

Nemoto Kyorindo

# Dual Shot Alpha Planned Maintenance Procedure



ADVANCED SERVICE DOCUMENTATION.

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## IMPORTANT PRECAUTIONS

### LANGUAGE

#### ПРЕДУПРЕЖДЕНИЕ

(BG)

- 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)

- 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。

#### 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 TĚTO 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 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 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 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.
- THIS SERVICE MANUAL IS AVAILABLE IN ENGLISH ONLY.

## WARNING

(EN)

- 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.

## HOIATUS

(ET)

- 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.

## VAROITUS

(FI)

- KÄESOLEVA HOIATUSE EIRAMINE VÕIB PÕHJUSTADA TEENUSEOSUTAJA, OPERAATORI VÕI PATSIENDI VIGASTAMIST ELEKTRILÖÖGI, MEHAANILISE VÕI MUU OHU TAGAJÄRJEL.
- 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 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 EQUIPEMENTS TANT QUE LE MANUEL SERVICE N'A PAS ETE CONSULTE 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 ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕΡΒΙΣ ΔΙΑΤΙΘΕΤΑΙ ΣΤΑ ΑΓΓΛΙΚΑ ΜΟΝΟ.
- ΕΑΝ ΤΟ ΑΤΟΜΟ ΠΑΡΟΧΗΣ ΣΕΡΒΙΣ ΕΝΟΣ ΠΕΛΑΤΗ ΑΠΑΙΤΕΙ ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕ ΓΛΩΣΣΑ ΕΚΤΟΣ ΤΩΝ ΑΓΓΛΙΚΩΝ, ΑΠΟΤΕΛΕΙ ΕΥΘΥΝΗ ΤΟΥ ΠΕΛΑΤΗ ΝΑ ΠΑΡΕΧΕΙ ΥΠΗΡΕΣΙΕΣ ΜΕΤΑΦΡΑΣΗΣ.
- ΜΗΝ ΕΠΙΧΕΙΡΗΣΕΤΕ ΤΗΝ ΕΚΤΕΛΕΣΗ ΕΡΓΑΣΙΩΝ ΣΕΡΒΙΣ ΣΤΟΝ ΕΞΟΠΛΙΣΜΟ ΕΚΤΟΣ ΕΑΝ ΕΧΕΤΕ ΣΥΜΒΟΥΛΕΥΤΕΙ ΚΑΙ ΕΧΕΤΕ ΚΑΤΑΝΟΗΣΕΙ ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕΡΒΙΣ.
- ΕΑΝ ΔΕ ΛΑΒΕΤΕ ΥΠΟΨΗ ΤΗΝ ΠΡΟΕΙΔΟΠΟΙΗΣΗ ΑΥΤΗ, ΕΝΔΕΧΕΤΑΙ ΝΑ ΠΡΟΚΛΗΘΕΙ ΤΡΑΥΜΑΤΙΣΜΟΣ ΣΤΟ ΑΤΟΜΟ ΠΑΡΟΧΗΣ ΣΕΡΒΙΣ, ΣΤΟ ΧΕΙΡΙΣΤΗ Ή ΣΤΟΝ ΑΣΘΕΝΗ ΑΠΟ ΗΛΕΚΤΡΟΠΛΗΘΙΑ, ΜΗΧΑΝΙΚΟΥΣ Ή ΑΛΛΟΥΣ ΚΙΝΔΥΝΟΥΣ.

## FIGYELMEZTETÉS

(HU)

- EZEN KARBANTARTÁSI KÉZIKÖNYV KIZÁRÓLAG ANGOL NYELVEN ÉRHEŐ EL.
- HA A VEVŐ SZOLGÁLTATÓJA ANGOLTÓL ELTÉRŐ NYELVRE TART IGÉNYT, AKKOR A VEVŐ FELELŐSSÉGE A FORDÍTÁS ELKÉSZÍTETÉSE.
- NE PRÓBÁLJA ELKEZDENI HASZNÁLNI A BERENDEZÉST, AMÍG A KARBANTARTÁSI KÉZIKÖNYVBEN LEÍRTAKAT NEM ÉRTELMEZTÉK.
- EZEN FIGYELMEZTETÉS FIGYELMEN KÍVÜL HAGYÁSA A SZOLGÁLTATÓ, MŰKÖDTETŐ VAGY A BETEG ÁRAMÚTÉS, MECHANIKAI VAGY EGYÉB VESZÉLYHELYZET MIATTI SÉRÜLÉSÉT EREDMÉNYEZHETI.

## ADVÖRUN

(IS)

- ÞESSI ÞJÓNUSTUHANDBÓK ER EINGÖNGU FÁANLEG Á ENSKU.
- EF AÐ ÞJÓNUSTUVEITANDI VIÐSKIPTAMANNS ÞARFNAST ANNAS TUNGUMÁLS EN ENSKU, ER ÞAÐ SKYLDA VIÐSKIPTAMANNS AÐ SKAFFA TUNGUMÁLAPJÓNUSTU.
- 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 E DISPONIBILE SOLTANTO IN INGLESE.
- SE UN ADDETTO ALLA MANUTENZIONE ESTERNO ALLA GEMS RICHIEDE IL MANUALE IN UNA LINGUA DIVERSA, IL CLIENTE E 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.

## 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。

## BRĪDINĀJUMS

(LV)

- ŠĪ APKALPES ROKASGRĀMATA IR PIEEJAMA TIKAI ANGLŪ VALODĀ.
- JA KLIENTA APKALPES SNIEDZĒJAM NEPIECIEŠAMA INFORMĀCIJA CITĀ VALODĀ, NEVIS ANGLŪ, KLIENTA PIENĀKUMS IR NODROŠINĀT TULKOŠANU.
- NEVEICIET APRĪKOJUMA APKALPI BEZ APKALPES ROKASGRĀMATAS IZLASĪŠANAS UN SAPRAŠANAS.
- ŠĪ BRĪDINĀJUMA NEIEVĒROŠANA VAR RADĪT ELEKTRISKĀS STRĀVAS TRIECIENA, MEHĀNISKU VAI CITU RISKU IZRAISĪTU TRAUMU APKALPES SNIEDZĒJAM, OPERATORAM VAI PACIENTAM.

## ĮSPĖJIMAS

(LT)

- ŠIS EKSPLOATAVIMO VADOVAS YRA PRIEINAMAS TIK ANGLŲ KALBA.
- JEI KLIENTO PASLAUGŲ TIEKĒJAS REIKALAUJA VADOVO KITA KALBA – NE ANGLŲ, NUMATYTI VERTIMO PASLAUGAS YRA KLIENTO ATSAKOMYBĒ.
- NEMĒGINKITE ATLIKTI ĮRANGOS TECHNINĒS PRIEŽIŪROS, NEBENT ATSIŽVELGĖTE Į ŠĮ EKSPLOATAVIMO VADOVĄ IR JĮ SUPRATOTE.
- JEI NEATKREIPSITE DĒMESIO Į ŠĮ PERSPĖJIMĄ, GALIMI SUŽALOJIMAI DĒL ELEKTROS ŠOKO,
- MECHANINIŲ AR KITŲ PAVOJŲ PASLAUGŲ TIEKĒJUI, OPERATORIUI AR PACIENTUI.

## ADVARSEL

(NO)

- 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.

## OSTRZEŻENIE

(PL)

- NINIEJSZY PODRĘCZNIK SERWISOWY DOSTĘPNY JEST JEDYNIEM 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 PORĄŻENIA ELEKTRYCZNEGO, ZAGROŻENIA MECHANICZNEGO BĄDŹ INNEGO.

## ATENÇÃO

(PT)

- ESTE MANUAL DE ASSISTÊNCIA TÉCNICA SÓ SE ENCONTRA DISPONÍVEL EM INGLÊS.
- SE QUALQUER OUTRO SERVIÇO DE ASSISTÊNCIA TÉCNICA, QUE NÃO A GEMS, SOLICITAR ESTES MANUAIS NOUTRO IDIOMA, É DA RESPONSABILIDADE DO CLIENTE FORNECER OS SERVIÇOS DE TRADUÇÃO.
- NÃO TENDE REPARAR O EQUIPAMENTO SEM TER CONSULTADO E COMPREENDIDO ESTE MANUAL DE ASSISTÊNCIA TÉCNICA
- O NÃO CUMPRIMENTO DESTE AVISO PODE POR EM PERIGO A SEGURANÇA DO TÉCNICO, OPERADOR OU PACIENTE DEVIDO A CHOQUES ELÉTRICOS, MECÂNICOS OU OUTROS.

## ATENȚIE

(RO)

- 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 DEPANATORULUI, OPERATORULUI SAU PACIENTULUI ÎN URMA PERICOLELOR DE ELECTROCUTARE, MECANICE SAU DE ALTĂ NATURĂ.

## ОСТОРОЖНО!

(RU)

- 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.

## 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 SKÔR, AKO SI NEPREČÍTATE NÁVOD NA OBLUHU 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)

- ESTE MANUAL DE SERVICIO SOLO EXISTE EN INGLES.
- SI ALGUN PROVEEDOR DE SERVICIOS AJENO A GEMS SOLICITA UN IDIOMA QUE NO SEA EL INGLES, ES RESPONSABILIDAD DEL CLIENTE OFRECER UN SERVICIO DE TRADUCCION
- NO SE DEBERA DAR SERVICIO TECNICO 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.

## DİKKAT (TR)

- BU SERVİS KILAVUZUNUN SADECE İNGİLİZCESİ MEVCUTTUR.
- EĞER MÜŞTERİ TEKNİSYENİ BU KILAVUZU İNGİLİZCE DIŞINDA BİR BAŞKA LİSANDAN TALEP EDERSE, BUNU TERCÜME ETTİRMEK MÜŞTERİYE DÜŞER.
- SERVİS KILAVUZUNU OKUYUP ANLAMADAN EKİPMANLARA MÜDAHALE ETMEYİNİZ.
- BU UYARIYA UYULMAMASI, ELEKTRİK, MEKANİK VEYA DİĞER TEHLİKELERDEN DOLAYI TEKNİSYEN, OPERATÖR VEYA HASTANIN YARALANMASINA YOL AÇABİLİR.

## DAMAGE IN TRANSPORTATION

All packages should be closely examined at time of delivery. If damage is apparent write "Damage In Shipment" on ALL copies of the freight or express bill BEFORE delivery is accepted or "signed for" by a General Electric representative or 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 8.
- Fill out a report on <http://us44hdd21/sctg/InstallFulfill/InstallFulfillment.htm>
- 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.

## OMISSIONS & ERRORS

Customers, please contact your GE Sales or Service representatives.

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

### REVISION HISTORY

Rev	Date	Author	Reason For Change
1	June 24, 2008	J. Knipfer	Initial version.
2	Jan. 19, 2009	J. Knipfer	Added blank page to end of document and updated TOC page numbers.

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## **1- INTRODUCTION**

This manual provides the instructions for performing and documenting the Planned Maintenance for the Dual Shot Alpha contrast delivery system. It is intended and should only be used by those trained and qualified on the Dual Shot Alpha.

All local laws, regulations and requirements etc. shall be followed in conjunction with the Planned Maintenance Procedure.

## **2 – PLANNED MAINTENANCE (PM) PROCEDURE**

The Dual Shot Alpha Planned Maintenance plan is broken into the PM Procedure and the PM Checklist. The PM Procedure provides the necessary instructions for performing the PM, and the PM Checklist provides a means to record and track the results of the Planned Maintenance. Each procedural step is identified with a PMx, where x is the link number between the procedure and the checklist. The PM itself consists of Basic Checks and Inspections, Safety Circuit Test, Calibration Check and Performance Checks.

### **2-1 PM Schedule**

The following is the recommended schedule of checks and Planned Maintenance for the Dual Shot Alpha contrast delivery system.

DAILY: As specified by the Dual Shot Alpha Operator’s Manual.

MONTHLY: As specified by the Dual Shot Alpha Operator’s Manual.

ANNUALLY: As required by this Planned Maintenance document.

### **2-2 PM Tools Required**

The following tools are required to perform the Dual Shot Alpha Planned Maintenance.

#### **Nemoto Service Kit (5308826)**

- 10mL graduated cylinder
- 200mL graduated cylinder
- Pressure gauge
- Stopwatch
- 23g Needle
- Assorted tubing
- 100ml Syringe
- 200ml Syringe

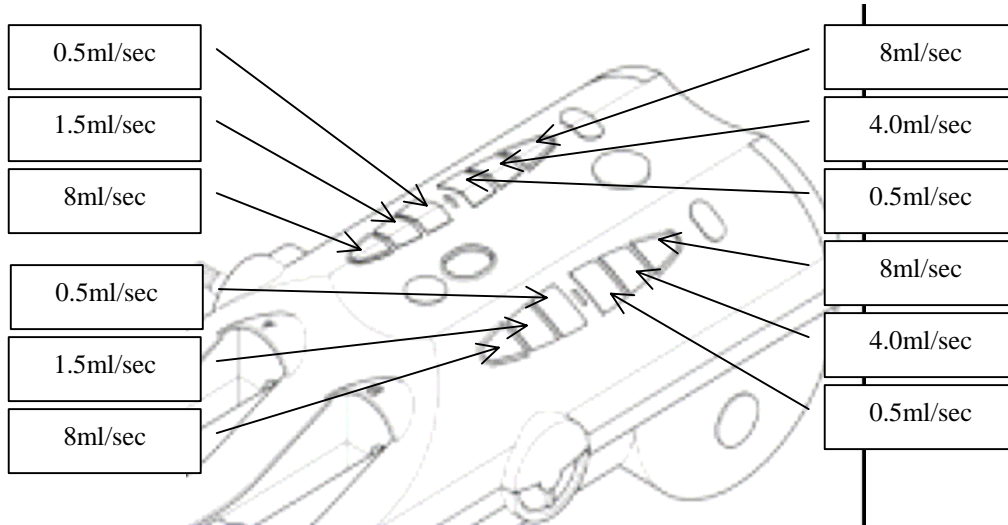
#### **Hand Tools**

- #2 Philips screwdriver
- #1 Philips screwdriver

### 3 BASIC CHECKS AND INSPECTIONS

Perform the following checks and inspections and indicate on the PM Checklist the successful completion.

PM1: Remove the syringes and if applicable 100ml adapter, from the Powerhead. Using the Fill / Expel buttons on the Powerhead fully extend and retract the Powerhead rams to ensure smooth and normal movement. Listen for any abnormal sounds, e.g. clinking, grinding, etc.



**Fill / Expel Button Locations**

PM2: Locate the power cable that is connected to the rear of the Power Supply Unit and plug it into a power outlet rated at the specified limits in the “Specifications Section”. Push the “—” side of the power switch. Press the power-on button on the console. During the power-on sequence verify the syringe compartment LEDs, Powerhead tail lights, and Powerhead Check button all illuminate. After a few seconds verify the Console displays a Nemoto logo screen.

PM3: Visually inspect all cables for torn insulation, cuts, etc. Visually inspect all connections to ensure cabling is properly secured to connector and that all connections are secure.

PM4: Verify that any and all equipment connected to the DSA is approved by Nemoto for connection to the DSA. Disconnect any unapproved equipment.

PM5: The design of the Powerhead is such that the rotation of the Powerhead is limited. The horizontal rotation is limited to zero degrees. The vertical rotation shall be greater than 180 degrees but less than 270 degrees. If rotation is possible beyond these limits verify all locking pins and assembly of the Powerhead to the Remote Stand or Ceiling Suspension has been completed correctly.

PM6: With the Powerhead mounted to the Remote Stand move the Remote Stand using one hand. Verify the stand moves freely and without restrictions.

PM7: Using the basic injection mode, program an A→B injection protocol as shown in Figure PM7-1. Without syringes installed, press the Check button to enable the injection then press the Start button to start the injection. Verify the injection runs normally.

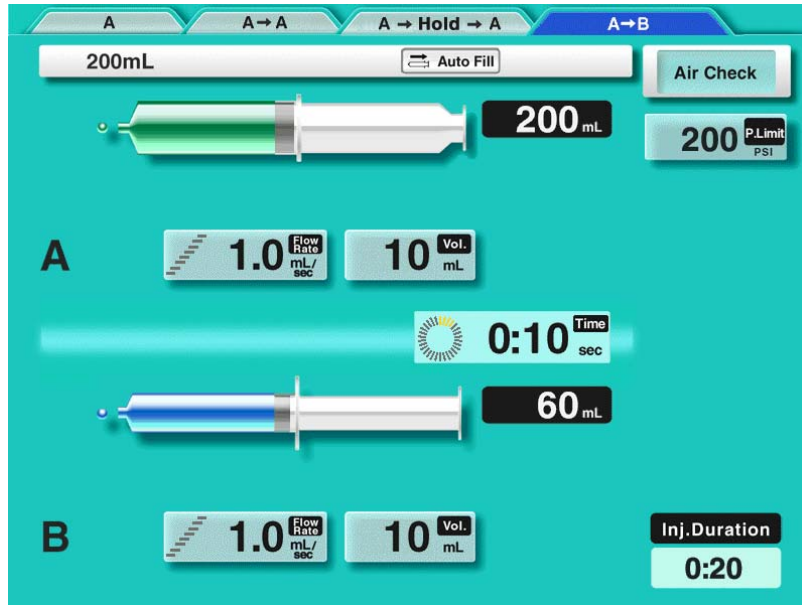


Figure PM7-1

#### 4 SAFETY CIRCUIT CHECK

PM8: The safety circuit check will verify proper function of the circuit that is used to report errors and alarms to the user. Perform the following steps in the order listed:

1. Power on the system and wait until the main displays appears on the Console.
2. Disconnect the Powerhead cable from the Main Unit.
3. Verify Alarm No. 16 appears on the Console display.
4. Power off the system and reconnect the Powerhead cable.

Indicate on the PM Checklist the alarm was displayed.

#### 5 PRESSURE CALIBRATION CHECK

PM9: Fully retract both Powerhead rams. Install the 100mL adapter into side A. Install a water filled 100mL syringe in the A side. Set the pressure limit to 300PSI. Program an A-side only injection with 4mL/sec flow rate and 100mL volume. Press Check and start the injection. The A-side injection will execute. Record the A-side injection on the PM Checklist.

Remove the syringe and pressure measurement equipment from the A-side. Disconnect the syringe from the pressure measurement equipment and refill. Install syringe and reconnect the pressure equipment onto the B-side. Program the following A then B injection:

A-side: Flow Rate: 1ml/sec	Volume: 1ml
B-side: Flow Rate: 4ml/sec	Volume: 100ml

Set the pressure limit to 300psi, press Check and start the injection. Record the B-side pressure on the PM Checklist. Verify the pressure is within the allowable range of 270 – 330PSI for the A-side and B-side.

Note: Reference the DSA Installation and Checkout Manual for pressure equipment setup if necessary.

## 6 – PERFORMANCE CHECKS

### 6-1 Injection Time Check

PM10: Remove the syringes from the injector and fully retract the Powerhead rams. Program an injection of 1mL / sec with a volume of 60mL on the A-side. Press Check and start the injection. Simultaneously press start on the stopwatch. Verify the actual injection time is between 57 and 63 seconds.

Select an injection protocol that is of A then B type. Program the A-side for 1mL/sec with a volume of 5mL. Program the B-side with an injection of 1mL/sec and a volume of 60mL. Press Check and start the injection. When the A-side is completed, press the stopwatch start simultaneously with the starting of the B-side ram. Verify the injection time is between 57 and 63 seconds for the B-side injection.

Note: During the A-side and B-side injections the Console will display a message stating low pressure. This is expected and the normal operation of the system.

Verify and acknowledge in the PM checklist all values are within specifications.

### 6-2 Injection Volume Check

PM11: Fully retract both Powerhead rams. Select an injection mode for A-side injections only. Program the A-side flow rate for 1mL/sec. Install the syringe indicated and perform the injections in Table 6-2-1 and Table 6-2-2. Using the graduated cylinder, verify the delivered volumes are within the Allowable Range.

**Table 6-2-1: 200mL Syringe (A-side)**

Volume	Allowable Range
2mL	0.8 – 3.2 mL
120mL	117 – 123 mL

**Table 6-2-2: 100mL Syringe (A-side)**

Volume	Allowable Range
2 mL	0.8 – 3.2 mL
90 mL	87 – 93 mL

Fully retract the A-side ram and configure an injection protocol of A then B type. Remove the syringe from the A-side and program the A-side for 1mL / sec with a volume of 1mL. Install a 100ml water filled syringe on the B-side. Program the B-side to 1mL/sec with the volumes specified in Table 6-2-3. Perform each injection and verify the delivered volumes are within the Allowable Range.

**Table 6-2-3: 100mL Syringe (B-side)**

Volume	Allowable Range
2mL	0.8 – 3.2 mL
90mL	87 – 93 mL

Note: Reference the DSA Installation and Checkout Manual for volume measuring equipment setup and techniques if necessary.

Acknowledge in the PM checklist all values are within specifications.

### 6-3 Injection Flow Rate Check

PM12: Install a water filled 200ml syringe in the A-side and a 100ml water filled syringe in the B-side. Program the injections listed in Table 6-3-4 and Table 6-3-5 below and verify the injection times are within the allowable range. Perform the injections on the A-side without a 100mL adapter installed. When performing the 2ml/sec injection, install the 23 gauge needle supplied in the Nemoto Service Kit. When performing the 8ml/sec injection the 23 gauge must be removed.

**Table 6-3-4: Flow Rate Check (200mL A-side)**

Flow Rate	Volume	Time Expected	Allowable Range
2 ml/sec (w/needle)	20 mL	11 seconds	10.3 – 11.9 seconds
8 ml/sec (w/o needle)	40 mL	6 seconds	5.5 – 6.6 seconds

**Table 6-3-5: Flow Rate Check (100mL B-side\*)**

Flow Rate	Volume	Time Expected	Allowable Range
2 ml/sec (w/needle)	20 mL	10 seconds	9.1 – 11.1 seconds
8 ml/sec (w/o needle)	40 mL	5 seconds	4.5 – 5.6 seconds

\* The Ramp Up time on B-side is always 0 seconds.

Note 1: Do not pressure limit these injections as it will result in inaccurate measurements.

Note 2: If the Ramp Up feature is turned on, set to 2 seconds. If it is turned off, the default setting is automatically 2 seconds. The Allowable Range reflects the impact of the Ramp Up feature.

Verify and acknowledge in the PM checklist all values are within specifications.



**APPENDIX A – PLANNED MAINTENANCE CHECKLIST**

Site Name:	Powerhead S/N:
Street Address:	Console S/N:
City:	Power Supply S/N:
State + Zip Code	Ceiling Suspension Arm S/N:
Site Phone:	Ceiling Suspension Colum S/N:
Installed By (and SSO if applicable):	Installation Date:
Global Order Number:	CT System ID:

**Perform the following inspections and checks:**

- PM1: The Powerhead rams could be extended and retracted normally without any visual or audible defects.
- PM2: All LEDs, lamps and displays illuminated correctly.
- PM3: All cables and connections are normal and secure.
- PM4: There was no unapproved equipment connected or unapproved equipment was disconnected.
- PM5: The Powerhead rotated freely and more than 180 degrees but less than 270 degrees in the vertical direction. There was not horizontal rotation possible.
- PM6: The Powerhead Floor Stand casters rotate freely and if caster locks are provided are operating correctly. The Powerhead could also be raised and lower smoothly.
- PM7: The programmed injection executes correctly.

**Safety Circuit Check**

- PM8: The Alarm No. 16 appeared correctly on the Console display.

**Pressure Calibration Check**

- PM9: Record the measured pressure below and verify it is within the specified range of 270psi to 330psi. Note: If pressure is fluctuating, estimate and record the average pressure.

A-side Measured Pressure \_\_\_\_\_ psi

B-side Measured Pressure \_\_\_\_\_ psi

**Performance Checks**

- PM10: Record the measured time below and verify it is within the specified range of 57 seconds to 63 seconds.

A-side Measured Time \_\_\_\_\_ seconds

B-side Measured Time \_\_\_\_\_ seconds

- PM11: Record the measured volume in the tables below and verify they are within the Allowable Range.

**A-Side Volume Checks**

Syringe	Volume	Measured Value	Allowable Range
200ml	2ml		0.8 – 3.2ml
200ml	120ml		117 – 123ml
100ml	2ml		0.8 – 3.2ml
100ml	90ml		87 – 93ml

**B-Side Volume Checks**

Syringe	Volume	Measured Value	Allowable Range
100ml	2ml		0.8 – 3.2ml
100ml	90ml		87 – 93ml

- PM12: Record the measured Flow Rate values in the table below and verify within the Allowable Range.

**Flow Rate Check**

Needle	Side	Flow Rate	Volume	Time Measured	Allowable Range
Yes	A	2ml/sec	20ml		10.3 – 11.9 seconds
No	A	8ml/sec	40ml		5.5 – 6.6 seconds
Yes	B	2ml/sec	20ml		9.1 – 11.1 seconds
No	B	8ml/sec	40ml		4.5 – 5.6 seconds

The Planned Maintenance Checklist once completed shall be provided to the end-user for their documentation records.

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