

Common CT Installation and Alignment Procedure

with CT Installation and Alignment Tool



Service Documentation



5851435-1EN

Rev 2

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IMPORTANT PRECAUTIONS

LANGUAGE

ПРЕДУПРЕЖДЕНИЕ (BG)	<ul style="list-style-type: none">• ТОВА УПЪТВАНЕ ЗА РАБОТА Е НАЛИЧНО САМО НА АНГЛИЙСКИ ЕЗИК.• АКО ДОСТАВЧИКЪТ НА УСЛУГАТА НА КЛИЕНТА ИЗИСКА ЕЗИК, РАЗЛИЧЕН ОТ АНГЛИЙСКИ, 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 ПАЦИЕНТ В РЕЗУЛТАТ НА ТОКОВ УДАР ИЛИ МЕХАНИЧНА ИЛИ ДРУГА ОПАСНОСТ.
警告 (ZH-CN)	<ul style="list-style-type: none">• 本维修手册仅提供英文版本。• 如果维修服务提供商需要非英文版本，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人员，操作员或患者造成触电、机械伤害或其他形式的伤害。
警告 (ZH-HK)	<p>本服務手冊僅提供英文版本。</p> <ul style="list-style-type: none">• 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、機械性或其他危險。
警告 (ZH-TW)	<p>本維修手冊僅有英文版。</p> <ul style="list-style-type: none">• 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)	<p>Ovaj servisni priručnik dostupan je na engleskom jeziku.</p> <ul style="list-style-type: none">• 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.• Zanimarite li ovo upozorenje, može doći do ozljede davatelja usluge, operatera ili pacijenta uslijed strujnog udara, mehaničkih ili drugih rizika.

<p>VÝSTRAHA (CS)</p>	<ul style="list-style-type: none"> • 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.
<p>ADVARSEL (DA)</p>	<ul style="list-style-type: none"> • 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 medmindre denne servicemanual har været konsulteret og er forstået. • Manglende overholdelse af denne advarsel kan medføre skade på grund af elektrisk, mekanisk eller anden fare for teknikerens, operatørens eller patientens.
<p>WAARSCHUWING (NL)</p>	<ul style="list-style-type: none"> • 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 voordat 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.
<p>WARNING (EN)</p>	<ul style="list-style-type: none"> • 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 or from mechanical or other hazards.
<p>HOIATUS (ET)</p>	<ul style="list-style-type: none"> • Käesolev 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.
<p>VAROITUS (FI)</p>	<ul style="list-style-type: none"> • 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.

<p>ATTENTION (FR)</p>	<ul style="list-style-type: none"> • Ce manuel de service n'est disponible qu'en anglais. • Si le technicien du client a besoin de ce manuel dans une autre langue que l'anglais, c'est au client qu'il incombe de le faire traduire. • Ne pas tenter d'intervenir sur les équipements tant que le manuel service 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.
<p>WARNUNG (DE)</p>	<ul style="list-style-type: none"> • 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.
<p>ΠΡΟΕΙΔΟΠΟΙΗΣΗ (EL)</p>	<ul style="list-style-type: none"> • Το παρόν εγχειρίδιο σέρβις διατίθεται στα αγγλικά μόνο. • Εάν το άτομο παροχής σέρβις ενός πελάτη απαιτεί το παρόν εγχειρίδιο σε γλώσσα εκτός των αγγλικών, αποτελεί ευθύνη του πελάτη να παρέχει υπηρεσίες μετάφρασης. • Μην επιχειρήσετε την εκτέλεση εργασιών σέρβις στον εξοπλισμό εκτός εάν έχετε συμβουλευτεί και έχετε κατανοήσει το παρόν εγχειρίδιο σέρβις. • Εάν δε λάβετε υπόψη την προειδοποίηση αυτή, ενδέχεται να προκληθεί τραυματισμός στο άτομο παροχής σέρβις, στο χειριστή ή στον ασθενή από ηλεκτροπληξία, μηχανικούς ή άλλους κινδύνους.
<p>FIGYELMEZTETÉS (HU)</p>	<ul style="list-style-type: none"> • Ezen karbantartási kézikönyv kizárólag angol nyelven érhető el. • Ha a vevő szolgáltatója angoltól eltérő nyelvre tart igényt, akkor a vevő felelőssége a fordítás elkészítése. • Ne próbálja elkezdni 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.
<p>AÐVÖRUN (IS)</p>	<ul style="list-style-type: none"> • Þessi þjónustuhandbók er eingöngu fánleg 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.
<p>AVVERTENZA (IT)</p>	<ul style="list-style-type: none"> • Il presente manuale di manutenzione è disponibile soltanto in inglese. • Se un addetto alla manutenzione richiede il manuale in una lingua diversa, il cliente è tenuto a provvedere direttamente alla traduzione. • Si proceda alla manutenzione dell'apparecchiatura solo dopo aver consultato il presente manuale ed averne compreso il contenuto • Il non rispetto della presente avvertenza potrebbe far compiere operazioni da cui derivino lesioni all'addetto, alla manutenzione, all'utilizzatore ed al paziente per folgorazione elettrica, per urti meccanici od altri rischi.

<p>警告 (JA)</p>	<ul style="list-style-type: none"> 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。
<p>경고 (KO)</p>	<ul style="list-style-type: none"> 본 서비스 지침서는 영어로만 이용하실 수 있습니다. 고객의 서비스 제공자가 영어 이외의 언어를 요구할 경우, 번역 서비스를 제공하는 것은 고객의 책임입니다. 본 서비스 지침서를 참고했고 이해하지 않는 한은 해당 장비를 수리하려고 시도하지 마십시오. 이 경고에 유의하지 않으면 전기 쇼크, 기계상의 혹은 다른 위험으로부터 서비스 제공자, 운영자 혹은 환자에게 위해를 가할 수 있습니다.
<p>BRDINJUMS (LV)</p>	<ul style="list-style-type: none"> Ģī apkalpes rokasgrāmata ir pieejama tikai angļu valodā. Ja klienta apkalpes sniedzējam nepieciešama informācija citā valodā, nevis angļu, klienta pienākums ir nodrošināt tulkošanu. Neveiciet aprīkojuma apkalpi bez apkalpes rokasgrāmatas izlasīšanas un saprašanas. Ģī brīdinājuma neievērošana var radīt elektriskās strāvas trieciena, mehānisku vai citu risku izraisītu traumu apkalpes sniedzējam, operatoram vai pacientam.
<p>ÁSPĒJIMAS (LT)</p>	<ul style="list-style-type: none"> Ėis eksploataavimo vadovas yra prieinamas tik anglų kalba. Jei kliento paslaugų tiekėjas reikalauja vadovo kita kalba – ne anglų, numatyti vertimo paslaugas yra kliento atsakomybė. Nemėginkite atlikti árangos techninės priežiūros, nebent atsipvelgėte á áá eksploataavimo vadovà ir já supratote. Jei neatkreipsite dėmesio á áá perspėjimą, galimi supalojimai dėl elektros šoko, mechaninių ar kitų pavojų paslaugų tiekėjui, operatoriui ar pacientui.
<p>ADVARSEL (NO)</p>	<ul style="list-style-type: none"> Denne servicehåndboken finnes bare på engelsk. Hvis kundens serviceleverandør trenger 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.
<p>OSTRZEŻENIE (PL)</p>	<ul style="list-style-type: none"> Niniejszy podręcznik serwisowy dostępny jest jedynie w języku angielskim. Jeśli dostawca usług klienta wymaga języka innego niż angielski, zapewnienie usługi tłumaczenia jest obowiązkiem klienta. Nie próbować serwisować wyposażenia bez zapoznania się i zrozumienia niniejszego podręcznika serwisowego. Niezastosowanie się do tego ostrzeżenia może spowodować urazy dostawcy usług, operatora lub pacjenta w wyniku porażenia elektrycznego, zagrożenia mechanicznego bądź innego.

<p>ATENÇÃO (PT-BR)</p>	<ul style="list-style-type: none"> • Este manual de assistência técnica só se encontra disponível em inglês. • Se qualquer outro serviço de assistência técnica solicitar estes manuais noutra língua, é da responsabilidade do cliente fornecer os serviços de tradução. • Não tente consertar 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.
<p>ATENÇÃO (PT-PT)</p>	<ul style="list-style-type: none"> • Este manual de assistência técnica só se encontra disponível em inglês. • Se qualquer outro serviço de assistência técnica solicitar estes manuais noutra língua, é da responsabilidade do cliente fornecer os serviços de tradução. • Não tente consertar o equipamento sem ter consultado e compreendido este manual de assistência técnica. • O não cumprimento deste aviso pode pôr em perigo a segurança do técnico, do operador ou do paciente devido a choques elétricos, mecânicos ou outros.
<p>ATENȚIE (RO)</p>	<ul style="list-style-type: none"> • Acest manual de service este disponibil numai 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 deparatorului, operatorului sau pacientului în urma pericolelor de electrocutare, mecanice sau de altă natură.
<p>ОСТОРОЖНО! (RU)</p>	<ul style="list-style-type: none"> • Данное руководство по обслуживанию предлагается 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 обслуживанием оборудования обязательно обратитесь к данному руководству и поймите изложенные в нем сведения. • Несоблюдение требований данного предупреждения может привести к тому, что специалист по обслуживанию, оператор или пациент получат удар электрическим током, механическую травму или другое повреждение.
<p>UPOZORENJE (SR)</p>	<p>Ovo servisno uputstvo je dostupno samo na engleskom jeziku.</p> <ul style="list-style-type: none"> • 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. • Ne pokušavajte da opravite uređaj ako niste pročitali i razumeli ovo servisno uputstvo.
<p>UPOZORNENIE (SK)</p>	<ul style="list-style-type: none"> • Tento návod na obsluhu je k dispozícii len v angličtine. • Ak zákazníkovi poskytovateľ služieb vyžaduje iný jazyk ako angličtinu, poskytnutie prekladateľských služieb je zodpovednosťou zákazníka. • Nepokúšajte sa o obsluhu zariadenia skôr, ako si neprečítate návod na obsluhu a neporozumiete mu. • Zanedbanie tohto upozornenia môže vyústiť do zranenia poskytovateľa služieb, obsluhujúcej osoby alebo pacienta elektrickým prúdom, do mechanického alebo iného nebezpečenstva.

ATENCIÓN (ES)	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none">• 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)	<p>Ta servisni priročnik je na voljo samo v angleškem jeziku.</p> <ul style="list-style-type: none">• 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.
DIKKAT (TR)	<ul style="list-style-type: none">• Bu servis kilavuzunun sadece ingilizcesi mevcuttur.• Eğer müşteri teknisyeni bu kilavuzu ingilizce dışında bir başka lisandan talep ederse, bunu tercüme ettirmek müşteriye düşer.• Servis kilavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz.• Bu uyarıya uyulmaması, elektrik, mekanik veya diğer tehlikelerden dolayı teknisyen, operatör veya hastanın yaralanmasına yol açabilir.

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.

To file a report:

- Call 1-800-548-3366 and use option 6.
- Fill out the GIQ workflow for any items missing, damaged, OBF/FOI for in process installs: http://supportcentral.ge.com/ProcessMaps/form_new_request.asp?prod_id=268679&form_id=573167&node_id=1916016&map_id=&reference_id=&reference_type
- Contact your local service coordinator for more information on this process.

CERTIFIED ELECTRICAL CONTRACTOR STATEMENT

All electrical Installations that are preliminary to positioning of the equipment at the site prepared for the equipment shall be performed by licensed electrical contractors. In addition, electrical feeds into the Power Distribution Unit shall be performed by licensed electrical contractors. Other connections between pieces of electrical equipment, calibrations and testing shall be performed by qualified GE Medical personnel. The products involved (and the accompanying electrical installations) are highly sophisticated, and special engineering competence is required. In performing all electrical work on these products, GE will use its own specially trained field engineers. All of GE's electrical work on these products will comply with the requirements of the applicable electrical codes.

The purchaser of GE equipment shall only utilize qualified personnel (i.e., GE's field engineers, personnel of third-party service companies with equivalent training, or licensed electricians) to perform electrical servicing on the equipment.

IMPORTANT...X-RAY PROTECTION

X-ray equipment if not properly used may cause injury. Accordingly, the instructions herein contained should be thoroughly read and understood by everyone who will use the equipment before you attempt to place this equipment in operation. The General Electric Company, Medical Systems Group, will be glad to assist and cooperate in placing this equipment in use.

Although this apparatus incorporates a high degree of protection against x-radiation other than the useful beam, no practical design of equipment can provide complete protection. Nor can any practical design compel the operator to take adequate precautions to prevent the possibility of any persons carelessly exposing themselves or others to radiation.

It is important that anyone having anything to do with x-radiation be properly trained and fully acquainted with the recommendations of the National Council on Radiation Protection and Measurements as published in NCRP Reports available from NCRP Publications, 7910 Woodmont Avenue, Room 1016, Bethesda, Maryland 20814, and of the International Commission on Radiation Protection, and take adequate steps to protect against injury.

The equipment is sold with the understanding that the General Electric Company, Medical Systems Group, its agents, and representatives have no responsibility for injury or damage which may result from improper use of the equipment.

Various protective materials and devices are available. It is urged that such materials or devices be used.

LITHIUM BATTERY CAUTIONARY STATEMENTS

CAUTION



Risk of Explosion.

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

ATTENTION



Danger d'Explosion

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.

Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

OMISSIONS & ERRORS

Customers, please contact your GE Sales or Service representatives.

GE personnel, please use the Healthcare PQR Process to report all omissions, errors, and defects in this publication.

Revision History

Revision	Date	Reason for change
1	April 22, 2020	Initial Release.
2	October 11, 2021	Chapter 1: Add product names Chapter 2: Update Figure 2-1 and Figure 2-3, Add product names in Table 2-1 Chapter 3: Add product names in Table 3-1 Chapter 4: Add product names in Table 4-1 Chapter 5: Update contents to refer 5809939-1EN.

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Preface

Publication Conventions

Purpose: Standardize conventions for representing information in a uniform way of communicating information to a reader in a consistent manner. Conventions are used so that the reader can easily recognize the actions or decisions that must be made. There are a number of character and paragraph styles used in this publication to accomplish this task. Please become familiar with them before proceeding forward.

Section 1.0

Safety & Hazard Information

1.1 Text and Character Representation

Within this publication, different paragraph and character styles have been used to indicate potential hazards. Paragraph prefixes, such as hazard, caution, danger and warning, are used to identify important safety information. Text (Hazard) styles are applied to the paragraph contents that is applicable to each specific safety statement. Words describe the type of potential hazard that may be encountered and are placed immediately before the paragraph it modifies. Safety information will normally include:

- Type of potential Hazard
- Nature of potential injury
- Causative condition
- How to avoid or correct the causative condition

EXAMPLES OF HAZARD STATEMENTS USED

It's important that you read and understand hazard statements, and not just ignore them.



**DANGER
SEVERE
PERSONAL
INJURY**

DANGER IS USED WHEN A HAZARD EXISTS WHICH WILL CAUSE SEVERE PERSONAL INJURY OR DEATH IF INSTRUCTIONS ARE IGNORED. THEY CAN INCLUDE:


- **ELECTROCUTION**
- **CRUSHING**
- **RADIATION**




**WARNING
SERIOUS
PERSONAL
INJURY**

WARNING IS USED WHEN A HAZARD EXISTS WHICH COULD OR CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH IF INSTRUCTIONS ARE IGNORED. THEY CAN INCLUDE:

- **POTENTIAL FOR SHOCK**
- **EXPOSED WIRES**
- **FAILURE TO TAG AND LOCKOUT SYSTEM POWER COULD ALLOW FOR UN-COMMANDED MOTION.**


 **CAUTION**
Minor Personal Injury
Caution is used when a hazard exists which can or could cause minor injury to self or others if instructions are ignored. They include for example:










- Loss of critical patient data
- Crush or pinch points
- Sharp objects

 **NOTICE**
Property Damage Only
Notice is used when a hazard is present that can cause property damage but has absolutely no personal injury risk. They can include:

- Disk drive will be destroyed
- Internal mechanical damage, such as to the x-ray tube
- Coasting the rotor through resonance.

1.2 Graphical Representation

Important information will always be preceded by the exclamation point  contained within a triangle, as seen throughout the Preface chapter. In addition to text, several different graphical icons (symbols) may be used to make you aware of specific types of hazards that could possibly cause harm.

<p>ELECTRICAL</p>  <p>LASER</p>  <p>LASER LIGHT</p>	<p>HAZARDS MECHANICAL</p>  <p>HEAT</p> 	<p>RADIATION</p>  <p>PINCH</p> 
<p>AVOID STATIC ELECTRICITY</p> 	<p>PROCEDURAL TAG AND LOCK OUT</p> 	<p>WEAR EYE PROTECTION</p>  <p>EYE PROTECTION</p>

Section 2.0 Publication Conventions

2.1 General Paragraph and Character Styles

Prefixes are used to highlight important non-safety related information. Paragraph prefixes (such as purpose, example, comment or note) are used to identify important but non-safety related information. Text styles are also applied to text within each paragraph modified by the specific prefix.

EXAMPLES OF PREFIXES USED FOR GENERAL INFORMATION

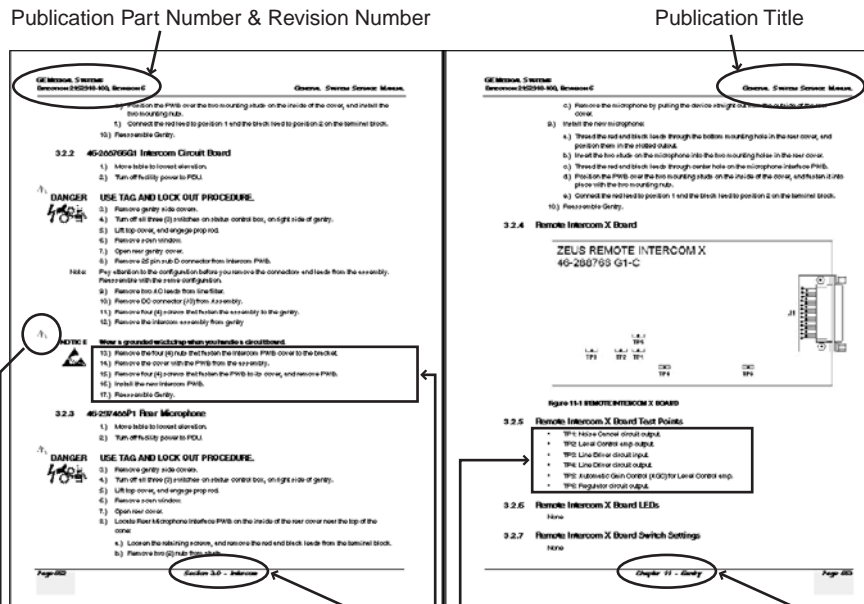
Purpose: Introduces and provides meaning as to the information contained within the chapter, section or subsection, Such as used at the beginning this chapter for example.

Note: Conveys information that should be considered important to the reader.

Example: Used to make the reader aware that the paragraph(s) that follow are examples of information possibly stated previously.

Comment: Represents "additional" information that may or may not be relevant to your situation.

2.2 Page Layout



The current section and its title are always shown in the footer of the left (even) page.

An exclamation point in a triangle is used to indicate important information to the user.

Paragraphs preceded by **Alphanumeric** characters (e.g. numbers) contain information that must be followed in a **specific order**.

The current chapter and its title are always shown in the footer of the right (odd) page.

Paragraphs preceded by a **symbol** (e.g. bullets) contain information that has **no specific order**.

Headers and footers in this publication are designed to allow you to quickly identify your location. The document's part number and revision number appears in every header on every page. Odd

numbered page footers indicate the current chapter, its title and current page number. Even page footers show the current section and its title, as well current page number.

2.3 Computer Screen Output/Input Text Character Styles

Within this publication, mono-spaced character styles (fonts) are used to indicate computer text that's either screen input and output. Mono spaced fonts, such as courier, are used to indicate text direction. When you type at your keyboard, you are generating computer input. Occasionally you will see the math operators "greater than" and "less than" symbols used to indicate the start and finish of variable output. When reading text generated by the computer, you are reading it as computer generated output. In addition to direction, characters are italicized (e.g. *italics*) to indicate information specific to your system or site.

Example:
Fixed Output This paragraph's fonts represents computer generated screen "fixed" output. It's output is fixed from the sense that it does not vary from application to application. It's the most commonly used style used to indicate filenames, paths and text that does not change from system to system. The character style used is a fixed width such as courier.

Example:
Variable Output *This paragraph's font represents computer screen output that is "variable". Its used to represent output that varies from application to application or system to system. Variable output is sometimes found placed between greater than and lesser than operators for clarification. For example: <variable_ouput> or <3.45.120.3>. In both cases, the < and > operators are not part of the actual input.*

Example:
Fixed Input **This paragraph's font represents fixed input. It's computer input that is typed-in via the keyboard. Typed input that does not vary from application to application or system to system. Fixed text the user is required to supply as input. For example: cd /usr/3p**

Example:
Variable Input *This paragraph's font represents computer input that can vary from application to application or system to system. With variable text, the user is required to supply system dependent input or information. Variable input sometimes is placed between greater-than and less-than operators. For example: <variable_input>. In these cases, the (<>) operators would be dropped prior to input. For example: ypcat hosts | grep <3.45.120.3> would be typed into the computer as ypcat hosts | grep 3.45.120.3 without the greater-than and less-than operators.*

2.4 Buttons, Switches and Keyboard Inputs (Hard & Soft Keys)

Different character styles are used to indicate actions requiring the reader to press either a hard or soft button, switch or key. Physical hardware, such as buttons and switches, are called hard keys because they are hard wired or mechanical in nature. A keyboard or on/off switch would be a hard key. Software or computer generated buttons are called soft keys because they are software generated. Software driven menu buttons are an example of such keys. Soft and hard keys are represented differently in this publication.

Example:
Hard Keys A power switch **ON/OFF** or a keyboard key like **ENTER** is indicated by applying a character style that uses both over and under-lined bold text that is bold. This is a hard key.

Example:
Soft Keys Whereas the computer MENU button that you would click with your mouse or touch with your hand uses over and under-lined regular text. This is a soft key.

END OF SECTION

Chapter 1

Overview

The procedure is guiding persons who are authorized by GE, using the Gantry-Table-Camera Installation and Alignment Tool (GE P/N: 5824714 or equivalent) to install and align different CT products, and it's also used for Auto Patient Positioning Option (GE P/N: B75402DA) Installation and alignment.

Note: You can order the tool from local region tool warehouse.

Section 1.0

Scope

This manual covers below systems:

- Revolution ACT / ACTs / ACT EL
- Optima CT520 DoD / Optima Advance
- Optima CT540 / CT620 / CT660 / CT670 / CT680
- Discovery CT590 RT / Optima CT580 / Discovery RT
- Revolution Frontier / Revolution Frontier ES
- Revolution Discovery CT / Revolution HD / Discovery CT
- Revolution EVO
- Revolution Maxima / Ace and Optima CT680 Expert
- Revolution Advance / Eagle
- Revolution Ascend
- Revolution Ace ES

Out of Scope:

- Revolution CT

Section 2.0 Tools Introduction

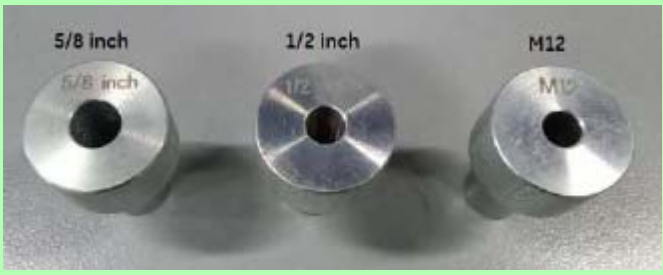
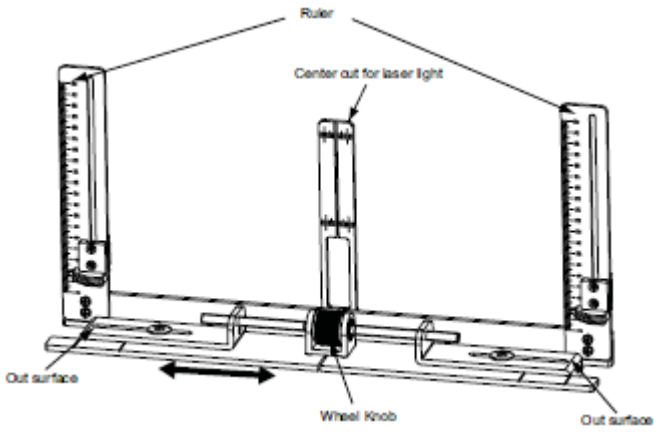
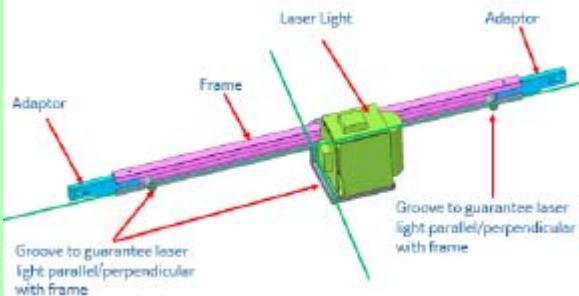

Figure 1-1 CT Installation and Alignment Tool (GE P/N: 5824714 or Equivalent)



Table 1-1 CT Installation and Alignment Tool (GE P/N: 5824714 or Equivalent)

Description	Part Number	Qty	Comment
Line Laser	5820779	1	

Laser Measure	5823264	1	
Digital Protractor	5825051	1	
Drilling Rail Assembly		1	
Rail 1	5819062	1	
Rail 2	5819065	1	
Rail Connector	5821014	1	
Drilling Tool Assy	5821081	1	

Drilling Guide/Drilling Bushing		1	
Anchor 1/2 inch	5829433	1	
Anchor 5/8 inch	5824151	1	
Anchor M12	5821085	1	
Table Alignment Tool Assy	5820676	2	
Gantry/Table Alignment Assy (5819055)		1	 
Gantry Alignment Frame	5819056	1	
Adapter - 80mm Length with M12 Bolts	5819063 5819066	1 1	
Adapter - 80mm Length with M6 Bolts	5820835 5820836	1 1	
Adapter - 130mm Length with M12 Bolts	5819068 5819070	1 1	


Leveling Ratchet Wrench (Includes foot adjusting socket)	5825033	1	
---	---------	---	--

Table 1-2 Tools

Description	Qty	Comment
Standard Install Tool Kit	1	
Chalk / Marking Pencil	AR	
PPE (hand protection, foot protection, eye protection)	AR	
Express Mode Depth Camera Installation Calculator tool	AR	Download from SIMS Content Viewer -> DOC2254236

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Chapter 2

Pre-Installation Requirements

Section 1.0

Site Drawing Requirements

Show the below and equal dimensions:

L1, L2, L3 (L3'), L4 (L4'), L5, L6, L7, L8 (L8'), L9 (L9')

- Note:
- The anchor holes shown in the Site Drawings are main anchor positions.
 - If it is alternate anchor, need to re-measure the dimension.
 - If you cannot use the distance of L3 & L4 due to structural interference, you could use the alternate distance L3' & L4' to drill anchor A & B.

Figure 2-1 Site Drawing-1 (Ling Long Table)

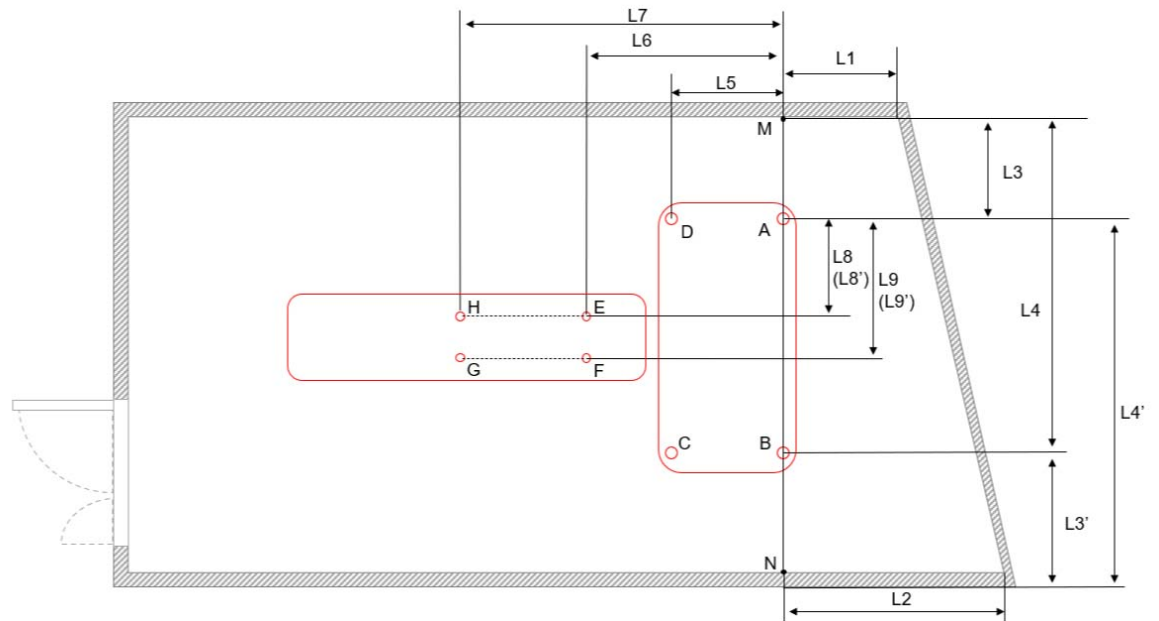


Figure 2-2 Site Drawing-2 (Lite and Kunlun Table)

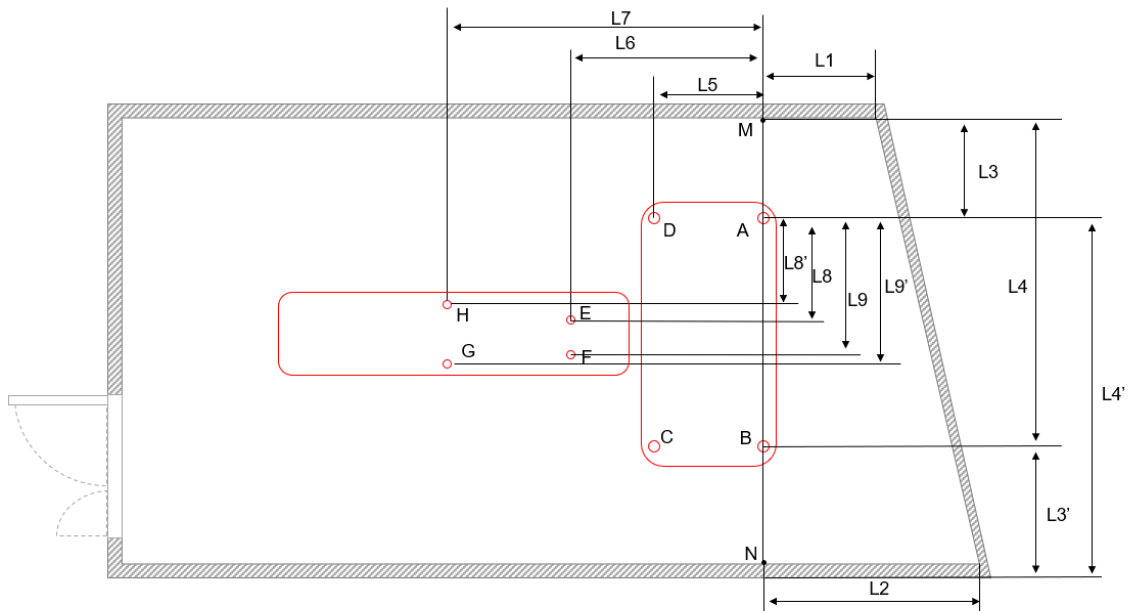
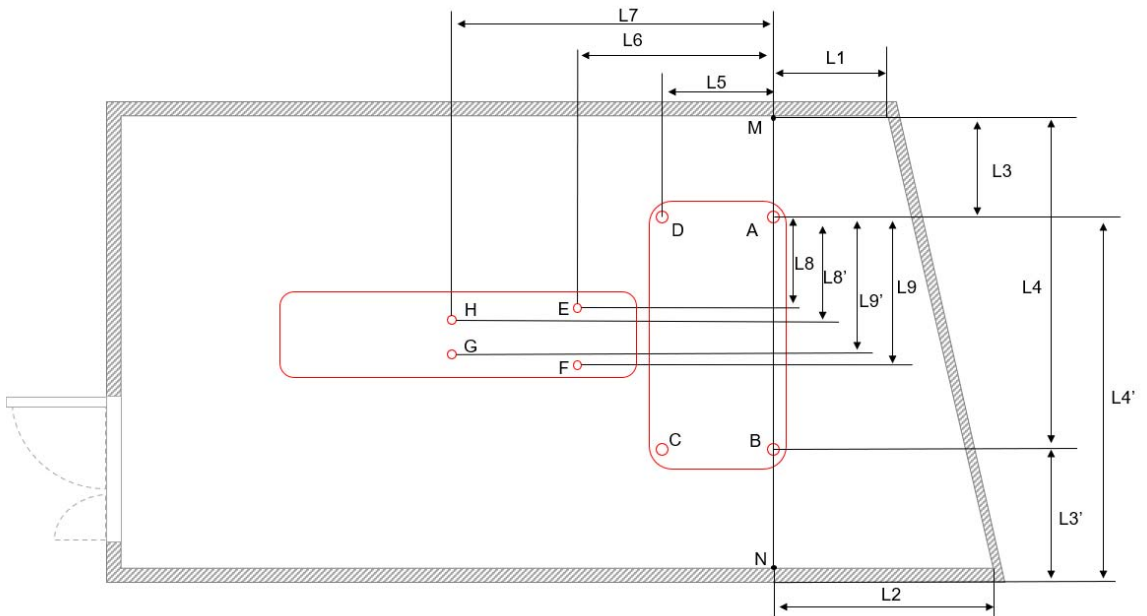


Figure 2-3 Site Drawing-3 (GT/VT Series and 650/675lb Table)



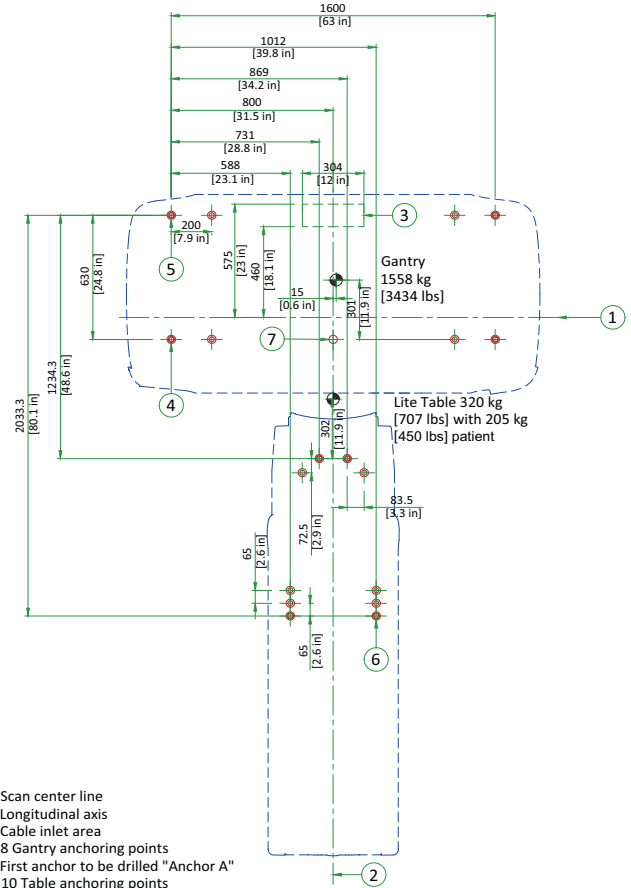
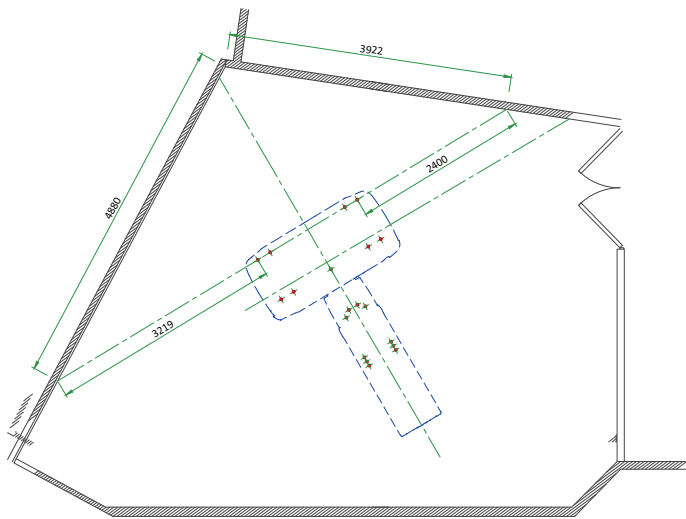
Section 2.0 Different Products with Dimensions

PRODUCTS	L1-L4	L5	L6	L7	L8	L8'	L9	L9'
Optima CT580/Discovery CT590/ Revolution Discovery HD/ Revolution Frontier +GT Series/ 650lb/675lb Table	/	630mm	1382mm	2236mm	727mm	821mm	1147mm	1053mm
Revolution ACT/s+ Linglong Table	/	520mm	1131mm	1893mm	521mm	521mm	717mm	717mm
Revolution ACT/s + Kunlun Table	/	520mm	950mm	1616mm	533mm	377mm	705mm	861mm
Optima CT540/620/660/670/680/ Revolution EVO+GT/VT Series Table	/	630mm	1383mm	2237mm	668mm	762mm	1088mm	994mm
Optima CT520/620/660/670/680 +Lite Table	/	630mm	1199mm	1998mm	809mm	666mm	947mm	1090mm
Revolution Maxima/Ace/680E+GT Series Table	/	630mm	1408mm	2262mm	590mm	684mm	1010mm	916mm
Revolution Maxima/Ace/680E + Lite Table	/	630mm	1234mm	2033mm	731mm	588mm	869mm	1012mm
Revolution Advance/Eagle + Lite Table	/	630mm	1234mm	2033mm	731mm	588mm	869mm	1012mm
Revolution Ascend + GT Series Table	/	630mm	1382mm	2236mm	726.5mm	820.5mm	1052.5mm	1146.5mm
Revolution Ace ES + GT Series Table	/	630mm	1408mm	2262mm	590mm	684mm	1010mm	916mm

Table 2-1 Different Products with Dimensions

Note: L1-L4 (include L3' & L4') value need to be determined by actual room size.

Section 3.0 Site Layout Dimension (Example)



- (1) Scan center line
- (2) Longitudinal axis
- (3) Cable inlet area
- (4) 8 Gantry anchoring points
- (5) First anchor to be drilled "Anchor A"
- (6) 10 Table anchoring points
- (7) Front leveling screw
- Center of gravity
- ⊙ Main anchoring points
- ⊙ Backup anchoring points

Chapter 3

Gantry-Table Installation Process

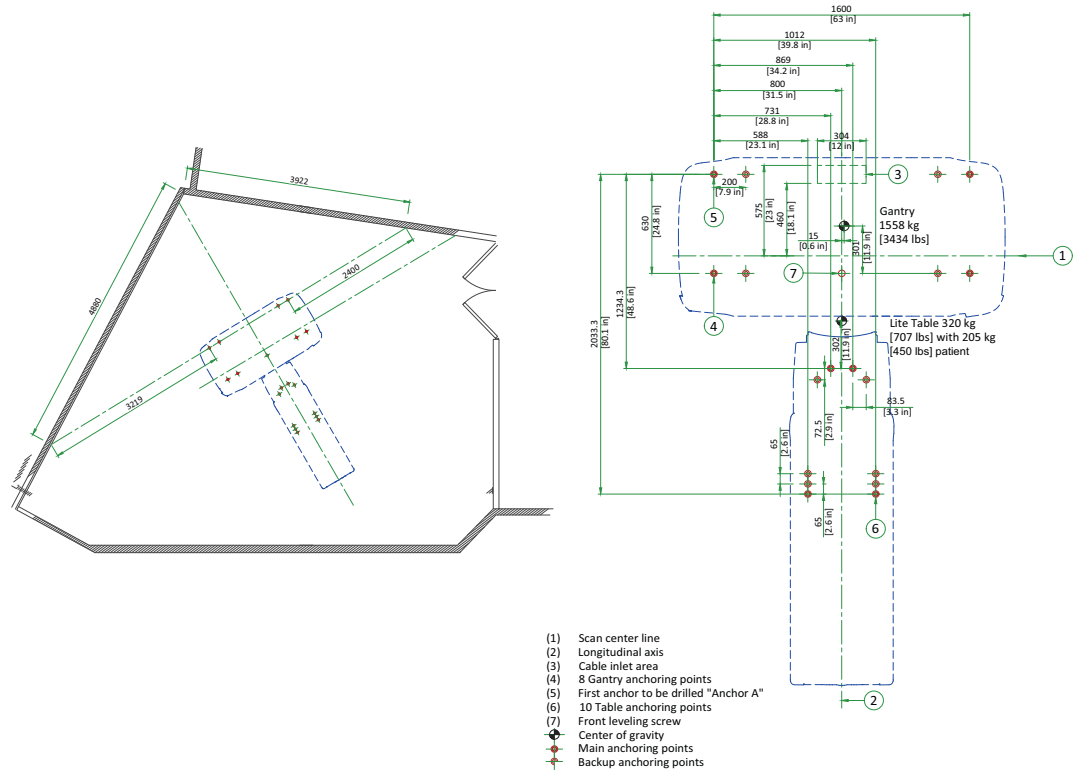
Section 1.0

Position of Anchor Holes

- 1.) Unpack the CT Installation and Alignment Tool kit (GE P/N: 5824714, see [Figure 1-1](#)).
- 2.) Follow the site drawing, identify the points M & N by using the Laser Measure (GE P/N: 5823264), mark the two points according to L1 & L2 respectively.

Note: The Reading displayed on the Laser Measure include the distance from the tail of the Laser Measure to the target point.

Figure 3-1 Site Layout (Example)



- 3.) Turn on and adjust the Line Laser (GE P/N: 5820779) to make one laser line through the two points M & N (See [Figure 3-2](#)).



CAUTION **LASER RADIATION**
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT

Figure 3-2 Point M and Point N




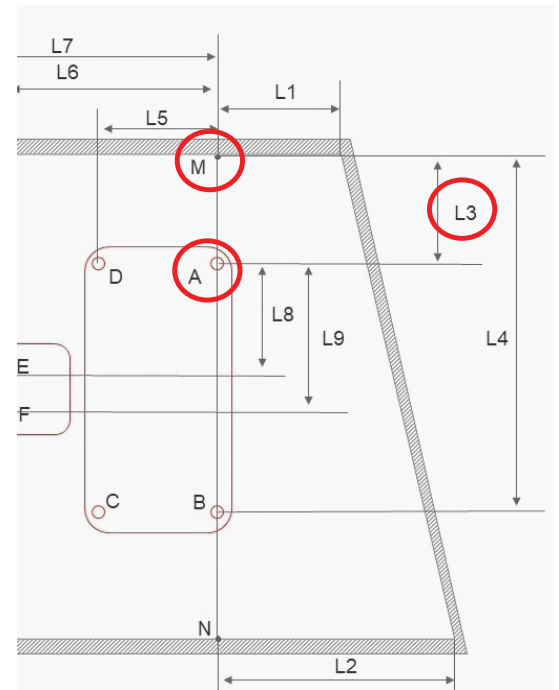
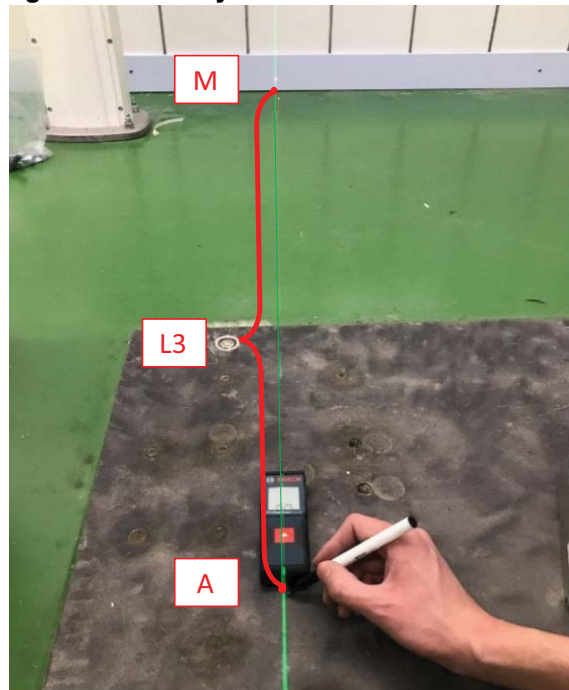
Note: Set the Line Laser switch is “ On” (See [Figure 3-3](#)) to make sure it is set to self-level.

Figure 3-3 Switch “On”



- 4.) Align the Laser Measure with the laser line, identify the anchor A by using the Laser Measure, mark the anchor A according to L3, the same way to identify anchor B according to L4.

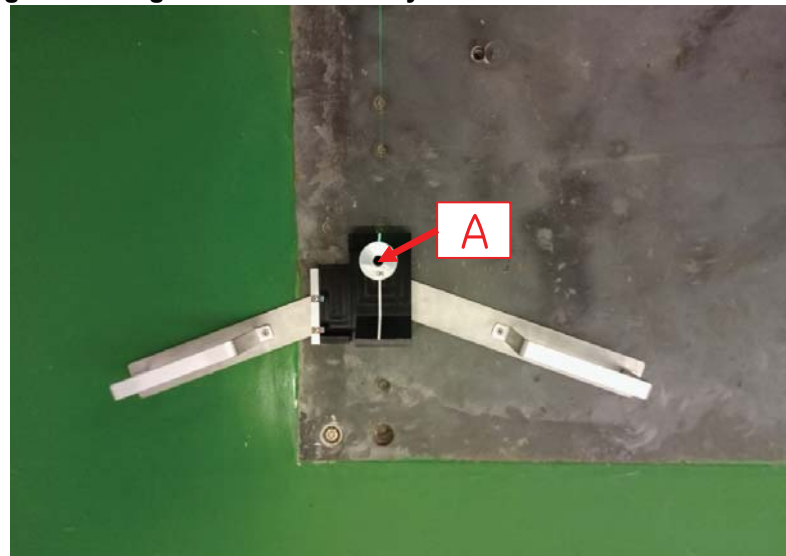
Figure 3-4 Identify Anchor A



2 – Install Power

5.) Align the Drilling Tool Assy (GE P/N: 5821081) with the anchor A.

Figure 3-5 Align the Drill Tool Assy with Anchor A



CAUTION

Potential for personal injury.

Use appropriate safety procedures when drilling the ground holes, especially if there is lead under the ground.

Appropriate PPE is required when working with hazardous materials.

6.) Use the Drill Bushing to guide the Drill Bit and keep the Drill Bit perpendicular on the ground when drilling the hole.

Note: Choose proper Drilling Guide/Drilling Bushing according to different products (See [Table 3-1](#)).

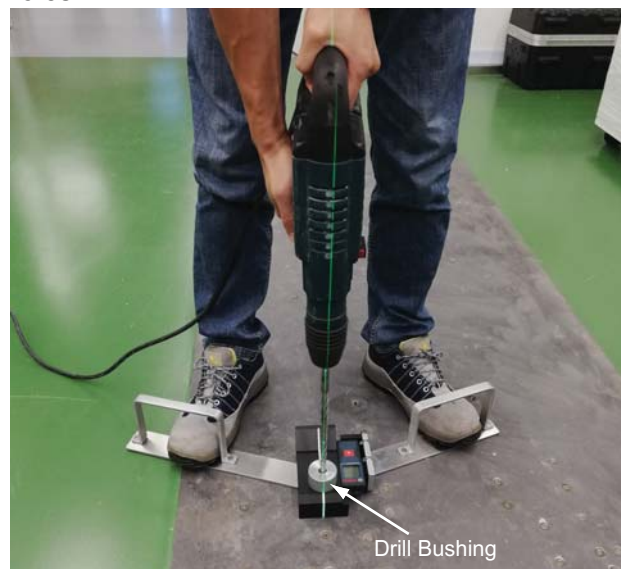
Table 3-1 Drilling Guide/Drilling Bushing for Different Products

SUB SYSTEM	DRILLING GUIDE / DRILLING BUSHING		
	ANCHOR 1/2 INCH (5829433)	ANCHOR 5/8 INCH (5824151)	ANCHOR M12 (5821085)
Table	GT1700, GT1700V, GT2000, GT2000X, Lite	650lb, 675lb	Lite (Optima 520 DoD/Advance), KunLun, LingLong
Gantry	Discovery CT590 RT, Optima CT580, Discovery RT, Optima CT540/CT620/CT660/CT670/CT680/, Revolution Frontier, Revolution Discovery CT, Revolution Maxima/Ace, Optima CT680 Expert, Revolution Advance/Eagle, Revolution Ascend, Revolution Ace ES	NA	Revolution ACT/ACTs/ACT EL, Optima CT520 DoD/Advance

Figure 3-6 Drilling Guide / Drilling Bushing



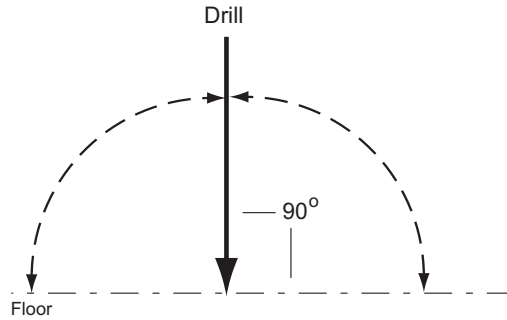
Figure 3-7 Drill Holes





NOTICE

- During drilling, always keep the drill bit perpendicular to the ground.



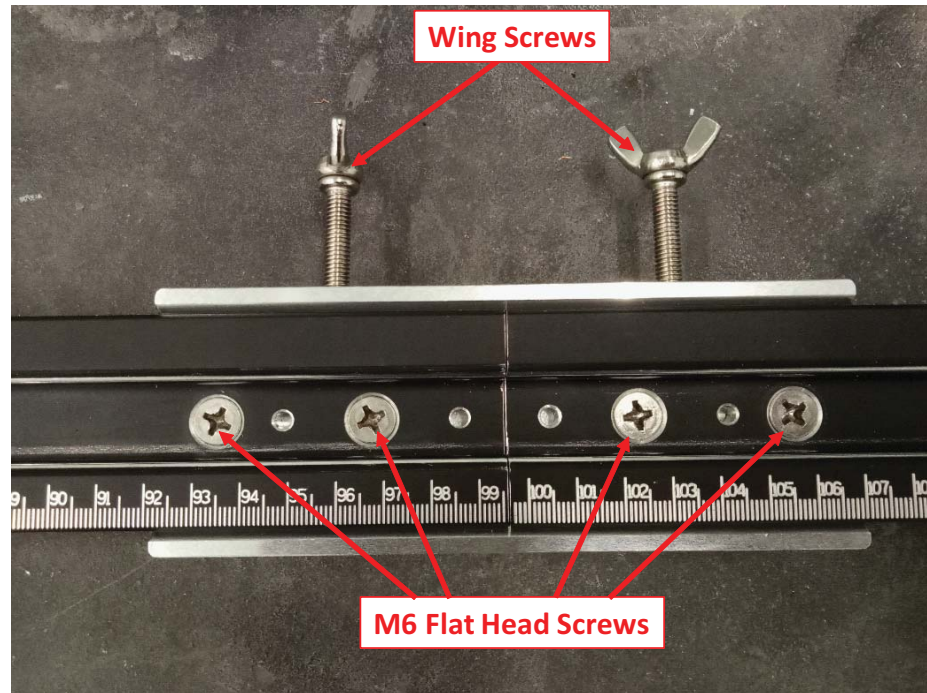
- Always use the mechanical guide (drill bushing) when drilling.
- Stop drilling every 15 or 20 seconds and clear the hole of debris. This lets the drill bit cool and helps to prevent binding of the drill bit.
- Vacuum while drilling to keep gantry and table as free of dust contamination as possible. Place the funnel tip or long extension tip inside the hole.
- A drywall dust filter must be used on the vacuum.

7.) Assemble the Rail 1 and Rail 2 with the Rail Connector.

- a.) Mount the rails with rail connector, fix the rails slightly by using four M6 flat head screws.
- b.) Secure the Assy by using wing screws, then secure the four M6 screws tightly.

Note: The wing screws of the rail connector should be secured in the non-scale side of the sliding rails.

Figure 3-8 Assemble Sliding Rail

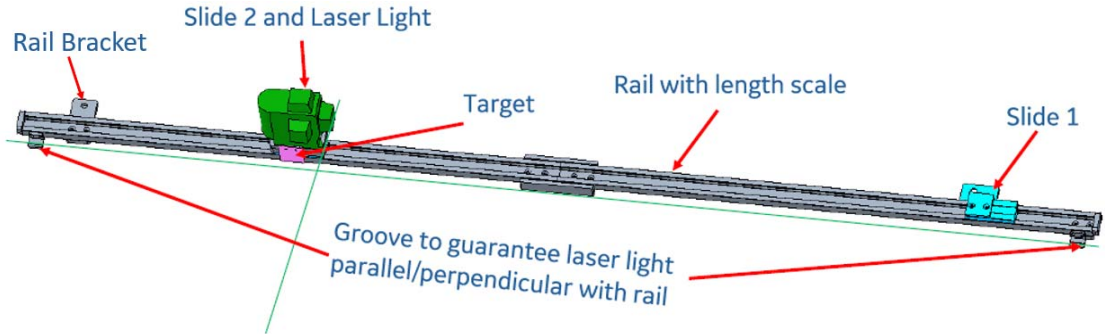


- 8.) Align the hole of the Rail Bracket (See [Figure 3-9](#)) with anchor A, and slide the Slide 1 to the position of the anchor B which marked in step 4.).
- 9.) Confirm if the rail reading value is equal to the distance between the two main holes of Gantry rear side (Specification: $\pm 2\text{mm}$).
 - a.) If it's equal, remove Sliding Rail Assy, then align Drilling Tool Assy with the anchor B, use

the Drill Bushing to guide the Drill Bit and keep the Drill Bit perpendicular on the ground when drilling the hole.

- b.) If not, need to re-identify the position of anchor B according to the site drawing, then repeat step a.)

Figure 3-9 Slide 1 and Rail Bracket



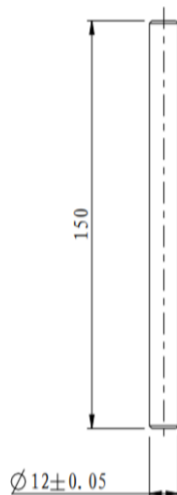
- 10.) Fix the Sliding Rail Assy on the ground by mounting two Drilling Anchor Pins (GE P/N: 5824717) in their anchor holes respectively (See [Figure 3-10](#)).

Figure 3-10 Fix the Sliding Rail Assy



Note: The Drilling Anchor Pin (GE P/N: 5824717) could be found in the tool box, more details see [Figure 3-11](#).

Figure 3-11 Drilling Anchor Pin



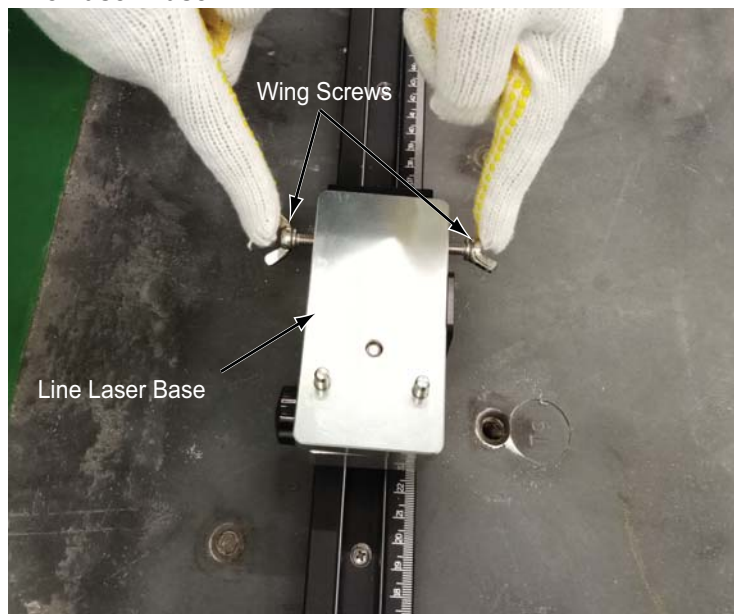
- 11.) Put the Digital Protractor on the Sliding Rail, adjust the level of the Sliding Rail Assy by using four wing screws in both side. Ensure the angles less than ± 0.1 degree in Left / Center / Right positions of the Sliding Rail Assy respectively, then tighten the Lock Nuts. (See [Figure 3-12](#))

Figure 3-12 Level the Sliding Rail Assy



- 12.) Loosen the two wing screws to remove the Line Laser Base.

Figure 3-13 Line Laser Base



- 13.) Assemble the Line Laser with the Line Laser Base by using the Line Laser Screw.

Figure 3-14 Assemble the Line Laser Base and the Line Laser



- 14.) Mount the Line Laser Assy by the two wing screws, and slide the Line Laser in the middle of the Sliding Rail.
- 15.) Lock the black nut when align the laser to the targets (See [Figure 3-15](#)), align the laser line with grooves of the Sliding Rail Assy on both sides by adjusting the two wing screws.

Figure 3-15 Lock the Black Nut

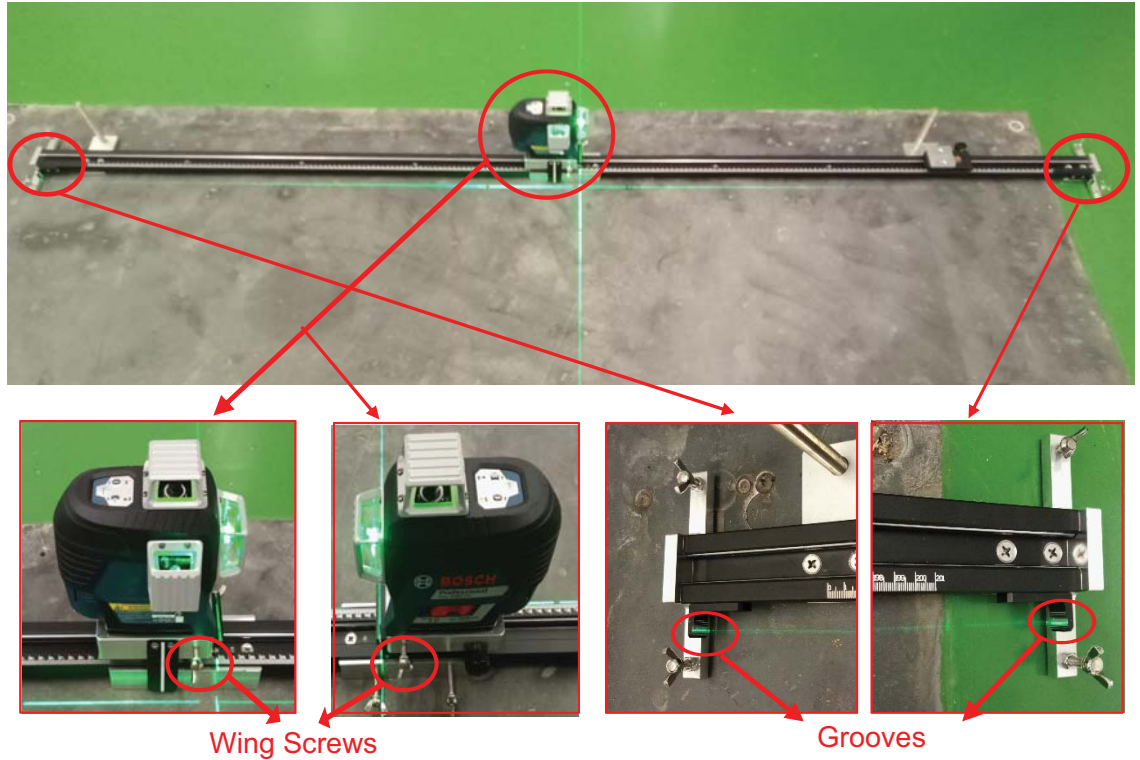


- 16.) Slide the Line Laser to both ends of the Sliding Rail Assy to double confirm the laser line in the grooves, then tighten the two wing screws.



NOTICE Laser line MUST be aligned with the grooves of Sliding Rails, because it will affect the accuracy in following steps.

Figure 3-16 Adjust Line Laser Assy



- 17.) Place the Laser Measure on the Drilling Tool Assy as shown in [Figure 3-17](#), ensure the Laser Measure is flat placed on the Drilling Tool Assy.
- 18.) Slide the Line Laser to the left-limit of the Sliding Rail Assy, align the laser line with groove of the Drilling Tool Assy, and align the red spot from Laser Measure with groove of the Line Laser Assy simultaneously, identify the anchor D by using the Laser Measure according to L5. Use the Drill Bushing to guide the Drill Bit and keep the Drill Bit perpendicular on the ground when drilling the hole, the same way to identify anchor C.

Figure 3-17 Identify Point D

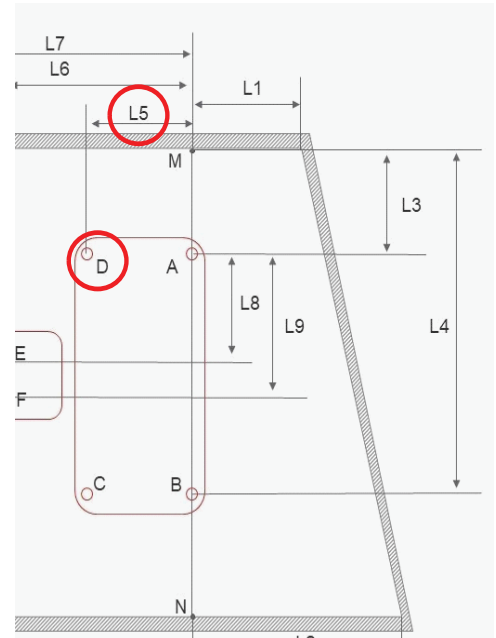
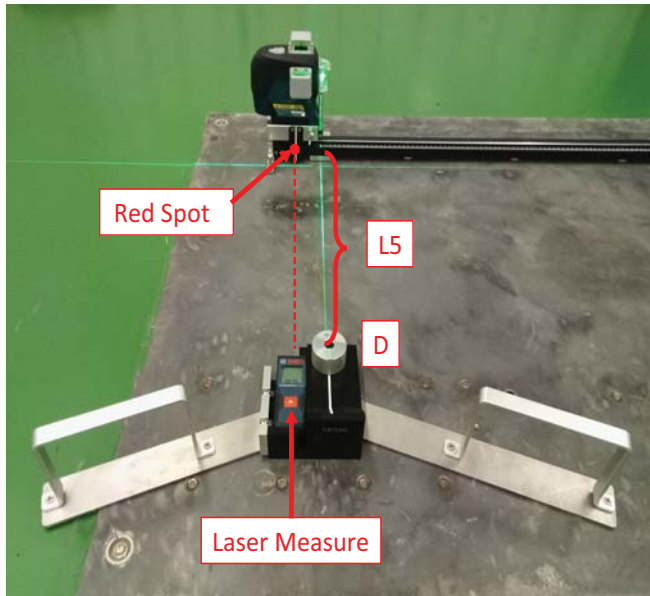
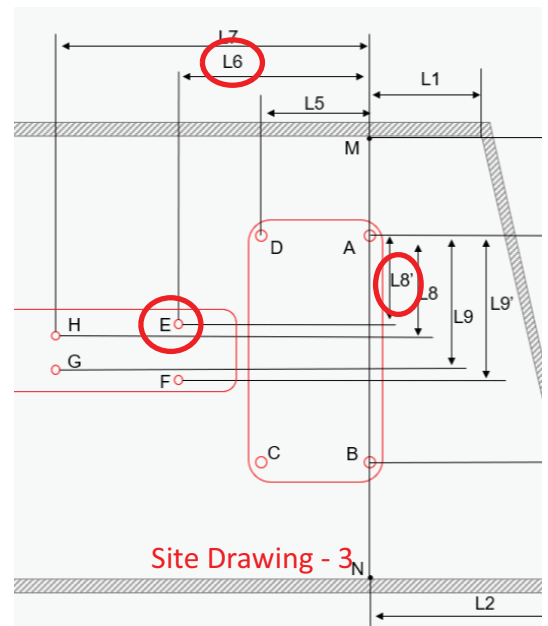
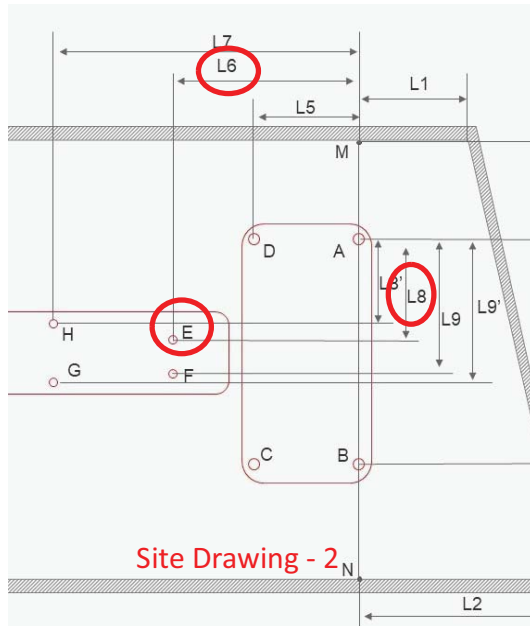
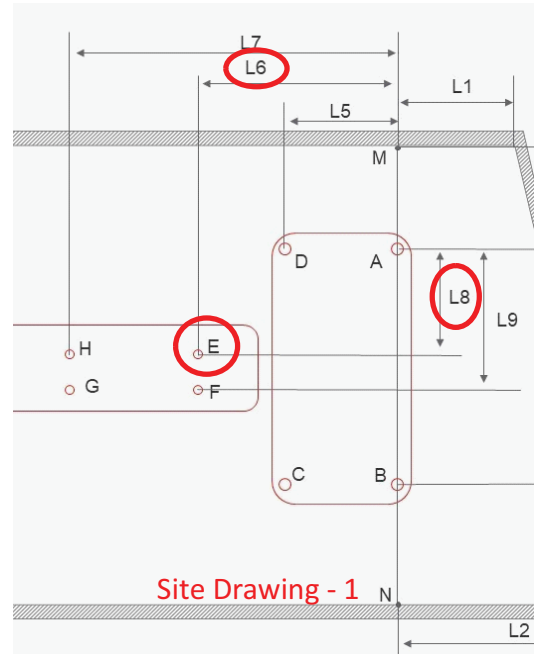
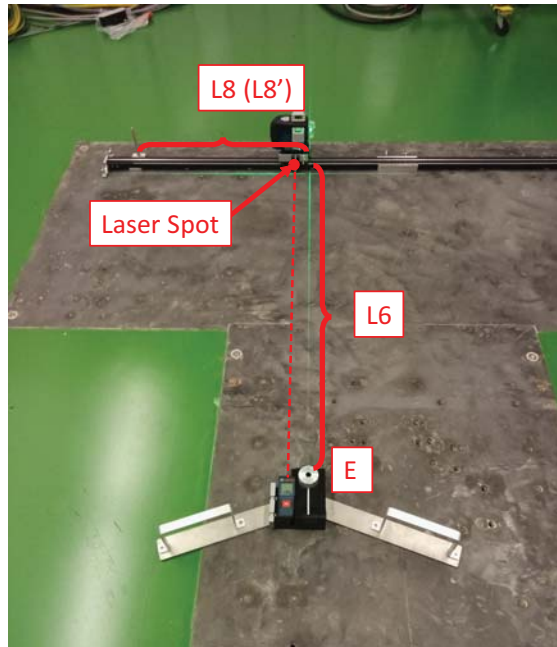


Figure 3-18 Drill Anchor D



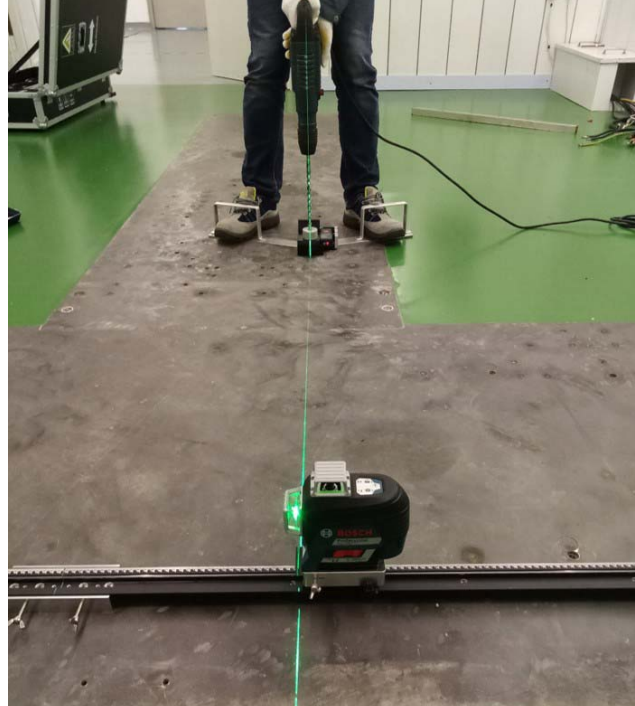
- 19.) Slide the Line Laser from the left-limit of the Sliding Rail Assy to the position according to L8 (L8'), align the laser line with groove of the Drilling Tool Assy, and align the red spot from Laser Measure with groove of the Line Laser Assy simultaneously, identify the anchor E by using the Laser Measure according to L6. Use the Drill Bushing to guide the Drill Bit and keep the Drill Bit perpendicular on the ground when drilling the hole, the same way to identify anchor F.

Figure 3-19 Identify Anchor E



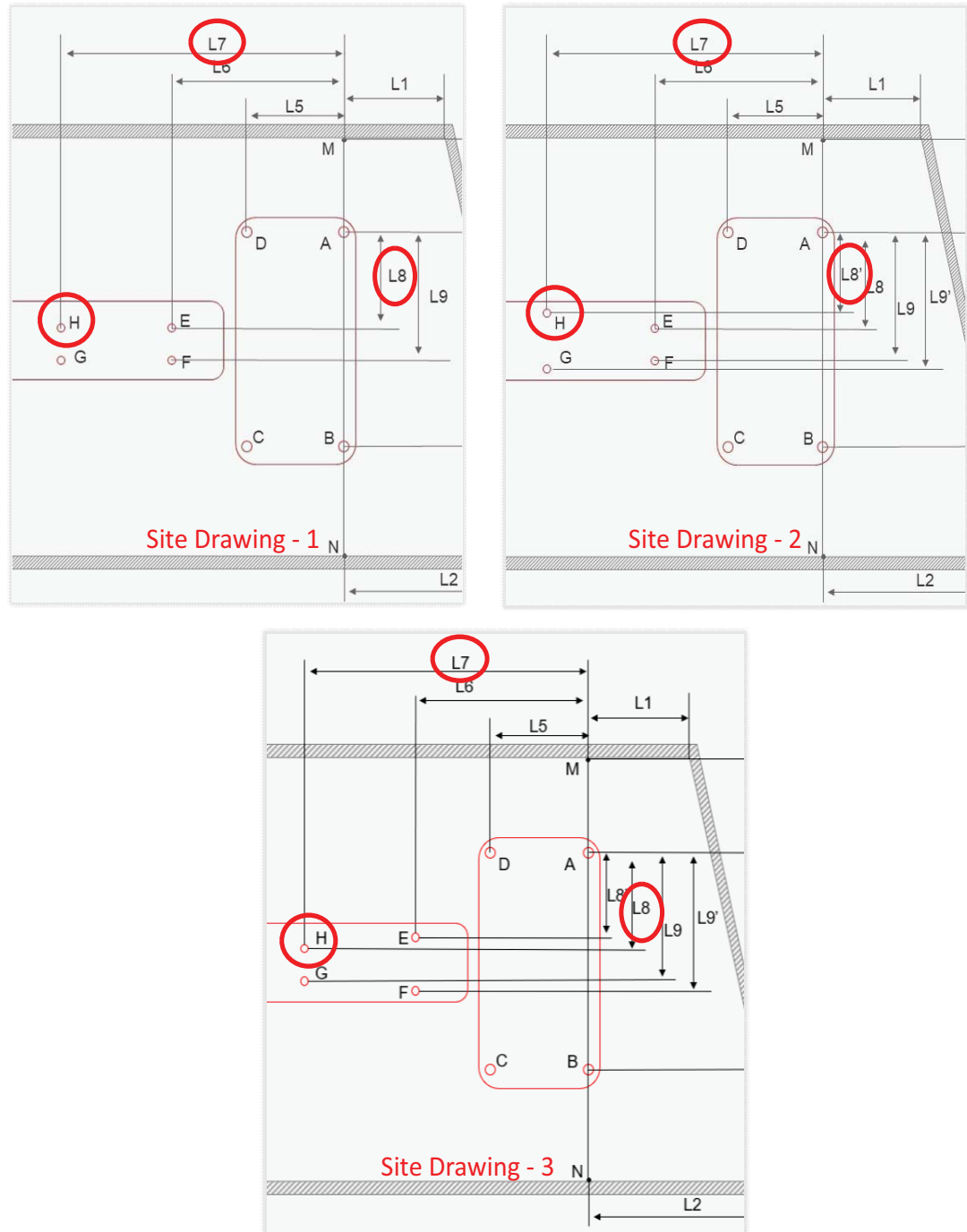
2 – Install Power

Figure 3-20 Drill Anchor E



- 20.) Slide the Line Laser from the left-limit of the Sliding Rail Assy to the position according to L8 (L8') (See [Figure 3-21](#)), align the laser line with groove of the Drilling Tool Assy, and align the red spot from Laser Measure with groove of the Line Laser Assy simultaneously, identify the anchor H by using the Laser Measure according to L7. Use the Drill Bushing to guide the Drill Bit and keep the Drill Bit perpendicular on the ground when drilling the hole, the same way to identify anchor G.

Figure 3-21 Identify Anchor H



2 – Install Power

Note: If the product with Auto Patient Positioning Option (GE P/N: B75402DA), don't disassemble the Sliding Rail Assy and refer to **5809939-1EN** for detailed information about Auto Patient Positioning Option Installation, Alignment and Calibration Procedure from **SIMS Content Viewer**.

Section 2.0

Gantry Installation Process



CAUTION **Potential for personal Injury.**
The Gantry presents a variety of mechanical and electrical hazards.

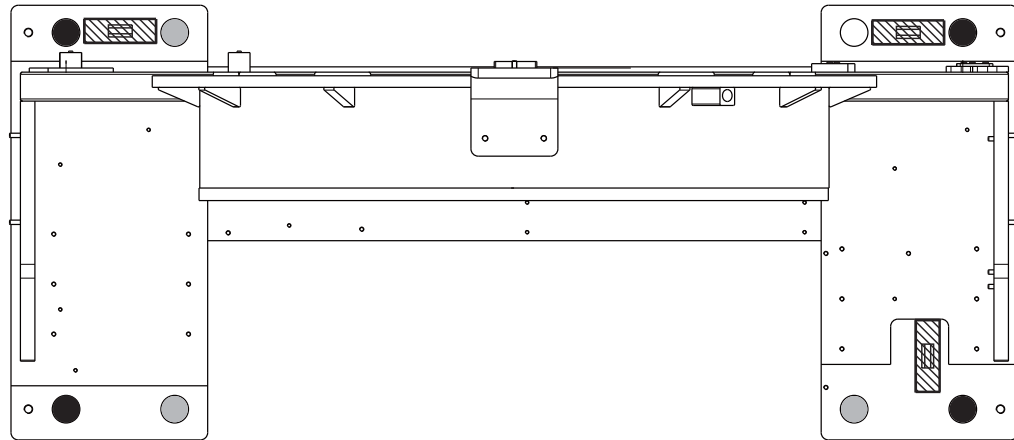
Note: There will be some differences in the Gantry Installation Process of different products, please see the related manuals for details.

Note: Some sites require ground protection. Locate and install any required ground protection now.

Note: The Gantry side covers has been removed before shipped.

- 1.) Hammer the anchor bolts in the drilled gantry anchors (A/B/C/D) respectively, and confirm the minimum anchor embedment is 75mm.
- 2.) Remove all the transportation packaging from the gantry.
- 3.) Remove top, front, rear of the gantry covers.
- 4.) Assemble the gantry dollies with the gantry.
- 5.) Delivery the gantry to the scan room.
- 6.) Use the dollies to evenly raise the Gantry, until it's approximately 5" (127mm) above the ground.
- 7.) Move the Gantry and position the Gantry over the anchor bolts appropriately.
- 8.) Loosen the locking ring and the shipping bolt to remove leveling pads from the gantry, then pass them through the anchor bolts separately on the ground.
- 9.) Remove the shipping bolts.
- 10.) Rotate the adjuster so there is two threads between the top of the adjuster and the top of the lock ring
- 11.) Carefully move the gantry to the correct position so that the adjusters are centered over their respective anchor bolts.
- 12.) Use the dollies to evenly lower the gantry, pass anchor bolt through the anchor adjusters separately on the Gantry.
- 13.) Evenly lower the gantry until the adjuster is fully located the leveling pads separately.
- 14.) Position each of leveling pads beneath its associated adjuster, fine-tune the leveling pads to compensate for slight variations in the ground surface.
- 15.) Remove the Gantry dollies from the Gantry by removing the dolly bolts.
- 16.) Level the Gantry:
 - a.) There are two situations:
 - I.) The Bubble Level that is permanently mounted to machined surface on the stationary base;
 - II.) If Gantry without Bubble Level, place the Digital Protractor as below position (See [Figure 3-22](#)), level Specification: +/- 0.2 degree.

Figure 3-22 Bubble Level Position



- b.) Loosen all adjuster lock rings.
- c.) Level the Gantry by using the Leveling Ratchet Wrench.

Figure 3-23 Leveling Ratchet Wrench



- d.) When the bubble levels are centered, each of the leveling pads should be carrying a portion of the Gantry weight. Distribution of the Gantry weight prevents the base frame from rocking during normal operation. DO NOT leave any adjuster un-loaded or floating.
- e.) After Gantry leveling, tighten the locking ring on the Gantry Leveler.
- f.) Set the anchor washer (shipped with system shipping collector), then tighten the anchor nuts to the specified torque to fix the anchor bolts into the ground. Torque: 50 N-m.

Section 3.0

Table Installation Process



CAUTION **Potential for personal Injury.**
Table will tip if not anchored on the dolly.
Make certain that Table is adequately secured to the dolly.

Note: There will be some differences in the Table Installation Process of different products, please see the related manuals for details.

For Table installation, have two different options. As below:

- 1.) **Option 1:** GT series, Ling Long Table, 650/675lb Table
 - a.) Hammer the anchor bolts in the drilled table anchors (E/F/G/H) respectively.
 - b.) Remove all the transportation packaging and boxes from the table, except dollies.
 - c.) Delivery the Table to the scan room.
 - d.) Locate the leveling pads, and position each of them through the anchor bolt respectively.
 - e.) Use the dollies to evenly raise the Table, until it's approximately 5" (127mm) above the ground.
 - f.) Carefully move the table to the correct position so that the adjusters are centered over their anchor bolts respectively.
 - g.) Evenly lower the Table to close the ground and position each of leveling pads beneath its associated adjuster.
 - h.) Fine-tune the leveling pads to compensate for slight variations in the ground surface.
 - i.) Install the anchor washer and nut shipped with table.
 - j.) Tighten all anchor bolts, and tighten the anchor nut to the specified torque to fix the anchor bolts into the ground. Torque: 50 N-m.
 - k.) Remove the Table dollies.
- 2.) **Option 2:** Lite and Kunlun Table
 - a.) Remove all the transportation packaging and boxes from the table, except dollies.
 - b.) Delivery the Table to the scan room and position table over the drilled anchor holes appropriately.
 - c.) Loose the caster support bolts to evenly lower the table until it rests on the ground to fit four anchor holes.
 - d.) Rotate the four level adjusters until the distance is approximately 10mm (2/5 inch) between the bottom surface of the table base and ground. Remove the front and rear caster frames by removing the caster support bolts.

Note: The four bolts must be evenly loosened.
e.) Remove the longitudinal frames by removing the table base mounting bolts.



WARNING

After removing the Longitudinal frames and before anchoring, the table lacks balance. Therefore, do not place anything onto the cradle until the table is fixed with the anchors.

- f.) Hammer the anchor bolts in the drilled table anchors (E/F/G/H) respectively.
- g.) Install the anchor washer and nut shipped with table.
- h.) Tighten all anchor bolts, and tighten the anchor nut to the specified torque to fix the anchor bolts into the ground. Torque: 50 N-m.
- i.) Remove the Table dollies.

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Chapter 4

Gantry-Table Alignment Procedure



NOTICE Before start the gantry-table alignment procedure, **MUST** power OFF the system and remove the gantry front and rear covers.

- 1.) Assemble the adapters to both sides of the Gantry Alignment Frame (GE P/N: 5819056) by using Frame Pins (GE P/N: 5819072), select the proper adapters according to different products (See [Table 4-1](#)).

Note: For Revolution ACT/ACTs/ACT EL, no adapter needed.

Figure 4-1 Frame Pins

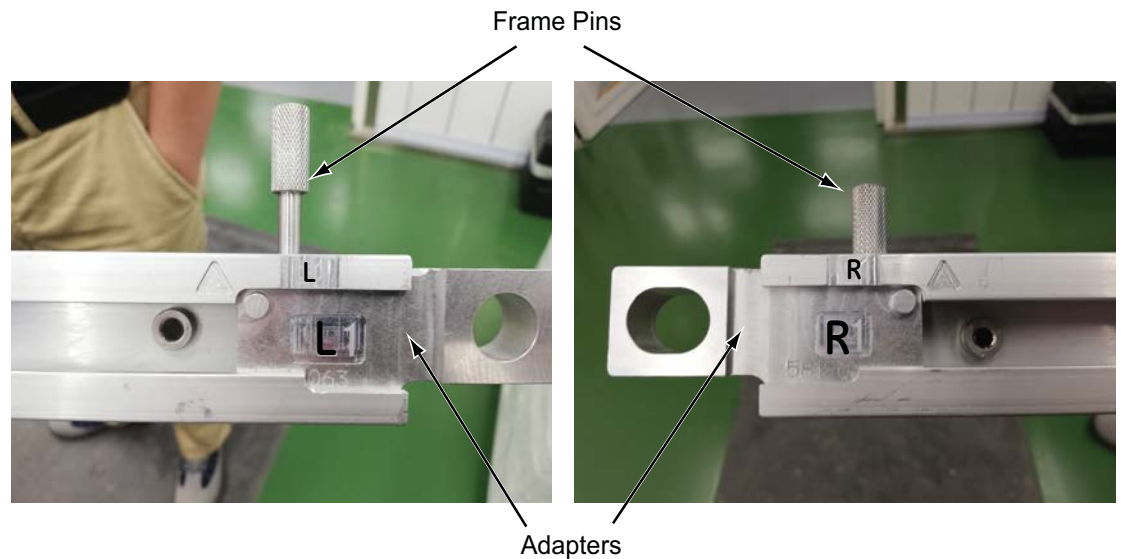


Figure 4-2 Adapters



Table 4-1 Mounting Bolts and Adapters for Different Products

PRODUCT	MOUNTING BOLT	ADAPTER
Revolution Ascend	M6	5820835/5820836
Revolution ACT/ACTs/ACT EL	M8	NA
Discovery CT590 RT, Optima CT580, Discovery RT	M12	5819068/5819070
Optima CT520 DoD/Advance/CT540/CT620/CT660/CT670/CT680/, Revolution Frontier, Revolution Discovery CT, Revolution Maxima/Ace, Optima CT680 Expert, Revolution Advance/Eagle, Revolution Ace ES	M12	5819063/5819066

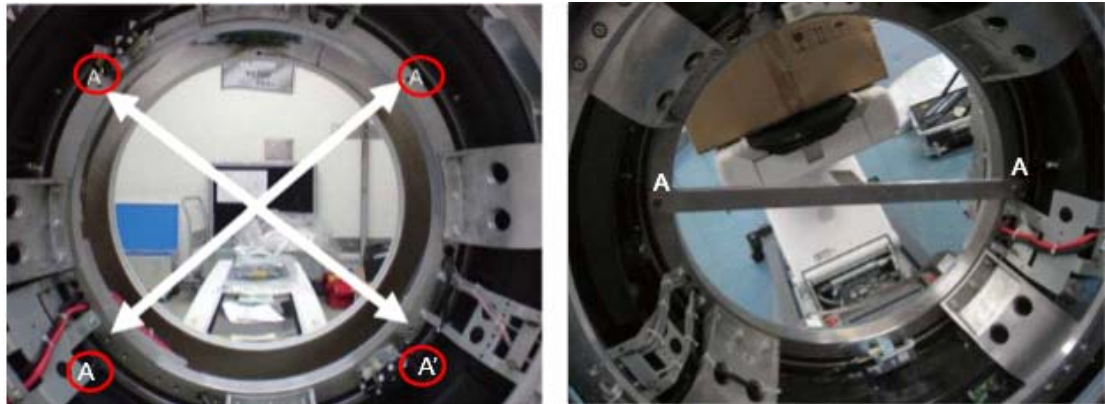
- 2.) Manually rotate the gantry until the collimator reaches about 11 o'clock position.
- 3.) Mount the Gantry Alignment Frame to the gantry frame by using proper mounting bolts according to different products (See [Table 4-1](#)).

Note: Be careful not to bump the alignment light, the mounting space is next to the alignment light, and tighten up both bolts.

Note: For Revolution ACT/ACTs/ACT EL, must follow below steps.

- a.) Only positions A and A' can be selected (See [Figure 4-3](#)).

Figure 4-3 Mount Gantry Frame



- b.) Must mount the Gantry Alignment Frame by using M8 bolts through the holes first (See [Figure 4-4](#)), then mount the ESSENTRA Nylon Spacer (GE P/N: 5820792) to bolts, fix the

assembly on gantry frame.

Figure 4-4 Gantry Alignment Frame

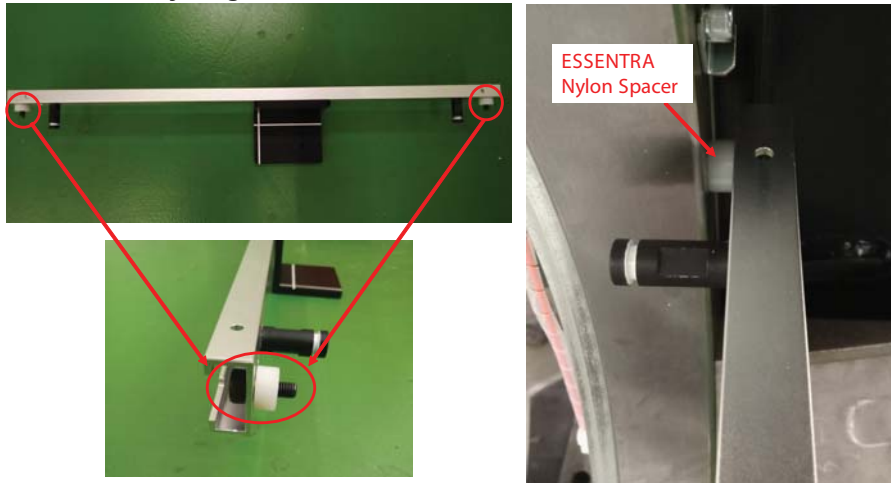


Figure 4-5 ESSENTRA Nylon Spacer



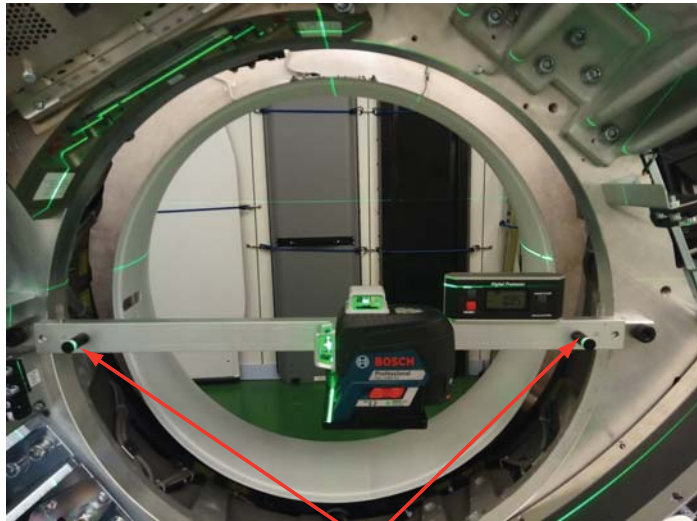
- 4.) Put the Digital Protractor on the Gantry Alignment Frame, adjust the level of the Gantry Alignment Frame to ensure the angles less than ± 0.1 degree by rotating the gantry manually.
- 5.) Install the Line Laser on the Gantry Alignment Frame by using the Line Laser Screw. Align the laser line with the two slots and two grooves on the Gantry Alignment Frame simultaneously. (See [Figure 4-6](#))



CAUTION

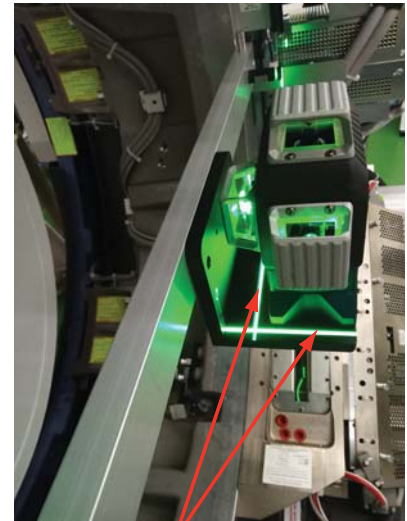
**LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT**

Figure 4-6 Line Laser Alignment
Front View



Two Slots

Side View



Two Grooves

6.) Tighten the Line Laser Screw to fix the Line Laser after adjusting.

Figure 4-7 Fix the Line Laser

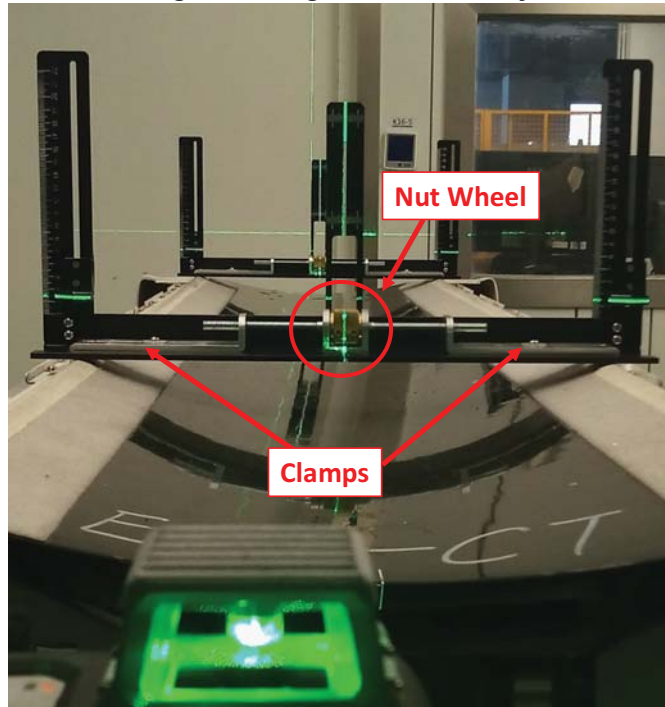


NOTICE

Laser Line MUST be aligned with the slots and grooves of Gantry Alignment Frame, because it will affect the accuracy in following steps.

- 7.) Remove the two rail attachments from both sides of the cradle.
- 8.) Mount the Table Alignment Tool Assy in the front side and rear side of cradle respectively. Tighten the Nut Wheel (See [Figure 4-8](#)) to fix the table alignment tool on the cradle, ensure the Table Alignment Tool Assy be mounted in the table cradle securely.

Figure 4-8 Mounting Table Alignment Tool Assy



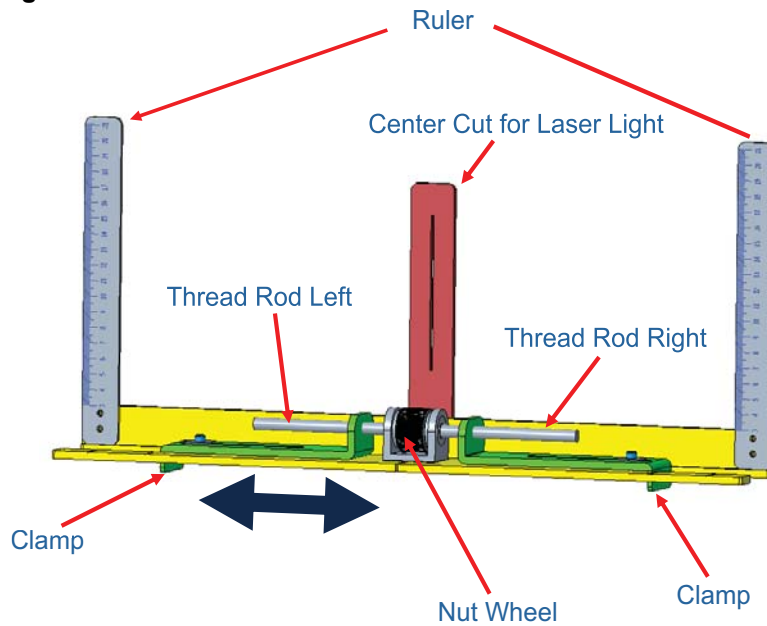
Note: Please keep about 20-30cm distance from the cradle front end to the front Table Alignment Tool Assy.

Figure 4-9 25cm Distance from Cradle Front End



- 9.) Adjust the X direction of table to make the laser line cross both Center Cuts (See [Figure 4-10](#)) of the front and rear Table Alignment Tool Assy.

Figure 4-10 Center Cut



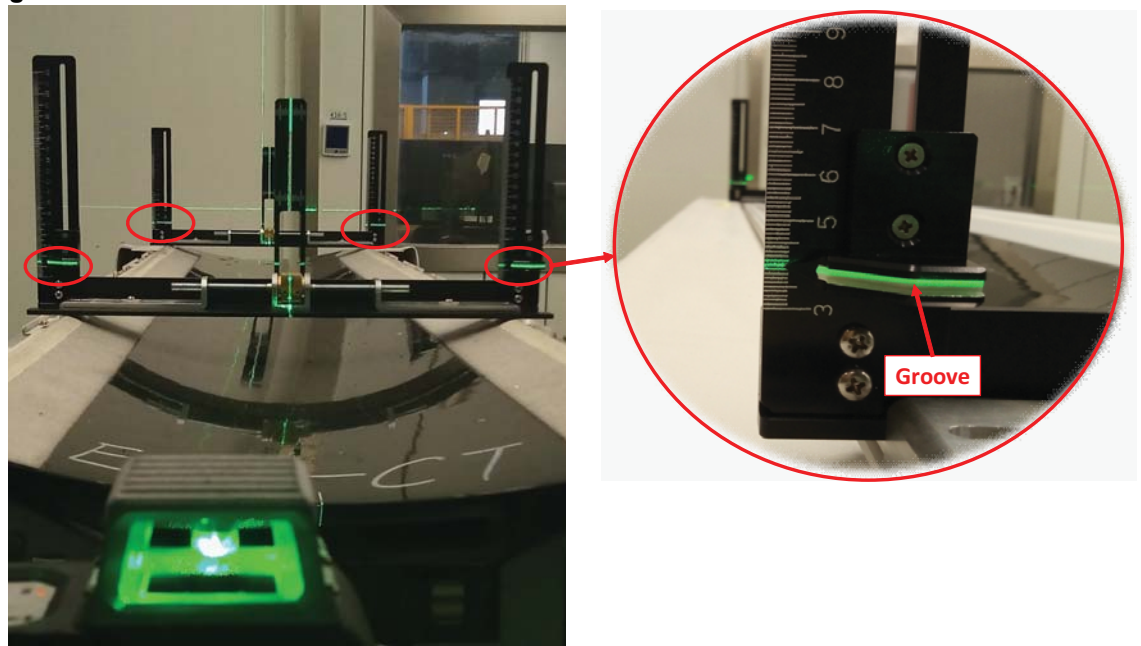
10.) Move the Indicators to the proper position with the corresponding ruler reading (See [Table 4-2](#)), adjust the table level to align the laser line with the grooves of Indicators (See [Figure 4-11](#)).

Note: The reading on four rulers of the Table Alignment Assy should be same number.

Table 4-2 Ruler Reading for Different Products

PRODUCTS	TABLE TYPE	RULER READING
Revolution ACT/ACTs/ACT EL	Linglong/Aakash Table	180mm ±1mm
Revolution ACT/ACTs/ACT EL	Kunlun Table	46mm ±1mm
Optima CT520 DoD/Advance/CT620/CT660/CT670/CT680/, Revolution Frontier, Revolution Discovery CT, Revolution Maxima/Ace, Optima CT680 Expert, Revolution Advance/Eagle	Lite Table	43mm ±1mm
CT540/CT620/CT660/CT670/CT680/, Revolution Frontier, Revolution Discovery CT, Revolution Maxima/Ace, Optima CT680 Expert, Revolution Ascend, Revolution Ace ES	GT1700/1700V/2000 Table	43mm ±1mm
Discovery CT590 RT, Optima CT580, Discovery RT	650/675lb Table	43mm ±1mm

Figure 4-11 Position of Indicators



11.) Repeat step 9 and 10 until the Center Cuts and the grooves of Indicators are aligned with the laser lines simultaneously.

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Chapter 5

Auto Patient Positioning Option Installation, Alignment and Calibration Procedure

Please refer to **5809939-1EN** for detailed information about Auto Patient Positioning Option Installation, Alignment and Calibration Procedure from **SIMS Content Viewer**.

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