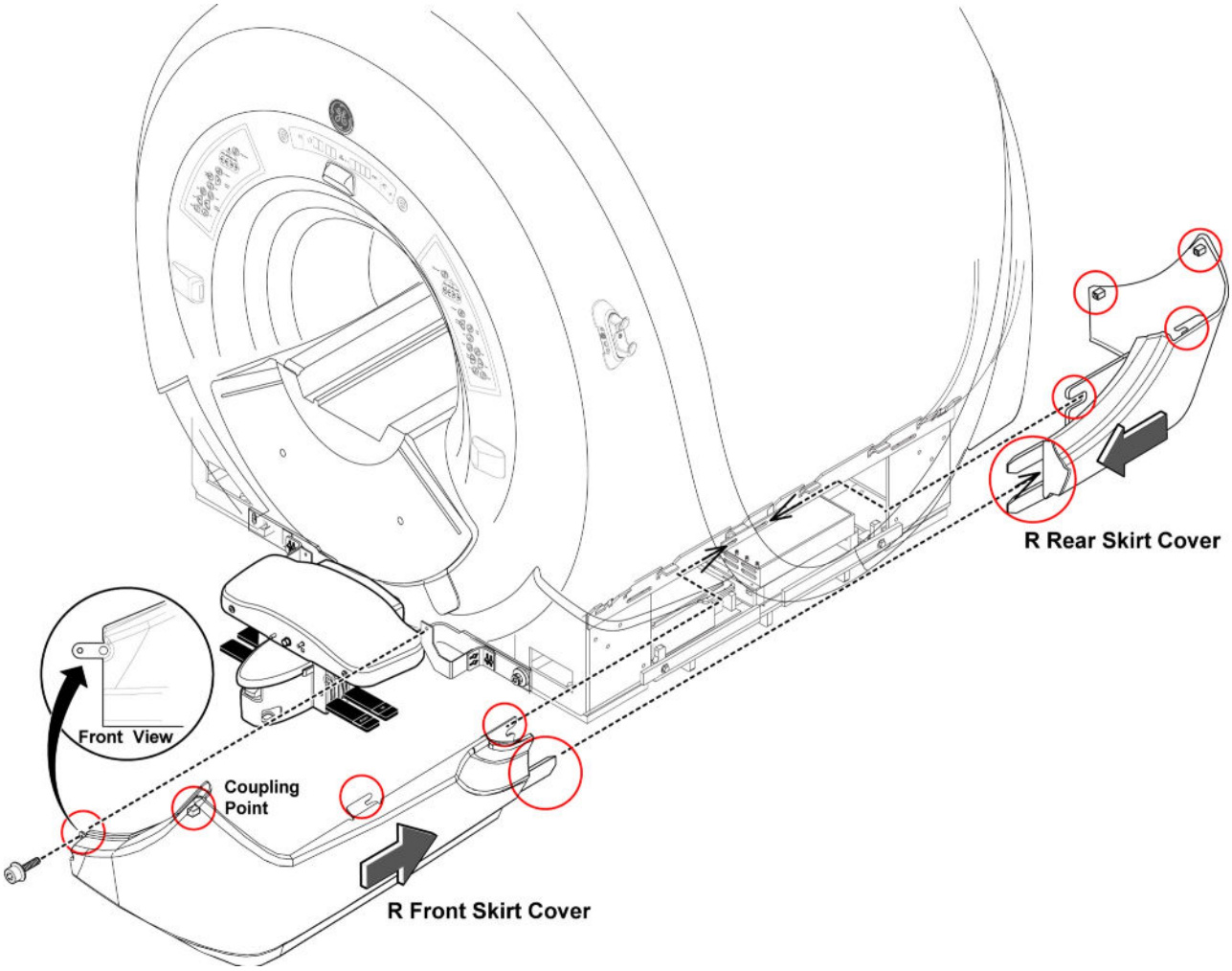
Chapter 12 Enclosure Installation

1 Enclosure Installation

1.1 Magnet Skirt Covers

Install Magnet Skirt Covers. Refer to Illustration 12-1.

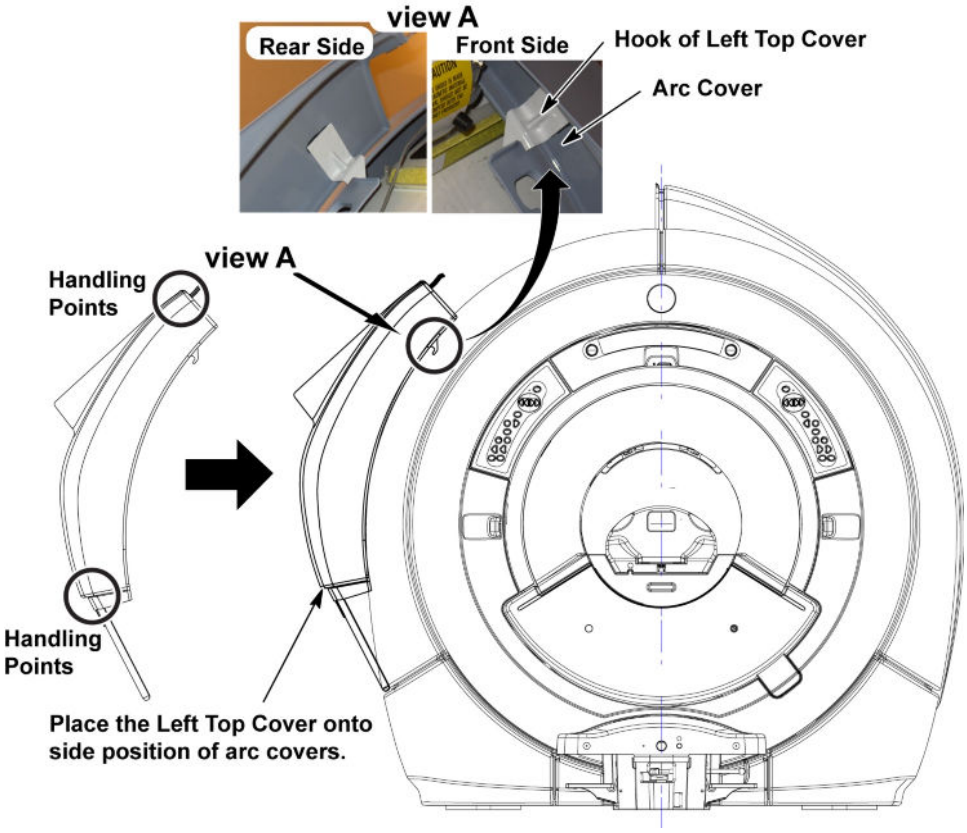
Illustration 12-1: Magnet Skirt Covers



1.2 Install Top Cover and Left Side Cover

1. Place the hooks of left top cover to side holes of arc cover.

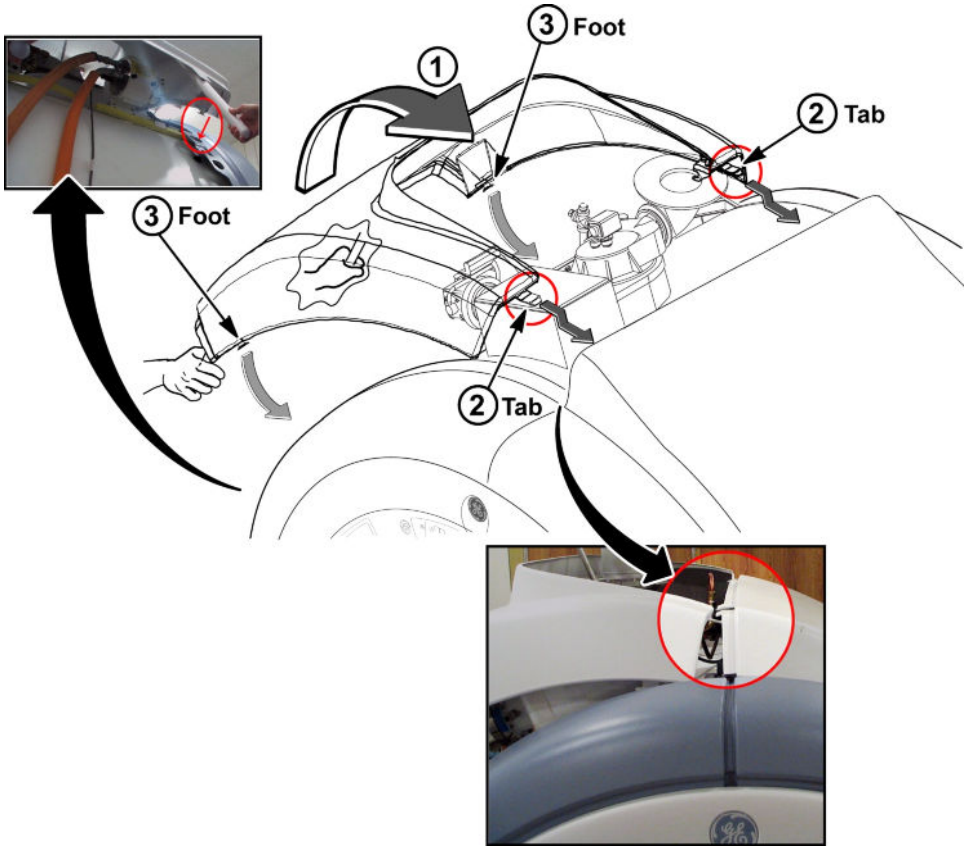
Illustration 12-2: Left Top Cover Installation 1



2. Hold the handles away from the enclosure to ensure that the alignment tabs get properly slotted under the right side's slot.

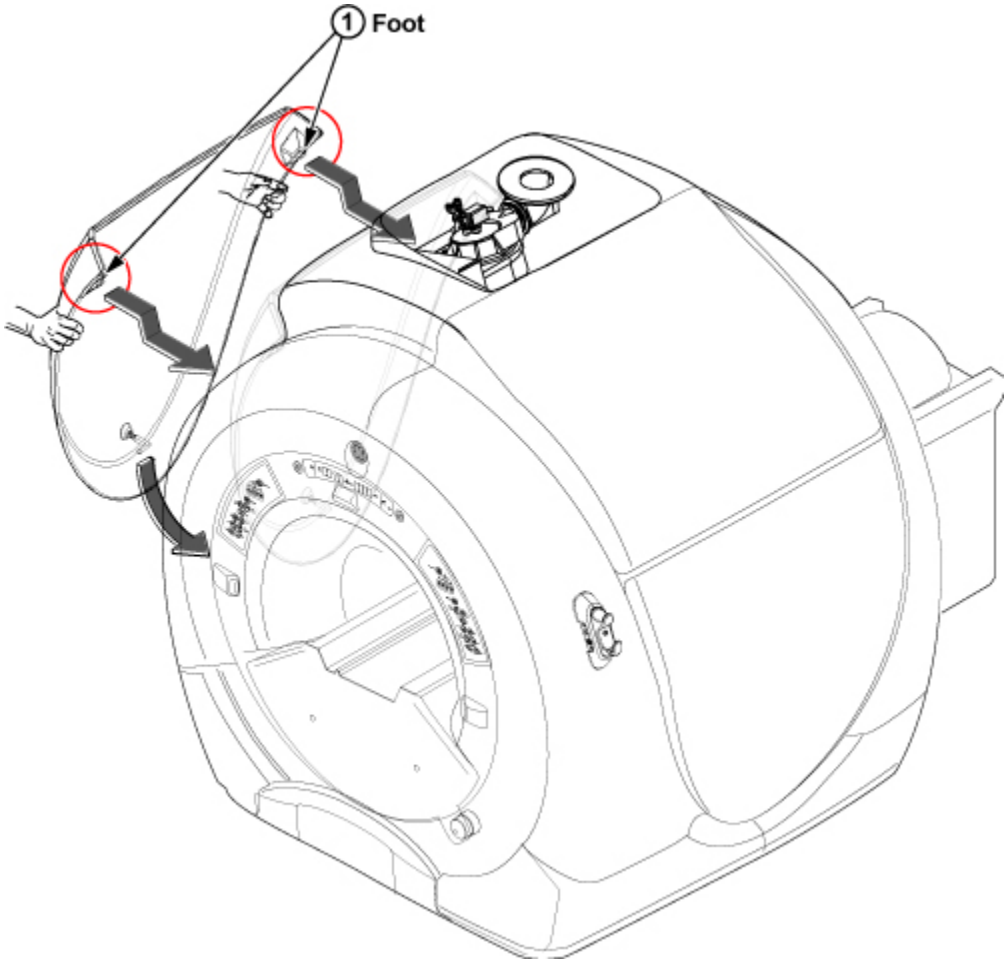
3. Set the round foot on the enclosure-side of the cover into the upper oval on the arc cover. Snap into place.

Illustration 12-3: Left Top Cover Installation 2



4. Install the left side cover to the holes of arc cover.

Illustration 12-4: Left Side Cover Installation



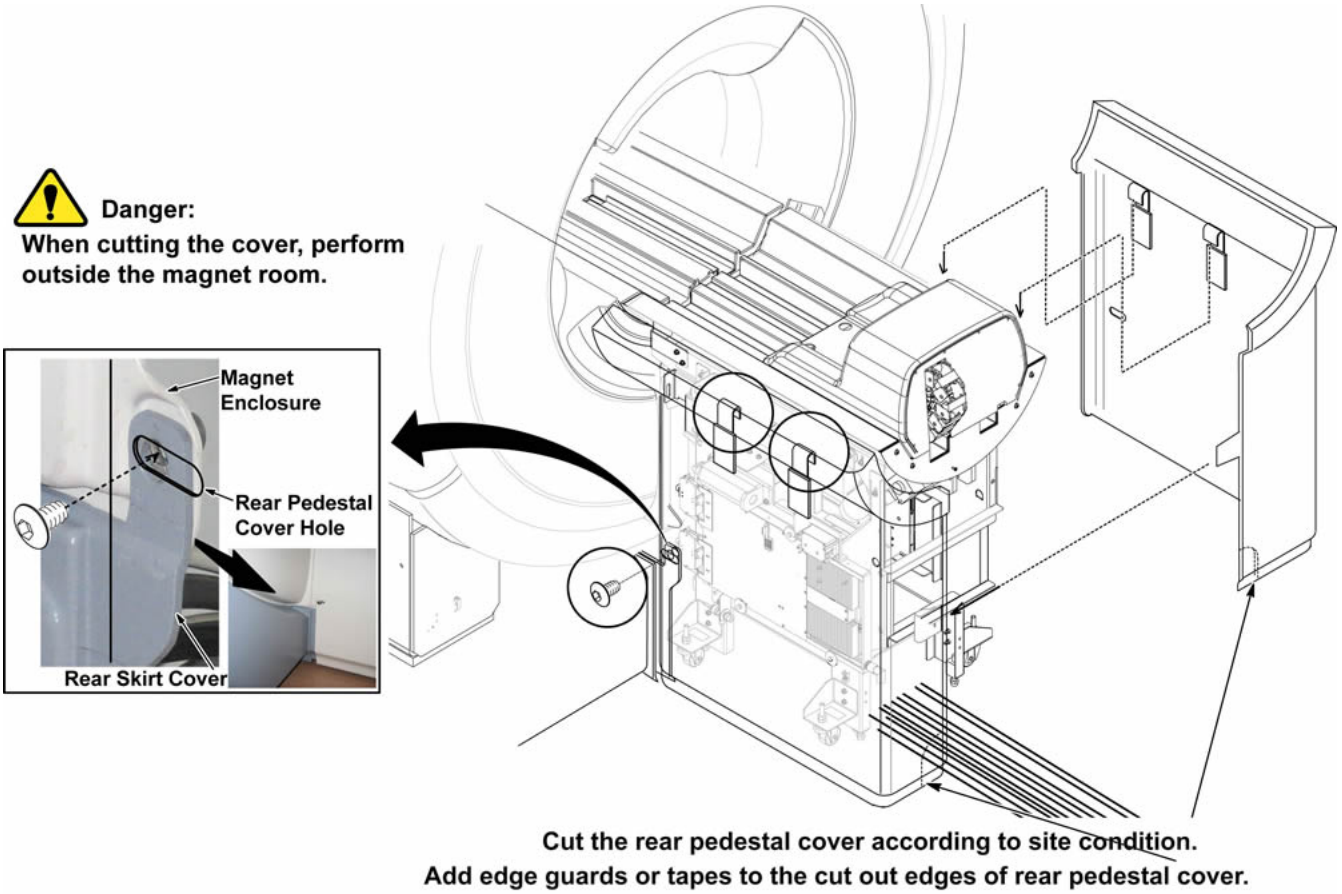
5. Lock the side cover by rotating the lock screw.

Illustration 12-5: Lock Left Side Cover

1.3 Install Rear Pedestal Covers

Install Rear Pedestal Covers. Refer to Illustration 12-6.

Illustration 12-6: Rear Pedestal Covers



NOTE: Cut off the Rear pedestal cover according to the site condition. Refer to Illustration 12-7,Illustration 12-8, Illustration 12-9.

Illustration 12-7: Rear pedestal cover cut off area 1

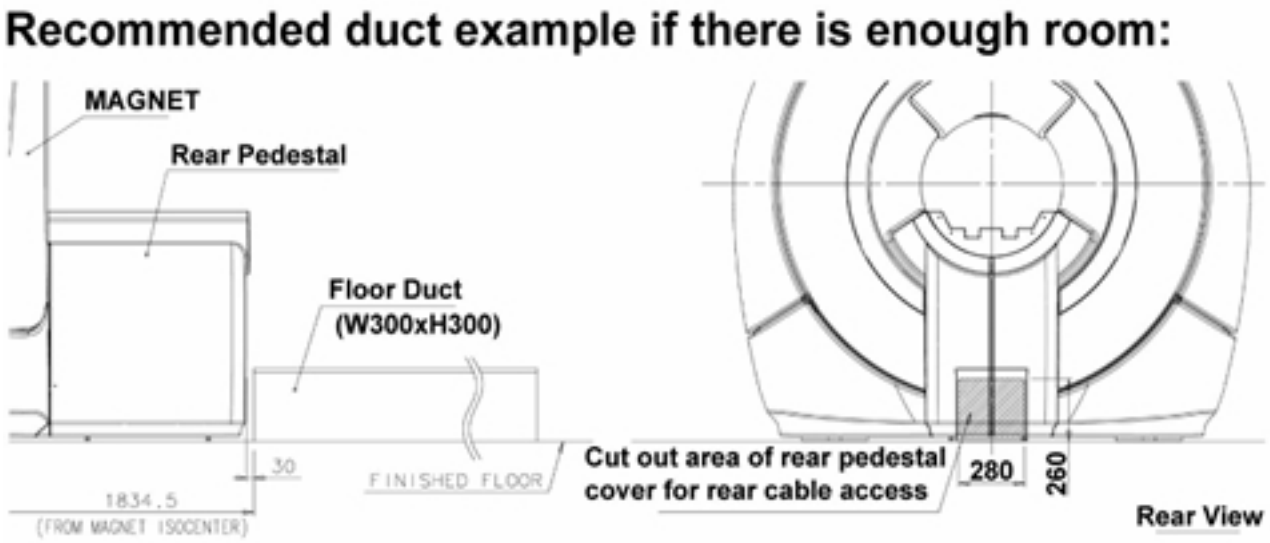


Illustration 12-8: Rear pedestal cover cut off area 2

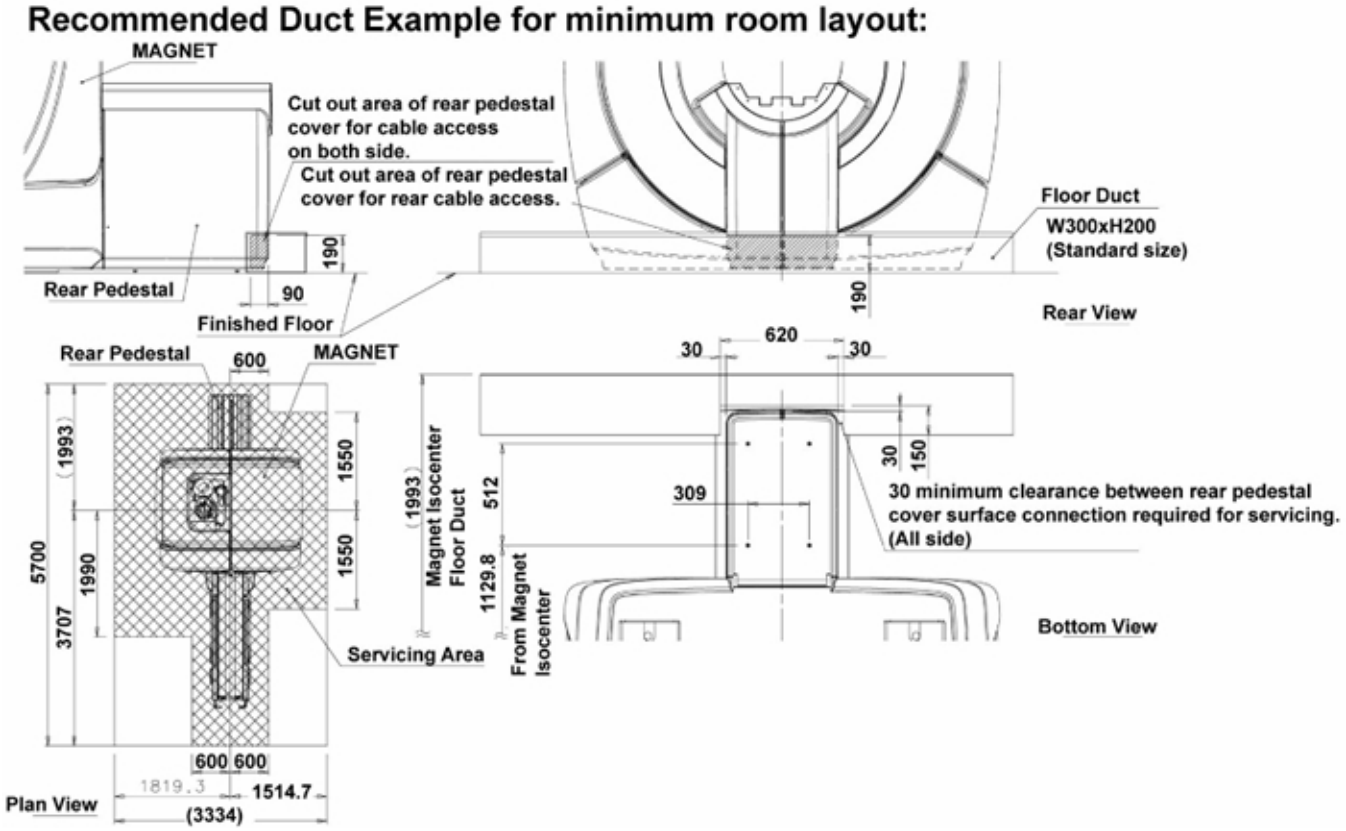
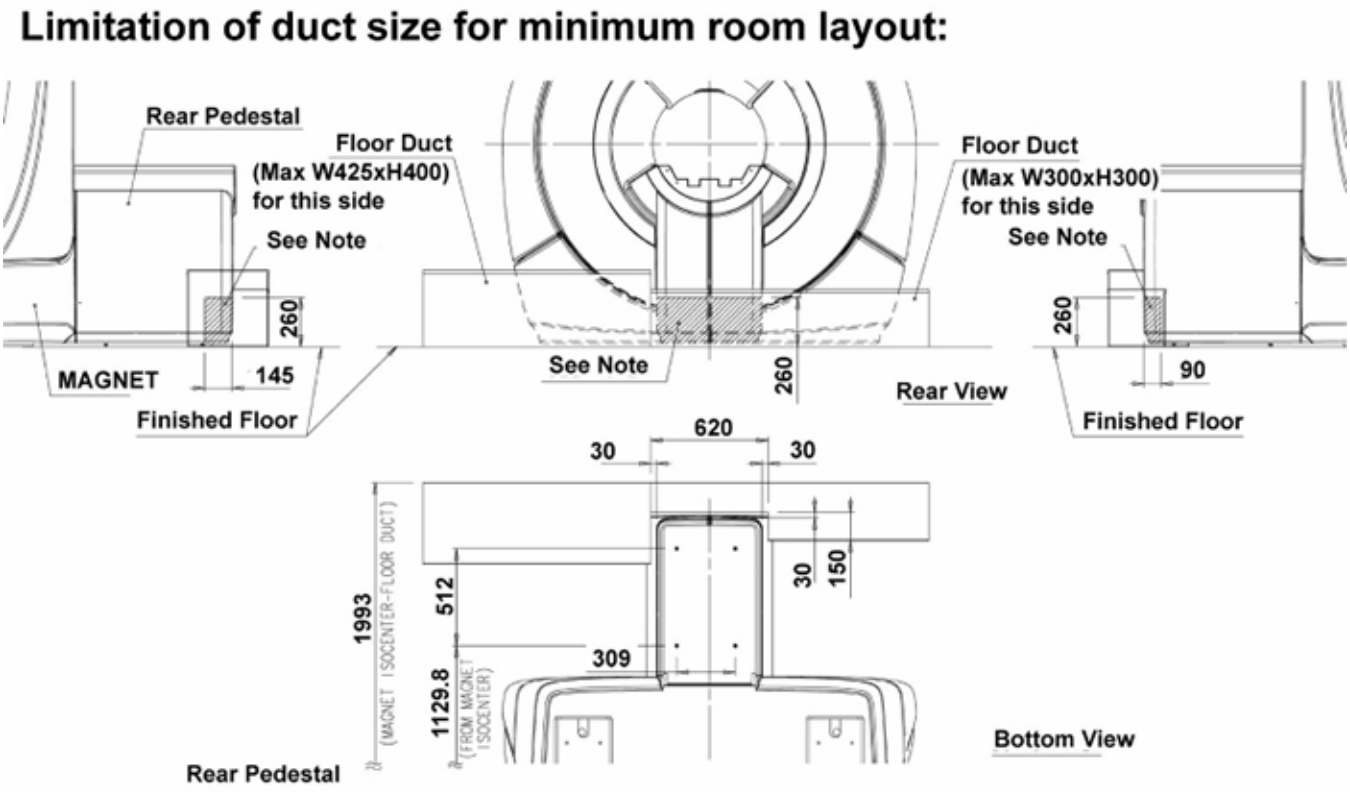


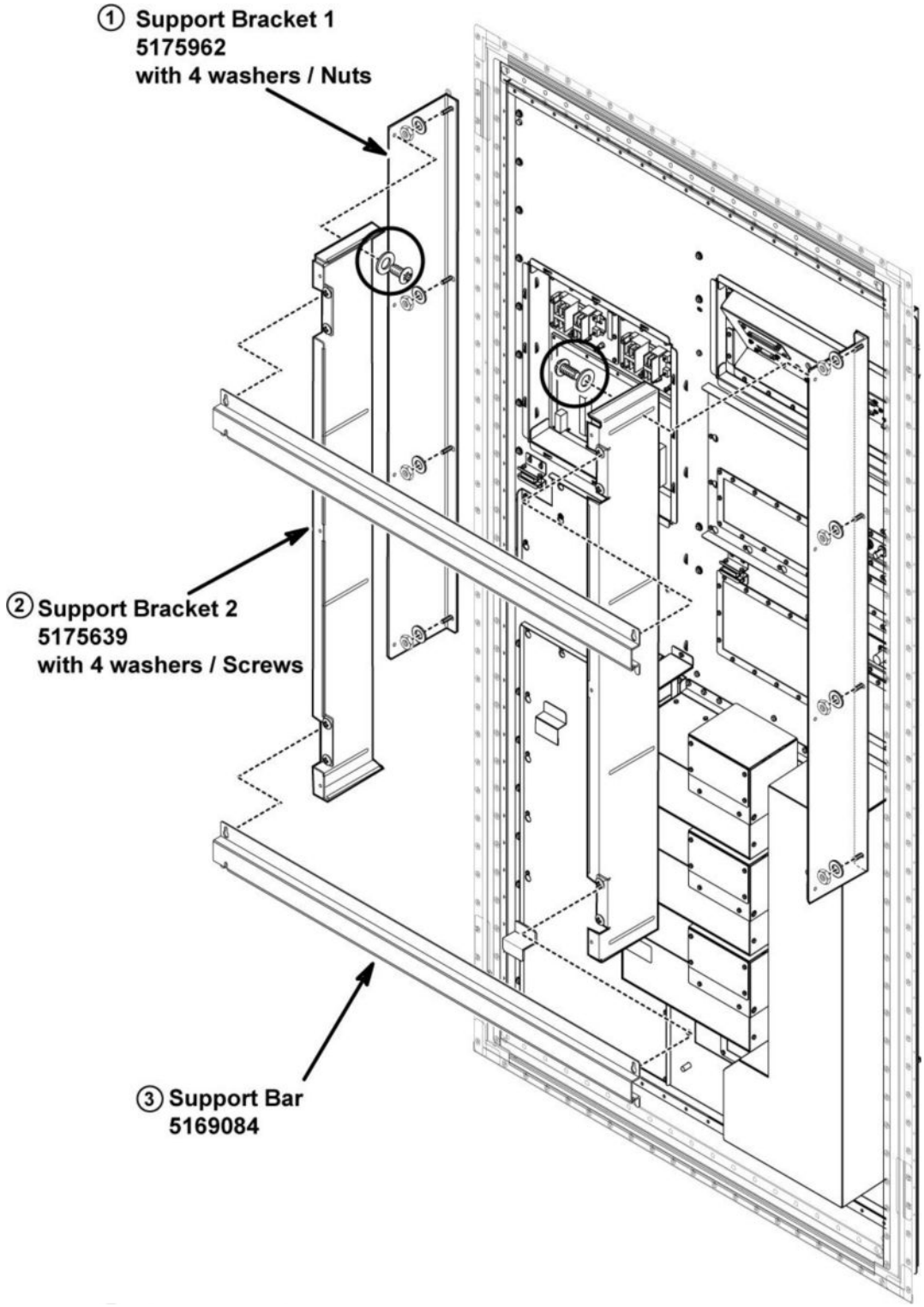
Illustration 12-9: Rear pedestal cover cut off area 3



1.4 Install System Cabinet Cover at Magnet Room Side

1. Instal the two support brackets 1 to studs of mesh shield with 8 washers / nuts.
2. Install the two support brackets 2 to support brackets 1 with 8 washers / screws.
3. Install the two support bars to support brackets 2 with 8 washers / screws.

Illustration 12-10: Install bracket 1

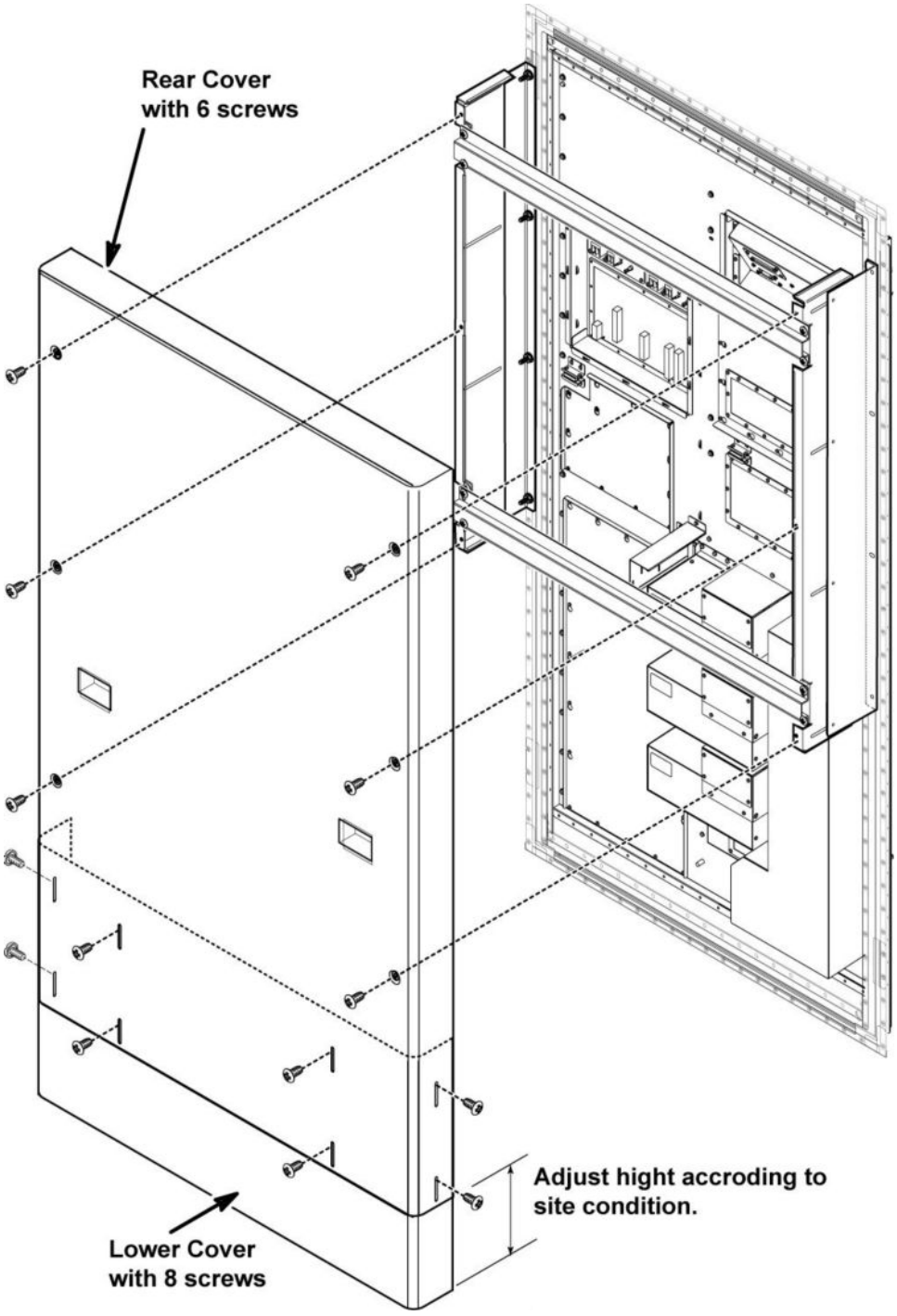


2. Install bracket 2 (x6) to bracket 1 with 3 screws. Do not tighten the screws.
3. Adjust bracket 2 lengths according to site condition, and tighten the screws of bracket 2.

NOTE: All the length adjustment of bracket 2 must be done similarly.

4. Instal the lower cover to rear cover with 8 washers / screws according to site condition.
5. Install the rear cover to support bracket 2 with 6 screws.
6. Adjust the lower cover height according to the site condition.

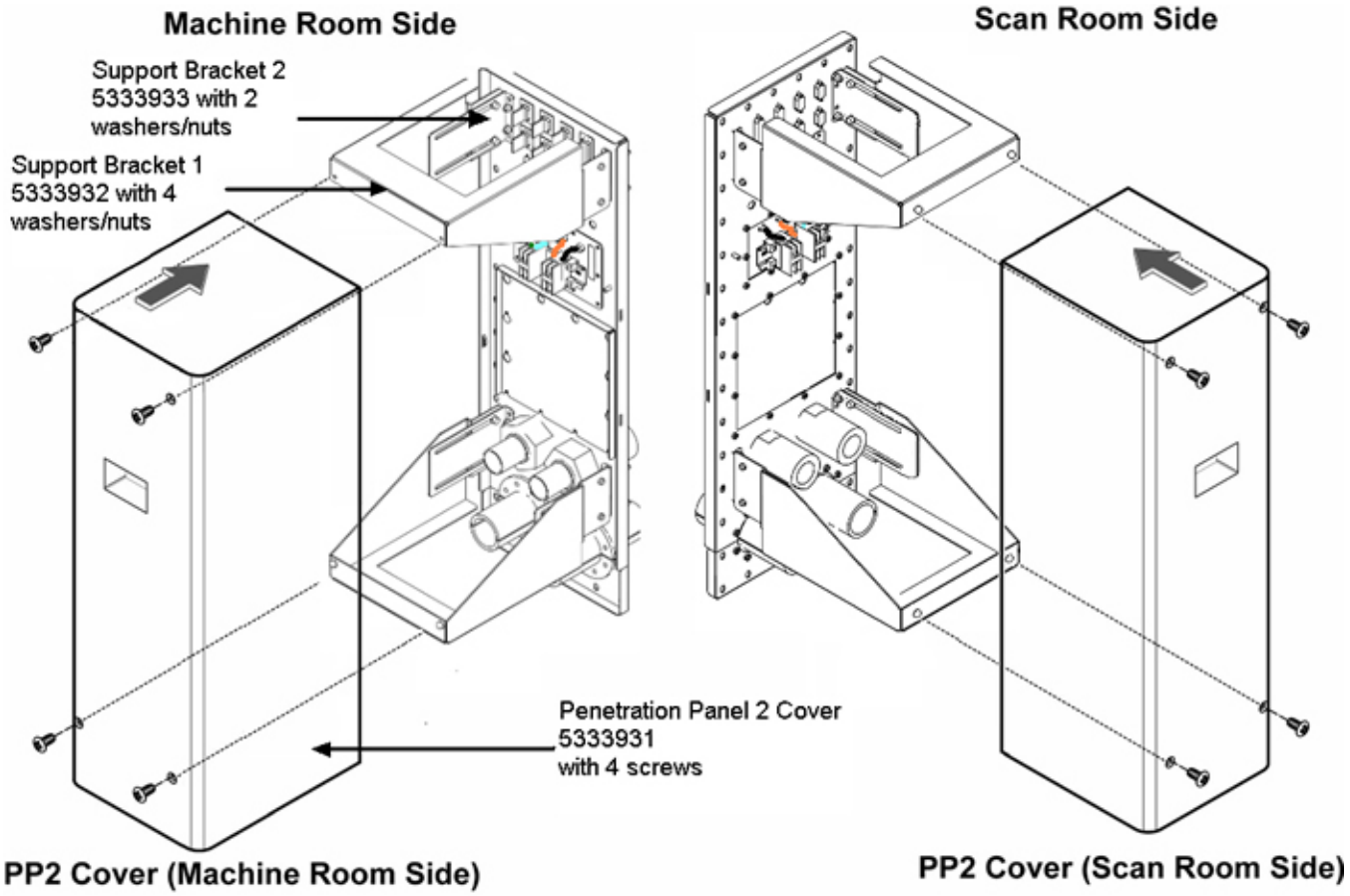
Illustration 12-11: Install rear covers



1.5 Install Penetration Panel Covers

Install Penetration Panel Covers. Refer to Illustration 12-12.

Illustration 12-12: Penetration Panel Covers



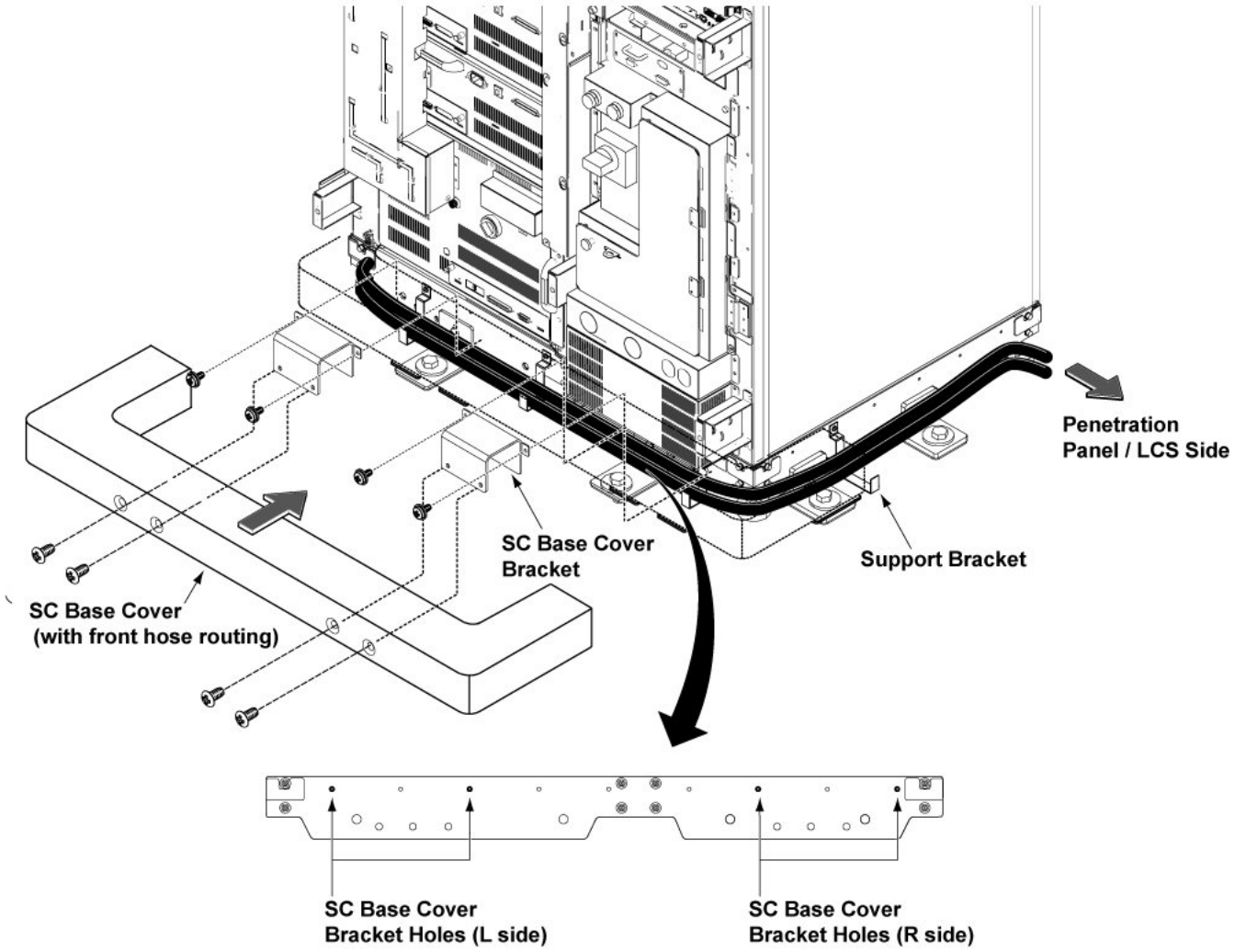
1. Install the 4 Support Bracket 2 to studs of RF shield with 8 washers and nuts.
2. Install the two Support Bracket 1 to Support Bracket 2 with 8 washers and nuts.
3. Install the Penetration Panel 2 Cover to the Support Bracket 1 with 4 screws.

1.6 Install System Cabinet Base Cover

If the hoses are routed at front side, install System Cabinet Base Covers using SC Base Cover Brackets. Refer to Illustration 12-13.

1. Install 4 support brackets to front and R side bottom of system cabinet.
2. Route the hoses in support brackets.
3. Install 2 SC Base Cover Brackets with four M5 screws to front bottom side of system cabinet.
4. Install SC Base Cover with 4 pan head screws.

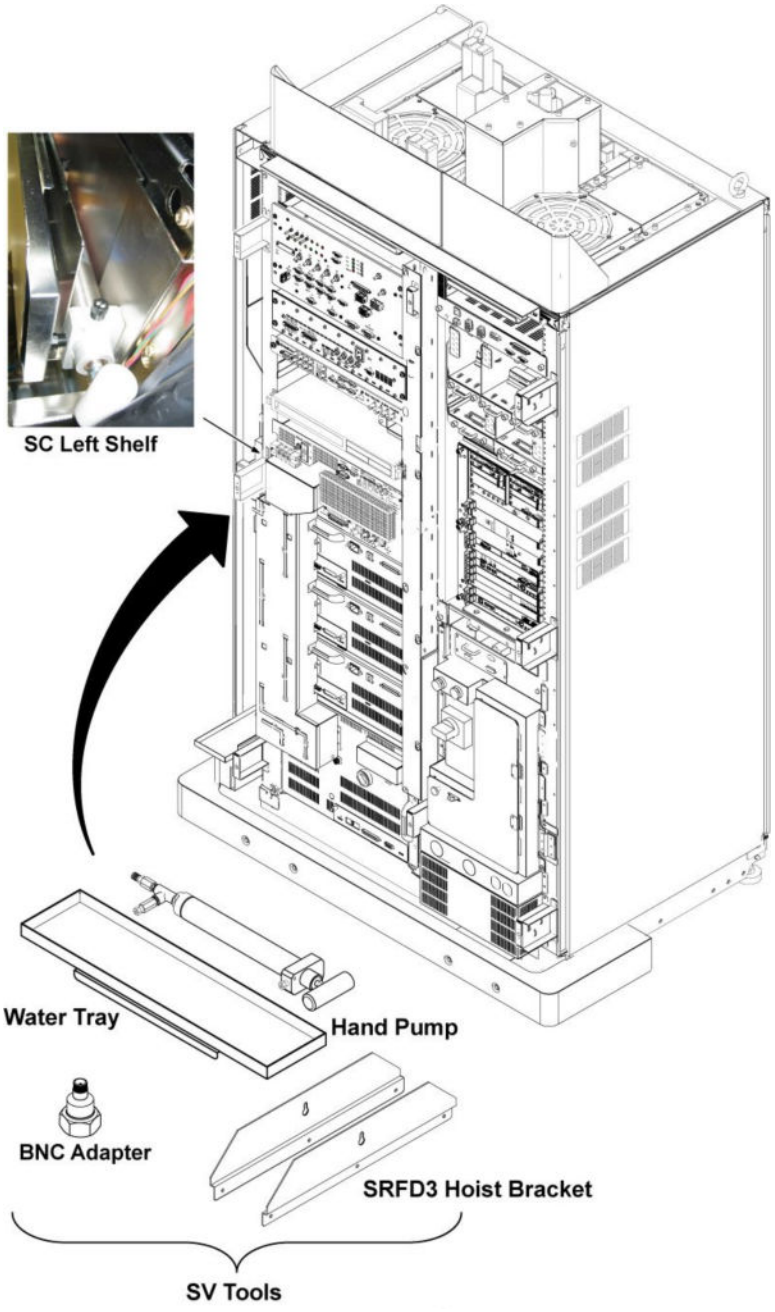
Illustration 12-13: System Cabinet Base Cover



1.7 SV Tool setting at SC left shelf

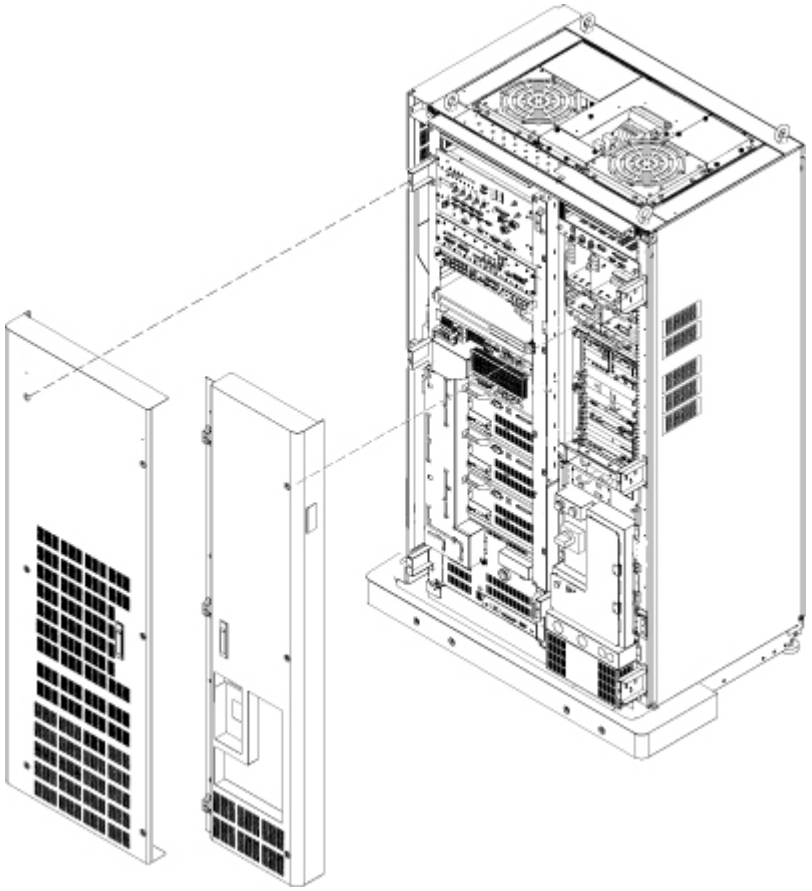
Store the SV tools in the shelf. Refer to Illustration 12-14.

Illustration 12-14: SV Tool setting at SC left shelf



Restore Cabinet Left and Right Front Covers.

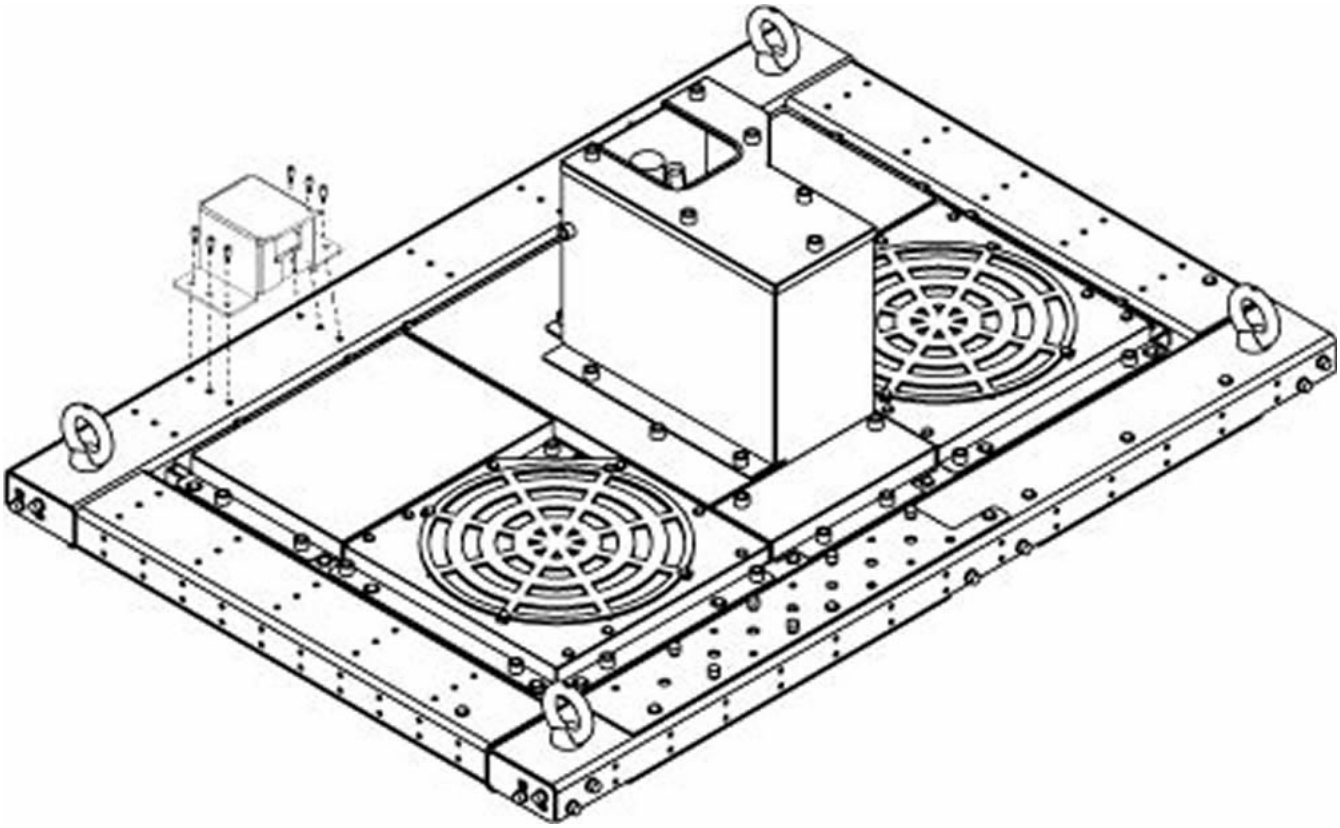
Illustration 12-15: Restore Cover



1.8 Hoist Bracket Setting and Blind Cover Installation

Install Rear Bracket by fixing 6 screws.

Illustration 12-16: Install Rear Bracket by fixing 6 screws

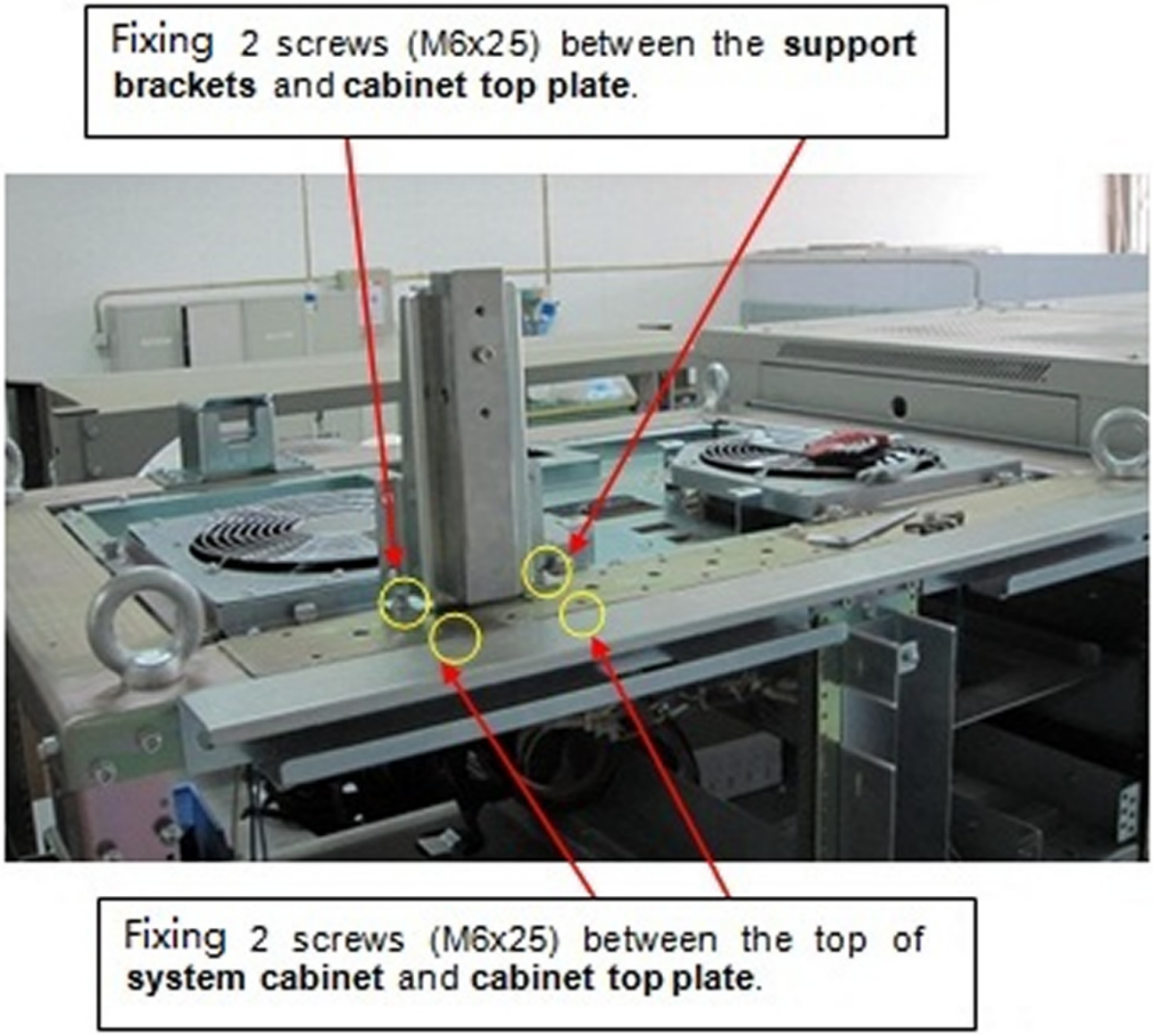


Install Support Bracket by 3 screws. See below illustration.

Illustration 12-17: Install Support Bracket

Installation Support Brackets on the top of System Cabinet.

Illustration 12-18: Install Support Bracket



Install R and L Top Finish Plates.

Illustration 12-19: Install R and L Top Finish Plate

1.9 Store Foam for Fixed Table

For Fixed Table site, store foams in the Cart. This Foam will be used for PA Coil Replacement or MCR III.

Illustration 12-20: Store Foam for Fixed Table

1.10 Install Laser Alignment Light Warning Labels

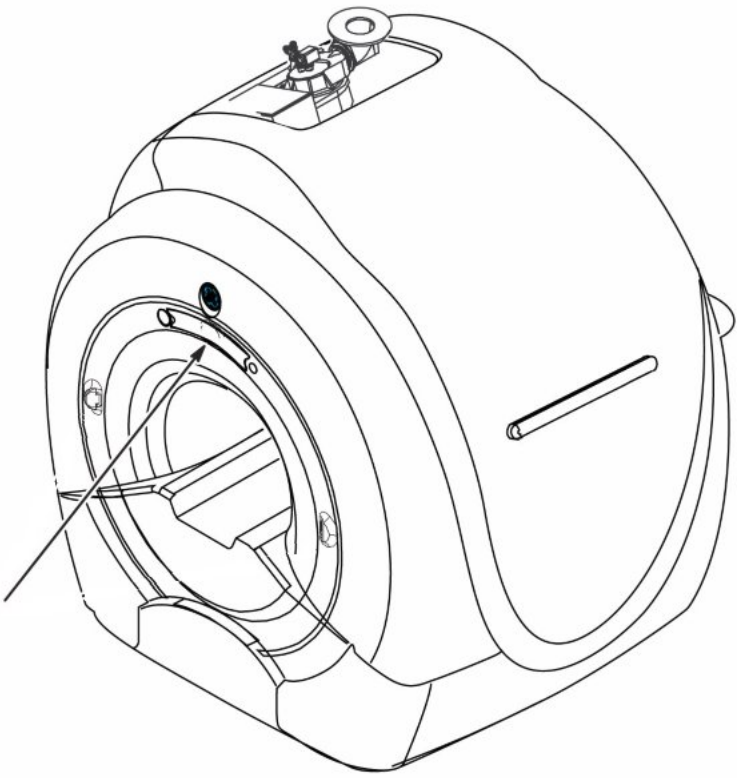
A sheet of Laser Alignment Light Warning Labels has been supplied with the magnet, attached to the magnet bridge.

The magnet enclosure is shipped with a label in English attached below each of the three laser lights.

Illustration 12-21: Install Laser Alignment Light Warning Labels

A sheet of Laser Alignment Light Warning Labels has been supplied with the magnet, attached to the magnet bridge.

The magnet enclosure is shipped with a label in English attached below each of the three laser lights.



For those sites which require a label other than English, peel off the appropriate label and affix over the English labels at the three laser light locations.

French

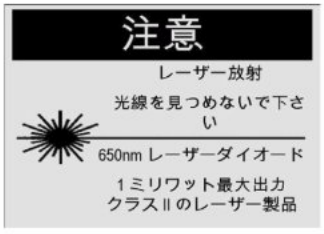
German

Portuguese

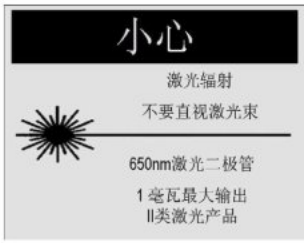
Spanish

Italian

Swedish



Japanese



Chinese

Chapter 13 System Mechanical Checklist Completion

1 System Mechanical Checklist Completion

1.1 Mechanical Installation Completion

The following steps need to be reviewed and completed by GE Field Engineer, especially if the system was installed by non-GE personel.

- Check mechanical flowchart to make sure all steps are complete
- Resolve shipment shortages
- Resolve omissions by mechanical contractors
- Make sure all rating plates are installed
- Recheck all wiring connections using cable map
- Correct for wiring errors if necessary
- Complete Section 1.1.1.
- Complete Section 1.1.2.

1.1.1 Returning Shipping Material

The shipping material must be returned as soon as possible. Prompt return is required so that production shipments can continue with these labor saving dollies and carts. These can be included with the “Return pile”, Recycling Operation will route them to appropriate location.

1.1.2 Final Mechanical Installation Steps

1. Complete assembly of PPG cable and probe head.
2. Make sure all Cabinet, Magnet Enclosure, and Rear Pedestal covers have been installed.
3. Make sure Patient Transport is in position at front of Magnet.

1.2 GE Field Engineer Responsibilities

1.2.1 Phantoms And Service Kits

1. Locate Phantom Kit and SPT Phantom Cart Kit.
2. Unpack the phantoms carefully to reduce risk of damage, breakage, or chemical spill.
3. Locate the multilingual attention labels. Refer to 'Multi-Language Label Installation Instructions' .

   NOTE: For Turkey Import Label, refer to
4. Read the directions provided at the top of each of the multilingual attention label sheets and apply the appropriate language attention label for the site to each of the phantoms that should receive that type of label.

- Each phantom will receive the correct type of attention label written in the appropriate language for that site.
- Note that the LVshim phantom assembly will receive 3 labels, one for each phantom component.

5. Place service phantoms into SPT Phantom Cart or service storage cabinet to be organized and ready to be used during applicable checks and calibrations. The DQA Phantom is to be stored in a customer designated location.
6. Locate TPS RF I/F Kit (if applicable) and Signa Spares Kit. Place kits into service storage cabinet for ready use.

1.2.2 Final GE Field Engineer Installation Steps

1. Record and enter applicable data into applicable site configuration files and records.
2. Complete Product Locator information for all installed serialized components, new or updated, via either:
   - (U.S. Only) FE Site Verification Web Site OR
   - Process and return product locator installation cards for all serialized components to:

     Product Locator File, P.O. Box 414, W-523, Milwaukee, WI 53201-0414

   Refer to Chapter 1, Getting Started,Section 8 for details on submitting Product Locator information.

   NOTE: Failure to fill out and return Product Locator Cards may result in failure of your site to receive future FMI's.
3. Process the Supplier Performance Report located in Common Forms and Section 1.2.3 (reference copy).
4. Store the delivered site's set of service tools and spares kit in service cabinet at site.
5. Locate surface coil ("quick disconnect") adapters and any optional surface coils and positioning accessories and place on Patient Transport. Be sure only the correct polarity (normal or reverse but not both) head coil adapter is left at site.
6. Locate Box "To be opened by Applications Specialist" and set aside for later visit by Applications Specialist.
7. Leave the site's set of Manuals and CD-ROM at site. Organize and set up reference cabinet for the Manuals.
8. Locate Material Safety Data Sheets (MSDS) packed with phantoms and gradient coil coolant. They must be retained on site. Customer is to be informed that material with MSDS was brought into site and customer should know/decide where MSDS should be retained at site.
9. Verify that coordination of application support for instruction of site users on the appropriate Software Release has been made before returning system to the users. Turn site over to applications who will instruct users.

1.2.3 Supplier Performance Report

Illustration 13-1: Supplier Performance Report

GE Medical Systems Field Service

Send completed forms to the 4 addresses at the end of this form.

Supplier Name: _____ Date: _____

Work Performed / Evaluated: _____

Commodity / Item Purchased: _____

GE Customer Name: _____

FDO Number: _____ Test Equipment Bar–code No; _

GEMS Evaluator Name: _____

Please rate suppliers as 1 to 5 on each of the 15 questions below:
1 = Unacceptable 2 = Poor 3 = Average 4 = Excellent 5 = Outstanding

There are 5 groups with three related questions in each group. Groups can be rated either as a group or 3 separate questions.

Any rating below 3 triggers a discrepancy review with the supplier.

Corrective actions will be faster and more effective when you provide examples and/or detail information.

	Supplier schedules well and:					
1	starts on time?	1	2	3	4	5
2	finishes on time?	1	2	3	4	5
3	avoids disruptions?	1	2	3	4	5
	Supplier is flexible and:					
4	responds to GEMS/customer requests?	1	2	3	4	5
5	cooperates with changes in schedule?	1	2	3	4	5
6	deals with unexpected problems?	1	2	3	4	5
	Supplier tools and equipment are:					
7	appropriate for contracted work?	1	2	3	4	5
8	adequate for contracted work?	1	2	3	4	5
9	calibrated and in good working order?	1	2	3	4	5
	Supplier meets GEMS quality standards with employees who:					
10	are trained, skilled and technically competent?	1	2	3	4	5
11	always keep job sites clean and free of debris?	1	2	3	4	5
12	ensure both function and appearance are as expected?	1	2	3	4	5
	Supplier employees enhance GEMS image by their:					
13	appearance?	1	2	3	4	5
14	behavior?	1	2	3	4	5
15	attitude?	1	2	3	4	5

Examples / Details: _____

_____

_____

Any rating below 3 triggers a discrepancy review with the supplier.

SEND COMPLETED FORMS TO:

1. Senior Operations Specialist for your LCT
2. The contractor who performed the work
3. ISS (already in default distribution)
4. Sourcing Supplier Quality (already in default distribution)

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Chapter 14 Appendix

1 MR System Cable Specifications

Table 14-1: MR System Cable Specifications

Group	Run#	From	To	Length(mm)	AWG	Connector Type	
						From	To
A	M4502	MR2	MG6	15000	10	Ring tongue	Ring tongue
	M0503	MR2	MG6	15000	8	Ring tongue	Hubbell-F
	M0504	MR2	MG6	15000	8	Ring tongue	Hubbell-F
B	E3506	MR2	RF-Door-switch	30480	22	D-sub 9-F	N/A
C	M1500 (Note1	MR2	MG3-A3	10000	LMR-600FR	N-type-M Right Angle	N-type-M
	M1504 (Note2)	MR2	MG3-PED-IF	10000	LMR-400FR	N-type-M Right Angle	N-type-M
	M3535	MR2	MG3-A7	15090	22	D-sub 9-M	D-sub 9-F
	M3534	MR2-A11	MG3-A3	15088	RGU 58C	MHV Coaxial -M	MHV Coaxial -M
	M3522	MR2	MG3-A40	15000	22	D-Sub37-M	D-Sub37-M
D	E0500	MR2	OW1-A11	26060	10	APP-4	APP-4
	E3501	MR2	Run_E3047	26365	22	D-Sub9-F	D-Sub9-M
	E3502	MR2	OW1-A15	27584	24	RJ-45	RF-45
E	E3503	PP1	OW1-A21	27280	24	D-Sub25-F	D-Sub15-M
F	828	PP1	MS1-A3-A1	18440	22	D-sub 9-M	D-sub 9-F
	624	PP1	MS1-A2	15000	18	Ring tongue	Plug (4 pin)
G	458	PP1	OM3	27400	22	D-sub 9M	Ring
H	M1515	MR2	MG2-A41	18500	LMR-400FR	BNC-Plug	BNC-Plug
	M1514	MR2	MG2-A41	18500	BELDEN, 9207	Twinax-M	Twinax-M
	M1513	MR2	MG2-A41	18500	BELDEN, 9207	Twinax-M	Twinax-M
	M3519	MR2-A11	MG2-A41	18500	22	D-Sub15-F	D-Sub15-M
	M3521	MR2-A11	MG2-A41	18500	22	D-Sub37-F	D-Sub37-M
	M3520	MR2-A11	MG2-A41	18500	22	D-Sub37-F	D-Sub37-M
I	2009	MR2	MG2-A29	16916	20	D-sub25-F	D-sub25-F
	2011/2012	MR2-CAM	MG2-A33	17210	N/A	HFBR Duplex Simplex	HFBR Duplex Simplex
	P2500	MR2-ICN, CAM	MG2-A43	17000	POF	LC Duplex	LC Duplex
	M3513	MR2	MG2-A42	20000	22	D-Sub37-M	D-Sub37-M

	M3514	MR2	MG2-A42	20000	22	D-Sub37-M	D-Sub37-M
	M3532	MR2-A11	MG2-A12-A2	16002	RGU 58C	MHV Coaxial -M	MHV Coaxial -M
	M3533	MR2-A11	MG2-A12-A2	16002	RGU 58C	MHV Coaxial -M	MHV Coaxial -M
	M3531	MR2	MG2-A12-A1	15000	2	N/A	Ring tongue
	M3530	MR2	MG2-A12-A1	15000	2	N/A	Ring tongue
	M3529	MR2	MG2-A12-A1	15000	2	N/A	Ring tongue
	2018	MR2-A11	MG2-A12-A2	17831	20	MHV Coaxial -M	MHV Coaxial -M
	2019	MR2-A11	MG2-A12-A2	17831	20	MHV Coaxial -M	MHV Coaxial -M
J	M3528	PP1	MG3-A2	15000	22	D-Sub25-M	D-Sub25-M
K		MR2	RUN_826	25000	22	Mini MateN-M	D-sub 15-M
	E3507	RUN_827		500	22	D-sub 15-F	
	823	MR2	MSM1	18288.0	22	D-sub 15-F	D-sub 15-M
L	827	FJ3	FJ4	914.4	22	D-sub15-M	Circular Connector
			MS5-A5	914.4	22		D-sub9-F
M	E0503	MR2	WC2	10000		APP-6	Ring tongue
	E3504	MR2	WC2	10000	22	MateN-6-M	MateN-6-M
	E0501	MR2	WC2	10000	14	APP-6	Ring tongue
	E3505 (Note3)	MR2	WC1	15000	22	MateN-6-M	MateN-6-M
			WC2	10000	22		MateN-6-M
N	457	PP1	OM1	30632	22	D-sub9-F	U Shape
O	824TR	PP1	FJ1	24384	22	D-sub 9-F	D-sub 9-M
	623	PP1	MS5-A1	15000	18	Ring tongue	Plug (4pin)
P	E3500	PP1	FACILITY DISCON-NECT	19812	22	D-sub 9-F	Stripped Wire
Q	M3527	PP1	EMER-GENCY OFF SW	27432	22	D-sub 9-M	Stripped Wire
R	M4500	MS1	RF-COM-GRND	20000	1/0	Ring tongue	Stripped wire
S	942	MSM1	Site Ether-net	24384	26	RJ45	RJ45
T	E0502 (Note3)	WC1	WC2	5000	14	Ring tongue	Ring tongue
U	606	MS4	MS1-A3-A1	30480	22	Circular Connector	DIN Connec-tor
V	825TR	PP1	MSM1-A1	24384	22	D-sub 25-F	D-sub 25-F

	826	FJ3	MSM1-A1	18440	22	D-sub 15-M	D-sub 15-F

Note

1. 6611055 (M1501) can be used as 5m extension cable.
2. 6611057 (M1505) can be used as 5m extension cable
3. Used for 2 LCS Configuration (4kW LCS and 8kW LCS) Only (Type B, B' Only)

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