

# 3.0T 16ch Shoulder Coil

## Service Manual

M7100SH / NC143002



Distributed by GE Healthcare



**NeoCoil**  
Innovations to **sharpen** your image

NC143SCM Rev B  
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## Medical Device Directive

This product conforms to the requirements of the council directive 93/42/EEC concerning medical devices when it bears the following CE Marking of Conformity; first year of CE Mark is 2020:

The CE Mark logo consists of the letters "CE" in a bold, sans-serif font, enclosed within a black square.

## European Representative

**EC REP**

**EMERGO EUROPE**  
Prinsessegracht 20  
2514 AP The Hague  
The Netherlands



**CAUTION:** The waste of electrical and electronic equipment must not be disposed as unsorted municipal waste and must be collected separately. Contact an authorized representative of the manufacturer for information concerning the decommissioning of your equipment.

## US Federal Law 21 CFR Part 801



**CAUTION:** Federal law restricts this device to sale by or on the order of a physician.

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# Contents

**Overview**

Device Description ..... 11

Shipping Contents..... 11

Related Documentation ..... 12

Damage in Transportation..... 13

Product Locator..... 13

Environmental Requirements..... 14

Coil Specifications..... 14

Use of Symbols ..... 15

Coil Classification ..... 17

Coil Care ..... 18

**Installation**

Multi-Coil Quality Assurance (MCQA) ..... 19

    MCQA requirements..... 19

    MCQA setup ..... 19

    MCQA test procedure ..... 19

**Replacement Parts**

    FRUs and Replacement Components.....23

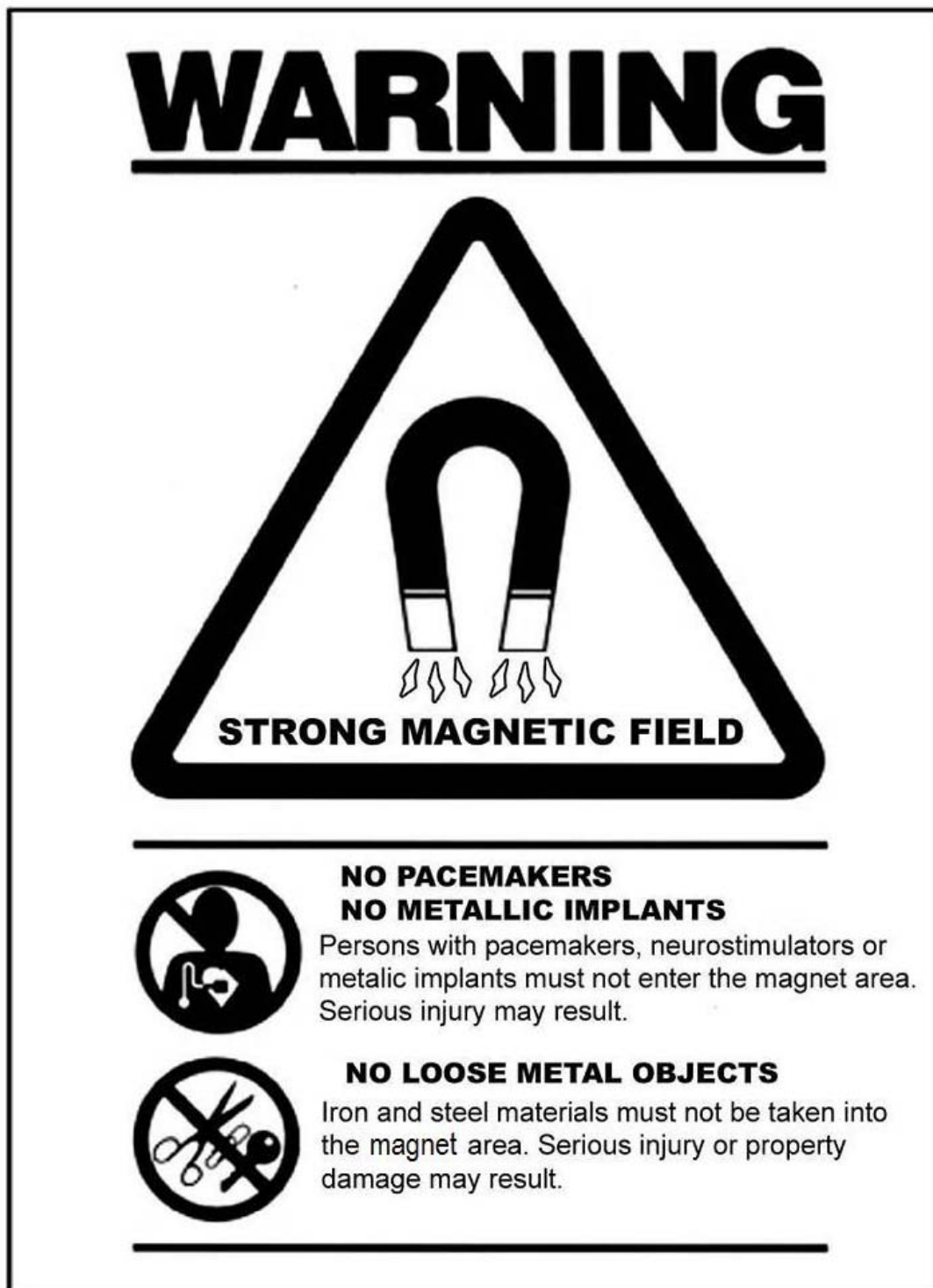
    Disposal of Components .....24

**Troubleshooting**

General Notes .....25

**Contact Information** .....26

# Magnetic Field Warning



# Important Information

<p><b>WARNING</b> (EN)</p>	<p>This service manual is available in English only.</p> <ul style="list-style-type: none"> <li>• If a customer's service provider requires a language other than english, it is the customer's responsibility to provide translation services.</li> <li>• Do not attempt to service the equipment unless this service manual has been consulted and is understood.</li> <li>• Failure to heed this warning may result in injury to the service provider, operator or patient from electric shock, mechanical or other hazards.</li> </ul>
<p><b>Предупреждение</b> (BG)</p>	<p>Това упътване за работа е налично само на английски език.</p> <ul style="list-style-type: none"> <li>• Ако доставчикът на услугата на клиента изиска друг език, задължение на клиента е да осигури превод.</li> <li>• Не използвайте оборудването, преди да сте се консултирали и разбрали упътването за работа.</li> <li>• 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.</li> </ul>
<p><b>警告</b> (ZH-CN)</p>	<p>本维修手册仅提供英文版本。</p> <ul style="list-style-type: none"> <li>• 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。</li> <li>• 未详细阅读和完全理解本维修手册之前，不得进行维修。</li> <li>• 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。</li> </ul>
<p><b>警告</b> (ZH-HK)</p>	<p>本服務手冊僅提供英文版本。</p> <ul style="list-style-type: none"> <li>• 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。</li> <li>• 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。</li> <li>• 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。</li> </ul>
<p><b>警告</b> (ZH-TW)</p>	<p>本維修手冊僅有英文版。</p> <ul style="list-style-type: none"> <li>• 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。</li> <li>• 請勿試圖維修本設備，除非 您已查閱並瞭解本維修手冊。</li> <li>• 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。</li> </ul>
<p><b>UPOZORENJE</b> (HR)</p>	<p>Ovaj servisni priručnik dostupan je na engleskom jeziku.</p> <ul style="list-style-type: none"> <li>• Ako davatelj usluge klijenta treba neki drugi jezik, klijent je dužan osigurati prijevod.</li> <li>• Ne pokušavajte servisirati opremu ako niste u potpunosti pročitali i razumjeli ovaj servisni priručnik.</li> <li>• Zanemarite li ovo upozorenje, može doći do ozljede davatelja usluge, operatera ili pacijenta uslijed strujnog udara, mehaničkih ili drugih rizika.</li> </ul>
<p><b>VÝSTRAHA</b> (CS)</p>	<p>Tento provozní návod existuje pouze v anglickém jazyce.</p> <ul style="list-style-type: none"> <li>• V případě, že externí služba zákazníkům potřebuje návod v jiném jazyce, je zajištění překladu do odpovídajícího jazyka úkolem zákazníka.</li> <li>• Nesnažte se o údržbu tohoto zařízení, aniž byste si přečetli tento provozní návod a pochopili jeho obsah.</li> <li>• 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.</li> </ul>

<b>ADVARSEL (DA)</b>	<p>Denne servicemanual findes kun på engelsk.</p> <ul style="list-style-type: none"> <li>• Hvis en kundes tekniker har brug for et andet sprog end engelsk, er det kundens ansvar at sørge for oversættelse.</li> <li>• Forsøg ikke at servicere udstyret uden at læse og forstå denne servicemanual.</li> <li>• Manglende overholdelse af denne advarsel kan medføre skade på grund af elektrisk stød, mekanisk eller anden fare for teknikeren, operatøren eller patienten.</li> </ul>
<b>WAARSCHUWING (NL)</b>	<p>Deze onderhoudshandleiding is enkel in het Engels verkrijgbaar.</p> <ul style="list-style-type: none"> <li>• Als het onderhoudspersoneel een andere taal vereist, dan is de klant verantwoordelijk voor de vertaling ervan.</li> <li>• Probeer de apparatuur niet te onderhouden alvorens deze onderhoudshandleiding werd geraadpleegd en begrepen is.</li> <li>• 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.</li> </ul>
<b>HOIATUS (ET)</b>	<p>See teenindusjuhend on saadaval ainult inglise keeles</p> <ul style="list-style-type: none"> <li>• Kui klienditeeninduse osutaja nõuab juhendit inglise keelest erinevas keeles, vastutab klient tõlketeenuse osutamise eest.</li> <li>• Ärge üritage seadmeid teenindada enne eelnevalt käesoleva teenindusjuhendiga tutvumist ja sellest aru saamist.</li> <li>• Käesoleva hoiatuse eiramine võib põhjustada teenuseosutaja, operaatori või patsiendi vigastamist elektrilöögi, mehaanilise või muu ohu tagajärjel.</li> </ul>
<b>VAROITUS (FI)</b>	<p>Tämä huolto-ohje on saatavilla vain englanniksi.</p> <ul style="list-style-type: none"> <li>• Jos asiakkaan huoltohenkilöstö vaatii muuta kuin englanninkielistä materiaalia, tarvittavan käännöksen hankkiminen on asiakkaan vastuulla.</li> <li>• Älä yritä korjata laitteistoa ennen kuin olet varmasti lukenut ja ymmärtänyt tämän huolto-ohjeen.</li> <li>• Mikäli tätä varoitusta ei noudateta, seurauksena voi olla huoltohenkilöstön, laitteiston käyttäjän tai potilaan vahingoittuminen sähköiskun, mekaanisen vian tai muun vaaratilanteen vuoksi.</li> </ul>
<b>ATTENTION (FR)</b>	<p>Ce manuel d'installation et de maintenance est disponible uniquement en anglais.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Ne pas tenter d'intervenir sur les équipements tant que ce manuel d'installation et de maintenance n'a pas été consulté et compris.</li> <li>• 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.</li> </ul>
<b>Warnung (DE)</b>	<p>Diese Serviceanleitung existiert nur in englischer Sprache.</p> <ul style="list-style-type: none"> <li>• Falls ein fremder Kundendienst eine andere Sprache benötigt, ist es Aufgabe des Kunden für eine entsprechende Übersetzung zu sorgen.</li> <li>• Versuchen Sie nicht diese Anlage zu warten, ohne diese Serviceanleitung gelesen und verstanden zu haben.</li> <li>• Wird diese Warnung nicht beachtet, so kann es zu Verletzungen des Kundendiensttechnikers, des Bedieners oder des Patienten durch Stromschläge, mechanische oder sonstige Gefahren kommen.</li> </ul>

<p><b>ΠΡΟΕΙΔΟΠΟΙΗΣΗ</b> (EL)</p>	<p>Το παρόν εγχειρίδιο σέρβις διατίθεται μόνο στα αγγλικά.</p> <ul style="list-style-type: none"> <li>• Εάν ο τεχνικός σέρβις ενός πελάτη απαιτεί το παρόν εγχειρίδιο σε γλώσσα εκτός των αγγλικών, αποτελεί ευθύνη του πελάτη να παρέχει τις υπηρεσίες μετάφρασης.</li> <li>• Μην επιχειρήσετε την εκτέλεση εργασιών σέρβις στον εξοπλισμό αν δεν έχετε συμβουλευτεί και κατανοήσει το παρόν εγχειρίδιο σέρβις.</li> <li>• Αν δεν προσέξετε την προειδοποίηση αυτή, ενδέχεται να προκληθεί τραυματισμός στον τεχνικό σέρβις, στο χειριστή ή στον ασθενή από ηλεκτροπληξία, μηχανικούς ή άλλους κινδύνους.</li> </ul>
<p><b>FIGYELMEZTETÉS</b> (HU)</p>	<p>Ezen karbantartási kézikönyv kizárólag angol nyelven érhető el.</p> <ul style="list-style-type: none"> <li>• Ha a vevő szolgáltatója angoltól eltérő nyelvre tart igényt, akkor a vevő felelőssége a fordítás elkészítése.</li> <li>• Ne próbálja elkezdni használni a berendezést, amíg a karbantartási kézikönyvben leírtakat nem értelmezték.</li> <li>• Ezen figyelmeztetés figyelmen kívül hagyása a szolgáltató, működtető vagy a beteg áramütés, mechanikai vagy egyéb veszélyhelyzet miatti sérülését eredményezheti.</li> </ul>
<p><b>AÐVÖRUN</b> (IS)</p>	<p>Þessi þjónustuhandbók er aðeins fánleg á ensku.</p> <ul style="list-style-type: none"> <li>• Ef að þjónustuveitandi viðskiptamanns þarfnast annas tungumáls en ensku, er það skylda viðskiptamanns að skaffa tungumálþjónustu.</li> <li>• Reynið ekki að afgreiða tækið nema að þessi þjónustuhandbók hefur verið skoðuð og skilin.</li> <li>• Brot á sinna þessari aðvörun getur leitt til meiðsla á þjónustuveitanda, stjórnanda eða sjúklings frá raflosti, vélrænu eða öðrum áhættum.</li> </ul>
<p><b>PERINGATAN</b> (ID)</p>	<p>Panduan layanan hanya tersedia dalam Bahasa Inggris.</p> <ul style="list-style-type: none"> <li>• Jika penyedia layanan pelanggan memerlukan bahasa selain bahasa Inggris, pelanggan bertanggung jawab untuk menyediakan layanan terjemahan.</li> <li>• Jangan mencoba untuk memperbaiki peralatan kecuali jika panduan layanan ini telah dikonsultasikan dan dipahami.</li> <li>• Kegagalan untuk mengindahkan peringatan ini dapat mengakibatkan cedera pada penyedia layanan, operator, atau pasien dari sengatan listrik, bahaya mekanis, atau lainnya.</li> </ul>
<p><b>Avvertenza</b> (IT)</p>	<p>Il presente manuale di manutenzione è disponibile soltanto in lingua inglese.</p> <ul style="list-style-type: none"> <li>• Se un addetto alla manutenzione richiede il manuale in una lingua diversa, il cliente è tenuto a provvedere direttamente alla traduzione.</li> <li>• Procedere alla manutenzione dell'apparecchiatura solo dopo aver consultato il presente manuale ed averne compreso il contenuto.</li> <li>• 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.</li> </ul>
<p><b>警告</b> (JA)</p>	<p>このサービスマニュアルには英語版しかありません。¶</p> <ul style="list-style-type: none"> <li>➤ 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。¶</li> <li>➤ 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。¶</li> <li>➤ 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。§</li> </ul>



<b>ЕСКЕРТУ (KK)</b>	<p>Осы қызмет көрсету нұсқаулығы тек ағылшын тілінде қолжетімді.</p> <ul style="list-style-type: none"> <li>• Клиенттің қызмет көрсету провайдері ағылшын тілінен басқа тілді талап етсе, аудармасын тұтынушының өзі беруі керек.</li> <li>• Осы қызмет көрсету нұсқаулығын түсініп оқымайынша, жабдықты жөндемеңіз.</li> <li>• Осы ескерту талаптарын орындамаған жағдайда, қызмет көрсету провайдерін, операторды немесе емделушіні ток соғу қаупі, механикалық немесе басқа да қауіп төніп, жарақаттауы мүмкін.</li> </ul>
<b>경고 (KO)</b>	<p>본 서비스 매뉴얼은 영어로만 이용하실 수 있습니다. ¶</p> <ul style="list-style-type: none"> <li>➤ 고객님의 서비스 제공자가 영어 이외의 언어를 요구할 경우, 번역 서비스를 제공하는 것은 고객님의 책임입니다. ¶</li> <li>➤ 본 서비스 매뉴얼을 참조하여 숙지하지 않은 이상 해당 장비를 수리하려고 시도하지 마십시오. ¶</li> <li>➤ 본 경고 사항에 유의하지 않으면 전기 쇼크, 기계적 위험, 또는 기타 위험으로 인해 서비스 제공자, 사용자 또는 환자에게 부상을 입힐 수 있습니다. §</li> </ul>
<b>BRĪDINĀJUMS (LV)</b>	<p>Šī apkopes rokasgrāmata ir pieejama tikai anglū valodā.</p> <ul style="list-style-type: none"> <li>• Ja klienta apkopes sniedzējam nepieciešama informācija citā valodā, klienta pienākums ir nodrošināt tulkojumu.</li> <li>• Neveiciet aprikojuma apkopi bez apkopes rokasgrāmatas izlasīšanas un saprašanas.</li> <li>• Šī brīdinājuma neievērošanas rezultātā var rasties elektriskās strāvas trieciena, mehānisku vai citu faktoru izraisītu traumū risks apkopes sniedzējam, operatoram vai pacientam.</li> </ul>
<b>ĮSPĖJIMAS (LT)</b>	<p>Šis eksploatavimo vadovas yra tik anglų kalba.</p> <ul style="list-style-type: none"> <li>• Jei kliento paslaugų tiekėjas reikalauja vadovo kita kalba – ne anglų, suteikti vertimo paslaugas privalo klientas.</li> <li>• Nemėginkite atlikti įrangos techninės priežiūros, jei neperskaitėte ar nesupratote šio eksploatavimo vadovo.</li> <li>• Jei nepaisysite šio įspėjimo, galimi paslaugų tiekėjo, operatoriaus ar paciento sužalojimai dėl elektros šoko, mechaninių ar kitų pavojų.</li> </ul>
<b>ADVARSEL (NO)</b>	<p>Denne servicehåndboken finnes bare på engelsk.</p> <ul style="list-style-type: none"> <li>• Hvis kundens serviceleverandør har bruk for et annet språk, er det kundens ansvar å sørge for oversettelse.</li> <li>• Ikke forsøk å reparere utstyret uten at denne servicehåndboken er lest og forstått.</li> <li>• Manglende hensyn til denne advarselen kan føre til at serviceleverandøren, operatøren eller pasienten skades på grunn av elektrisk støt, mekaniske eller andre farer.</li> </ul>
<b>OSTRZEŻENIE (PL)</b>	<p>Niniejszy podręcznik serwisowy dostępny jest jedynie w języku angielskim.</p> <ul style="list-style-type: none"> <li>• Jeśli serwisant klienta wymaga języka innego niż angielski, zapewnienie usługi tłumaczenia jest obowiązkiem klienta.</li> <li>• Nie próbować serwisować urządzenia bez zapoznania się z niniejszym podręcznikiem serwisowym i zrozumienia go.</li> <li>• Niezastosowanie się do tego ostrzeżenia może doprowadzić do obrażeń serwisanta, operatora lub pacjenta w wyniku porażenia prądem elektrycznym, zagrożenia mechanicznego bądź innego.</li> </ul>
<b>AVISO (PT-BR)</b>	<p>Este manual de assistência técnica encontra-se disponível unicamente em inglês.</p> <ul style="list-style-type: none"> <li>• Se outro serviço de assistência técnica solicitar a tradução deste manual, caberá ao cliente fornecer os serviços de tradução.</li> <li>• Não tente reparar o equipamento sem ter consultado e compreendido este manual de assistência técnica.</li> <li>• A não observância deste aviso pode ocasionar ferimentos no técnico, operador ou paciente decorrentes de choques elétricos, mecânicos ou outros.</li> </ul>



<p><b>ATENÇÃO</b> (PT-PT)</p>	<p>Este manual de assistência técnica só se encontra disponível em inglês.</p> <ul style="list-style-type: none"> <li>• Se qualquer outro serviço de assistência técnica solicitar este manual noutro idioma, é da responsabilidade do cliente fornecer os serviços de tradução.</li> <li>• Não tente reparar o equipamento sem ter consultado e compreendido este manual de assistência técnica.</li> <li>• 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.</li> </ul>
<p><b>ATENȚIE</b> (RO)</p>	<p>Acest manual de service este disponibil doar în limba engleză.</p> <ul style="list-style-type: none"> <li>• Dacă un furnizor de servicii pentru clienți necesită o altă limbă decât cea engleză, este de datoria clientului să furnizeze o traducere.</li> <li>• Nu încercați să reparați echipamentul decât ulterior consultării și înțelegerii acestui manual de service.</li> <li>• Ignorarea acestui avertisment ar putea duce la rănirea depanatorului, operatorului sau pacientului în urma pericolelor de electrocutare, mecanice sau de altă natură.</li> </ul>
<p><b>ОСТОРОЖНО!</b> (RU)</p>	<p>Данное руководство по техническому обслуживанию представлено только на английском языке.</p> <ul style="list-style-type: none"> <li>• Если сервисному персоналу клиента необходимо руководство не на английском, а на каком-то другом языке, клиенту следует самостоятельно обеспечить перевод.</li> <li>• Перед техническим обслуживанием оборудования обязательно обратитесь к данному руководству и поймите изложенные в нем сведения.</li> <li>• Несоблюдение требований данного предупреждения может привести к тому, что специалист по техобслуживанию, оператор или пациент получит удар электрическим током, механическую травму или другое повреждение.</li> </ul>
<p><b>UPOZORENJE</b> (SR)</p>	<p>Ovo servisno uputstvo je dostupno samo na engleskom jeziku.</p> <ul style="list-style-type: none"> <li>• Ako klijentov serviser zahteva neki drugi jezik, klijent je dužan da obezbedi prevodilačke usluge.</li> <li>• Ne pokušavajte da opravite uređaj ako niste pročitali i razumeli ovo servisno uputstvo.</li> <li>• Zanemarivanje ovog upozorenja može dovesti do povređivanja serviser, rukovaoca ili pacijenta usled strujnog udara ili mehaničkih i drugih opasnosti.</li> </ul>
<p><b>UPOZORNENIE</b> (SK)</p>	<p>Tento návod na obsluhu je k dispozícii len v angličtine.</p> <ul style="list-style-type: none"> <li>• Ak zákazníkovi poskytovateľ služieb vyžaduje iný jazyk ako angličtinu, poskytnutie prekladateľských služieb je zodpovednosťou zákazníka.</li> <li>• Nepokúšajte sa o obsluhu zariadenia, kým si neprečítate návod na obsluhu a neporozumiete mu.</li> <li>• Zanedbanie tohto upozornenia môže spôsobiť zranenie poskytovateľa služieb, obsluhujúcej osoby alebo pacienta elektrickým prúdom, mechanické alebo iné ohrozenie.</li> </ul>
<p><b>ATENCION</b> (ES)</p>	<p>Este manual de servicio sólo existe en inglés.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• No se deberá dar servicio técnico al equipo, sin haber consultado y comprendido este manual de servicio.</li> <li>• 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.</li> </ul>

<b>VARNING (SV)</b>	<p>Den här servicehandboken finns bara tillgänglig på engelska.</p> <ul style="list-style-type: none"> <li>• Om en kunds servicetekniker har behov av ett annat språk än engelska, ansvarar kunden för att tillhandahålla översättningstjänster.</li> <li>• Försök inte utföra service på utrustningen om du inte har läst och förstår den här servicehandboken.</li> <li>• 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.</li> </ul>
<b>OPOZORILO (SL)</b>	<p>Ta servisni priročnik je na voljo samo v angleškem jeziku.</p> <ul style="list-style-type: none"> <li>• Če ponudnik storitve stranke potrebuje priročnik v drugem jeziku, mora stranka zagotoviti prevod.</li> <li>• Ne poskušajte servisirati opreme, ce tega priročnika niste v celoti prebrali in razumeli.</li> <li>• Če tega opozorila ne upoštevate, se lahko zaradi električnega udara, mehanskih ali drugih nevarnosti poškoduje ponudnik storitev, operater ali bolnik.</li> </ul>
<b>DİKKAT (TR)</b>	<p>Bu servis kılavuzunun sadece ingilizcesi mevcuttur.</p> <ul style="list-style-type: none"> <li>• Eğer müşteri teknisyeni bu kılavuza ingilizce dışında bir başka lisandan talep ederse, bunu tercüme ettirmek müşteriye düşer.</li> <li>• Servis kılavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz.</li> <li>• Bu uyarıya uyulmaması, elektrik, mekanik veya diğer tehlikelerden dolayı teknisyen, operatör veya hastanın yaralanmasına yol açabilir.</li> </ul>
<b>ПОПЕРЕДЖЕННЯ (UK)</b>	<p>Ця інструкція з експлуатації доступна лише англійською мовою.</p> <ul style="list-style-type: none"> <li>• Якщо виконавець замовника потребує інструкцію іншою мовою, надання послуг перекладу є відповідальністю замовника.</li> <li>• Не намагайтеся застосовувати обладнання, перш ніж ознайомитися та зрозуміти вміст інструкції з експлуатації.</li> <li>• Недотримання вимог цього попередження може призвести до травмування виконавця, оператора або пацієнта внаслідок ураження електричним струмом, отримання механічних травм та інших небезпек.</li> </ul>
<b>CẢNH BÁO (VI)</b>	<p>Hướng dẫn sử dụng dịch vụ này chỉ có sẵn bằng tiếng Anh.</p> <ul style="list-style-type: none"> <li>• Nếu nhà cung cấp dịch vụ của khách hàng yêu cầu ngôn ngữ khác không phải là tiếng Anh, thì khách hàng có trách nhiệm cung cấp dịch vụ dịch thuật.</li> <li>• Không cố bảo dưỡng thiết bị trừ khi bạn đã tham khảo và hiểu rõ hướng dẫn sử dụng dịch vụ này.</li> <li>• Nếu bạn bỏ qua cảnh báo này, thì nhà cung cấp dịch vụ, người vận hành hoặc bệnh nhân có thể bị điện giật, gặp phải mối nguy hiểm về cơ khí hoặc các mối nguy hại khác.</li> </ul>

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# ATTENTION!

Installation of this coil **MUST** be performed by a GE field engineer. Please contact your field engineer to arrange for installation.

Attempts to perform installation of this coil without proper system configuration can result in system errors.

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# 1 Overview

## Device Description

The 16ch Shoulder Coil is a receive-only phased array RF coil designed for optimum signal-to-noise ratio (SNR) and uniform coverage of the shoulder anatomy for use with GE Healthcare Magnetic Resonance Imaging (MRI) scanners. The coil receives magnetic resonance signals generated in hydrogen nuclei (protons) in the shoulder while blocking the high-frequency magnetic field applied by the MRI scanner at specified timings.


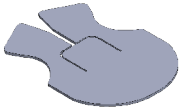

The received signals are amplified before being transferred to the MRI scanner through the coil's system cable. The amplified signals are processed into tomographic images of the shoulder anatomy by the MRI scanner.

Images are typically generated as axial, sagittal, coronal oblique slices and include coverage of the Humerus, Humeral Head, Labrum, Labral Tear, Glenoid, Scapula, Clavicle, and Rotator Cuff regions of the shoulder anatomy.

During a shoulder MRI exam, the patient lays in the supine position on the MRI scanner table. The rigid Posterior Array is positioned beneath the patient's affected shoulder. The flexible Anterior Array is positioned on top of the patient's affected shoulder. The 16ch Shoulder Posterior Housing Pad and 16ch Shoulder Pad provided with the coil promote patient comfort and facilitate patient positioning. Table Straps provided with the MRI scanner may be used to minimize unintended patient movement during the exam.

## Shipping Contents

**NOTE:** Items listed below are included with your original coil purchase. For replacement parts, refer to the *FRUs and Replacement Components* section of this manual.

No.	Item	Dimensions (cm) L x W x H	Weight (kg)
1	<b>16ch Shoulder Coil</b> 	112.2 cm x 28.2 cm x 18.2 cm	3.0 kg
2	<b>16ch Shoulder Posterior Housing Pad</b> 	37.4 cm x 28.0 cm x 0.6 cm	0.2 kg
3	<b>16ch Shoulder Pad</b> 	52.0 cm x 52.0 cm x 5.7 cm	0.6 kg

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## Related Documentation

- 16ch Shoulder Coil Instructions for Use (English), NeoCoil Part # NC143IFU-EN

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## Damage In Transportation

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

To file a report with GE:

- Call 1-800-548-3366 and use option 6.
- Contact your local Service Coordinator for more information on this process.

## Product Locator

Each serialized component is supplied with a product locator card (PLC). The number of PLCs for any given site will depend upon the MCAT that's been ordered. Make sure to submit the complete number of installation cards for each catalog.

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

**Method 1:** For **U.S. ONLY** at this time, the preferred method of submitting information is the FE. Site Verification website at: <http://gib.gehealthcare.com/gib/>

The FE Site Verification has two components available on the web from the main menu:

- Installation/deinstallation product locator model and serial numbers.
- Ability to add/modify the ship to address information.

**Method 2:** Once the "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 the installation card numbers before removing the installation card.
- Process just the installation card and discard any extra shipment cards and labels. (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.)



## Environmental Requirements

The Shoulder Coil shall be stored in a room that meets the temperature and humidity parameters listed below.

	Transport/Storage	Operating Conditions
Humidity	5% to 95% Non-condensing	10% to 90% Non-condensing
Temperature	-40° C to 70° C -40° F to 158° F	15° C to 21° C 59° F to 69.8° F
Atmospheric Pressure	50 kPa - 106 kPa	

The pads for the Shoulder Coil shall be stored in a room that meets the temperature and humidity parameters listed below.










	Transport/Storage	Operating Conditions
Humidity	5% to 95% Non-condensing	10% to 90% Non-condensing
Temperature	-40° C to 55° C -40° F to 131° F	15° C to 21° C 59° F to 69.8° F
Atmospheric Pressure	50 kPa - 106 kPa	

## Coil Specifications






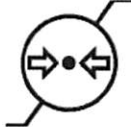




Item	Dimensions (cm) L x W x H	Weight (kg)
16ch Shoulder Coil	112.2 cm x 28.2 cm x 18.2 cm	3.0 kg
16ch Shoulder Posterior Housing Pad	37.4 cm x 28.0 cm x 0.6 cm	0.2 kg
16ch Shoulder Pad	52.0 cm x 52.0 cm x 5.7 cm	0.6 kg

## Use of Symbols



Coil users should understand the following symbols used for caution and warning explanations:

Symbol	Description
	<b>CAUTION:</b> Indicates a hazard that may cause a minor injury or equipment damage.
	<b>WARNING:</b> Indicates a hazard that may cause serious injury.
	Accessory for an MRI scanner to specifically and directly assist the medical functionality of the MRI scanner in terms of its intended purpose.
	Do not loop coil cable.
	Dipose of RF coil properly.
	Manufacturer
	Date of manufacture
	Batch code
	Catalogue number

## Use of Symbols (continued)

Symbol	Meaning
	Serial number
	Consult Instructions for Use
	Instructions for Use are available in an electronic format.
	Temperature limit
	Humidity limitation
	Atmospheric pressure limitation
	Receive only RF coil
	CE Marking of Conformity
	Authorized representative in the European Community
	ETL Recognized Component (Canada and U.S.)

## Coil Classification

Symbol	Classification & Ratings
	<b>Class II equipment</b> Coil is Class II equipment in accordance with the international safety standard IEC 60601-1.
	<b>Type BF applied</b> Coil is type BF applied parts, complying with the specified requirements of the international safety standard IEC 60601-1.

This equipment is acceptable for Continuous Operation, having ordinary protection against ingress of liquids or fluids (IPX0).

All components of this system are considered non-sterile and are not for use in the presence of flammable anesthetics.

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## Coil Care



**WARNING:** Electric shock may occur if the coil is attached to the system during cleaning or when it is still wet. Detach cable from the scanner before attempting to clean. Do not touch connectors with bare fingers. Never press sharp objects against connector surface. Do not reattach connector after cleaning until the coil has dried completely.



**CAUTION:** Do not spray or pour cleaning solution directly onto the coil. Do not submerge any of the parts in the solution. Parts of the equipment contain sensitive electronic components that may be damaged by the solution. Under no circumstances should the coil be placed into any type of sterilizer. All parts should be cleaned only according to the procedure described below.

Thoroughly clean the coil and accessories using the following procedure:

- Wipe with a cloth that has been dampened in a solution of 10% bleach and 90% tap water or 30% isopropyl alcohol and 70% tap water.
- Let the surfaces dry before use.



**WARNING:** Do not clean coil while it is in use with a patient or connected to the MRI scanner.

After cleaning, visually inspect the following to ensure that the coil and its accessories remain safe and effective:

- surfaces of the coil and accessories are dry.
- soil and contaminants have been removed.

Should any part of the coil need to be returned for service, wipe it down with a 10% bleach solution (as described above) to minimize risk of exposure to potentially infectious agents.

Store the Shoulder Coil in an air conditioned scan or equipment room that meets the temperature and humidity parameters listed under “Environmental Requirements”. Do not store other coils on top of the Shoulder Coil.

Perform maintenance and inspection according to your site’s protocols.

# 2 Installation

Installation and configuration must be performed by your service representative. No calibrations are required upon installation or replacement of the 16ch Shoulder Coil by a field service engineer.

## Multi-Coil Quality Assurance (MCQA)

### MCQA requirements

Required Persons	Preliminary Requirements	Procedure	Finalization
1	0 minutes	20 minutes	0 minutes

### MCQA setup

**NOTE:** The device system cable must be routed away from the bore wall.

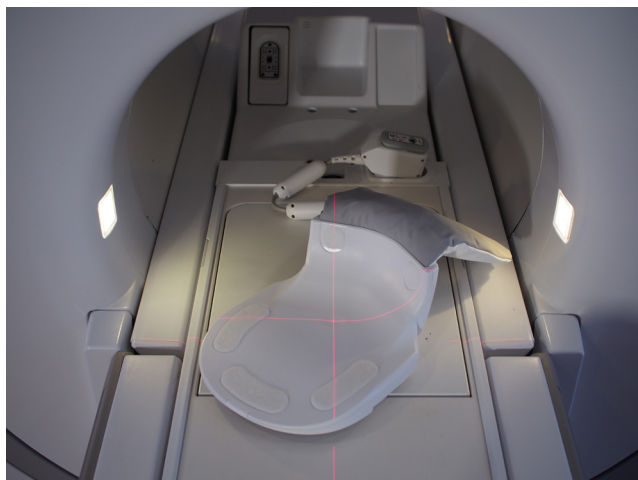
**NOTE:** Any other removable surface coils and pads must be removed from the table.



**CAUTION:** All RF coil-related tests must be run on a well-calibrated MRI scanner that has passed all system tests, particularly white pixel and correlated noise.

### MCQA test procedure

1. Place the 16ch Shoulder Coil on the MRI scanner table as shown in Figure 1.



**Figure 1:** 16ch Shoulder Coil setup

2. Plug the 16ch Shoulder Coil into port P2 of the MRI scanner.
3. Place the Head TLT SiOil Phantom (GEHC PN# 2359877) on the divot of the patient contacting surface of the Posterior Array and place the flexible Anterior Array on top of the phantom as shown in Figure 2.

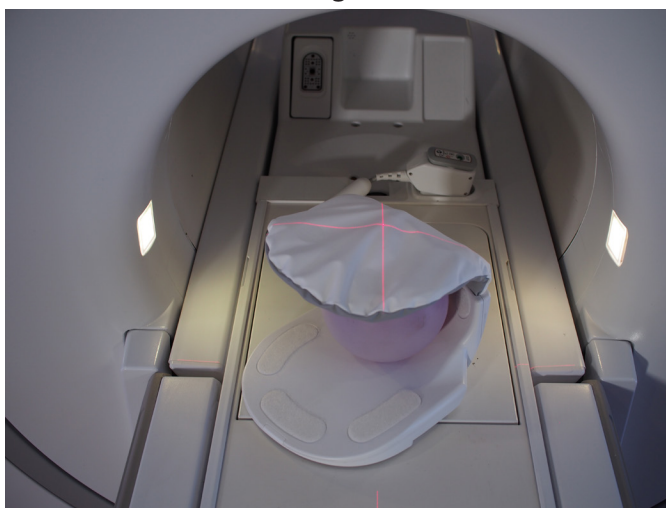


**Figure 2:** Phantom setup



**CAUTION:** To prevent inaccurate results, the 16ch Shoulder Coil's system cable must be routed away from the bore wall.

4. Position the 16ch Shoulder Coil on the MRI scanner table such that MRI scanner landmark aligns with the coil's landmark lines as shown in Figure 3.



**Figure 3:** Landmark alignment



5. Route the 16ch Shoulder Coil system cable down the edge of the MRI scanner table; do not loop the coil's system cable.

**NOTE:** Improper routing of the coil's system cable could result in inaccurate results.

6. From the MR Service desktop window, Image quality tab, launch the Multi-Coil QA Tool.
7. In the Multi-Coil QA Tool:
  - a. Populate the required fields, such as Coil Serial #.
  - b. Press start.
  - c. Wait for the test to complete.
8. Confirm MCQA test status; refer to Figure 4.

**NOTE:** Values shown in Figure 4 are for reference only and may not match the actual values observed.

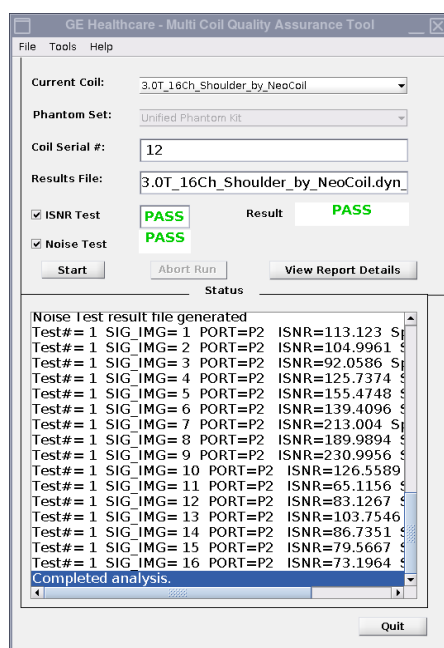


Figure 4: Example MCQA user interface

9. If PASS is displayed, all coil elements are functioning properly.
10. If FAIL is displayed, or if any issues were encountered with the 16ch Shoulder Coil while performing MCQA, discontinue use of the coil and contact your service representative.

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# 3 Replacement Parts

## FRUs and Replacement Components

For U.S. and Canada, replacement parts marked with a star (\*) are available through NeoCoil at Tel: 1.888.MRI.COIL (674-2645), Email: [contactus@neocoil.com](mailto:contactus@neocoil.com) or the Web: [www.neocoil.com](http://www.neocoil.com).

Outside of the U.S. and Canada and for all other parts contact your GEHC.

Description	NeoCoil Part #	GE Part #
3.0T 16ch Shoulder Coil	NC143002	5849000-2
Pad Kit Includes: <ul style="list-style-type: none"><li>• 16ch Shoulder Posterior Housing Pad</li><li>• 16ch Shoulder Pad</li></ul>	NC143005	5849000-7
GE Replacement Straps ( <i>available only from GE</i> ) <ul style="list-style-type: none"><li>• 14" W x 46" Long (Gray) - Accessory Order # E8802MC</li><li>• 6" W x 46" Long (Gray) - Accessory Order # E8802MD</li></ul>	N/A	46-306594P1 46-306593P1
SiOil Spherical Phantom	N/A	2359877

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## Disposal of Components



When any part of this product is to be disposed of, it is necessary to consider the possible impact on the environment and to observe all applicable laws. Consult your GE service representative for instructions concerning proper disposal.

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# 4 Troubleshooting

## General Notes

When encountering a problem with the Shoulder Coil, attempt these troubleshooting tips.

Problem	Possible Cause	Solution
Unable to Scan with Coil	Other coils are plugged in	Unplug all other surface coils from the scanner.
Bias Fault	Bent pin	Visually inspect the system cable for a bent pin. If there is a bent pin, return the coil for service.
Coil Not Recognized by Scanner	Bent pin	Visually inspect the system cable for a bent pin. If there is a bent pin, return the coil for service.

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# 5 Contact Information

## **GE Healthcare Americas**

USA 800-558-5102

Canada 800-668-0732

**GE Healthcare Europe** (33) 1-41-19-76-76

## **GE Healthcare Asia/Australia**

China 86-21-62192228

Taiwan 886-2-2505-7900

Singapore 65-291-8528

Australia 61-2-9975-5501

Japan 81-120-48-2630

Korea 82-31-740-6119

India 91-80-845-2923

**GE Healthcare Website** [www.gehealthcare.com](http://www.gehealthcare.com)

**NeoCoil, LLC** 1-888-674-2645

**NeoCoil Website** [www.neocoil.com](http://www.neocoil.com)

## **Manufacturer's name and address**

NeoCoil, LLC

N27 W23910A Paul Rd.

Pewaukee, WI 53072 USA