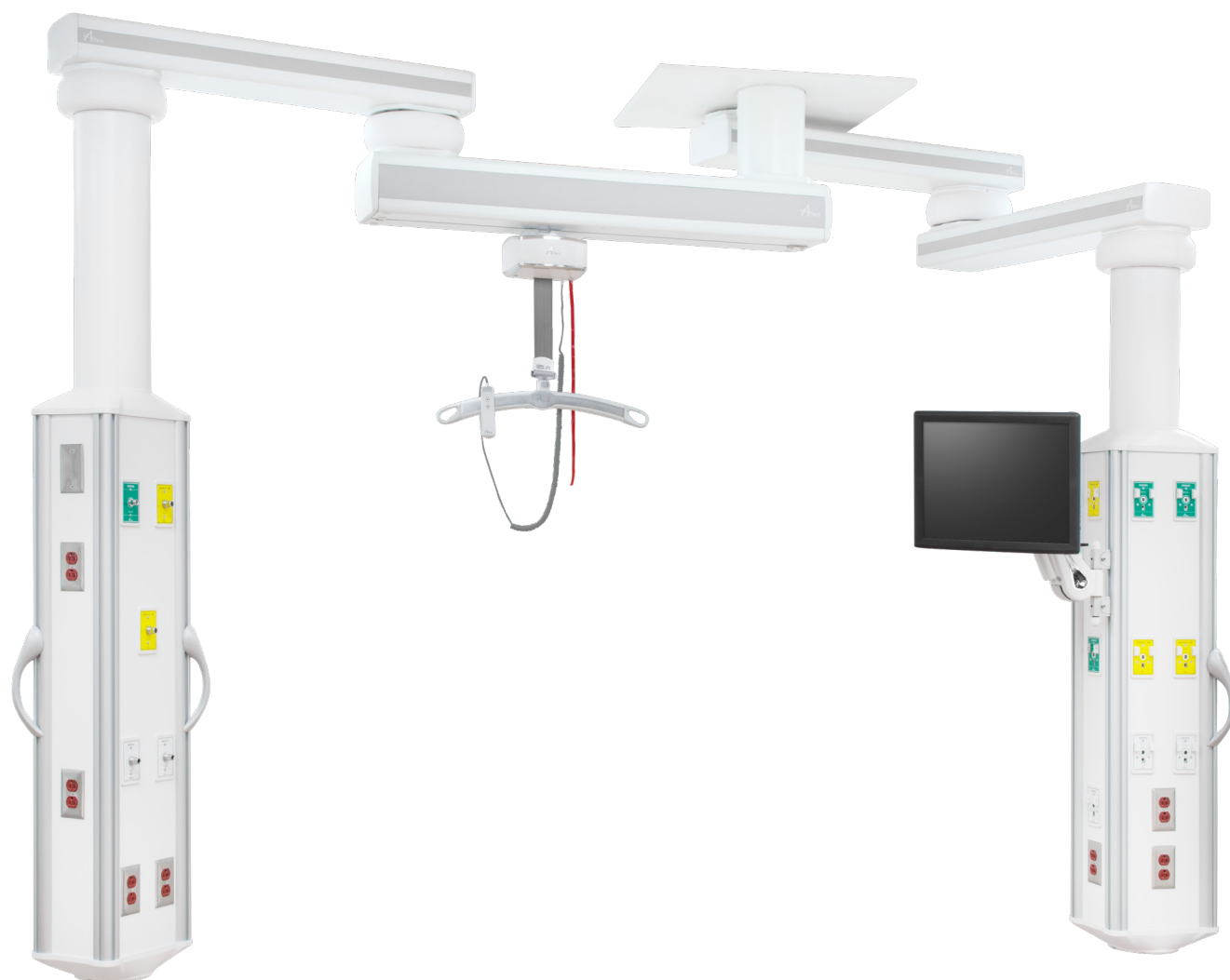


# Installation and Operation Instructions

## ice Series Boom & Patient Lift Pendant (PLP) System



Amico

# Contents

<b>Introduction</b>	<b>3-5</b>
Symbols Used in this Manual	4
Markings	4
Amico Booms - Patient Lift Pendant (PLP), OR, and iCE Series Equipment Storage, Shipping, and Operating Environment	5
<b>Patient Lift Pendant (PLP) System</b>	<b>6-8</b>
Operation of the Arm	7
Moving the Arm	8
How the Brakes Operate	8
Precautions When Repositioning the Arm	8
<b>Maintenance of the Service Console</b>	<b>9-10</b>
Medical Gas Outlets	9
NFPA-99 (2005)	10
CSA – 9170 - 1	10
Electrical Outlets	10
<b>Maintenance of the Arm</b>	<b>11-27</b>
Anchor Plate	11
Ceiling Bearing Flange	11
Mounting Bolts	12
End Caps	13
Arms	14
Electric Brake System	14-15
Replacing the Electric Brake Handle	16-22
Replacing the Ribbon Cable	18-21
Brake Pad Inspection	22-23
Replacing the Adaptor/Console Brake Shoe	24
Replacing the Ceiling Brake Shoe	24-25
Adjusting Brake Shoe (Adapter/Console/Ceiling)	25-26
Replacing the Ceiling Solenoid	26
<b>Adapter and Console</b>	<b>27-29</b>
Adapter and Console	27
Rotational Limiters	27
Interior Hoses and Cabling	28
Cleaning and Disinfection	28
Recommended Cleaning Agents	28
Troubleshooting	28
<b>Guidance and Manufacturer's Declaration – Electromagnetic Emissions</b>	<b>30-32</b>
Electromagnetic Compliance Data for Amico Boom and Pendant	30-32
Recommended Separation Distances Between Portable and Mobile RF Communications Equipment and the Equipment or System	32
Disposal	32
<b>Warranty Policy - Booms/Pendants</b>	<b>33</b>

# Introduction

Thank you for choosing the Amico iCE Series Boom or Patient Lift Pendant (PLP) System.

The Amico Clinical Solutions (ACS) Booms and PLP Systems are hospital grade medical pendants, intended for use in a non-classified (non-hazardous) indoor location, and permanently mounted to the building structure.

## Essential Performance

The iCE Boom provides convenient connection to electrical power through medical grade outlets, medical-grade gases like medical air, oxygen, etc., and vacuum to other equipment (mountable on the aluminum channels provided on the four edges of the console using adapter brackets), when connected to appropriate sources generally available in hospitals. Essential performance is checked/tested following the tests specified by ISO 7396-1:2007.

## Intended User Profile

- Amico Booms are intended to be used by trained medical practitioners in operating rooms, procedure rooms, emergency departments, and intensive care units.
- The user must be able to read the words in the mylar control and wall control to operate the Boom and Pendant.
- The user must be able to understand the Instructions for Use manual and the training provided by Amico sales staff (or other designated personnel).
- User has to be able to position the Amico Pendant by pressing the appropriate button on the handle.

## Intended Use

- To provide the facility with convenient connection to electrical power (through medical grade outlets), medical gases and other equipment mounted on the shelves.

## Patient Population





- a. Age: newborn, bariatric, and geriatric
- b. Weight: not relevant
- c. Health: not relevant
- d. Nationality: multiple
- e. Patient state: patient is not a user

## Application

- a. Environment: the Amico Boom is intended to be used in the operating rooms, procedure rooms, emergency departments, and intensive care units.
- b. Physical: see Environmental Conditions section.
- c. Frequency of use: several times a day.
- d. Mobility: central Axis is fixed to the supporting structure but the extension arm and spring arm can be move so as to position the surgical light to illuminate the operating field.
- e. Training: training provided by Amico sales staff (or other designated personnel) via hands-on demonstration of the equipment along with the Instructions for Use. There are no known contradictions associated with the use of the Amico Series Boom and Pendant and its accessories provided they are used per our recommendations and guidelines.

# Introduction

## Symbols Used in this Manual

Symbol	Reference	Title
	ISO 7000-0434A	Caution - Risk of danger
	TUV	Certified by TUV
	ISO-7010-M002	Refer to instruction manual/booklet
	CE	Certification of Conformity



**WARNING:** Failure to adhere to these instructions may result in damages to equipment or injury to users.

## Markings

The Amico Boom and Pendants are designed to comply with the following standards:

Standard(s):	EMC to IEC 60601-1-2 4 <sup>th</sup> edition EN 60601-1:2006/A1:2013 EN ISO14971:2012 EN ISO 11197:2016 CAN/CSA-C22.2 No. 60601-1:2014:03 ANSI/AAMI ES60601-1:2005/A1:2012
Product:	Amico Series Boom and Pendant
Brand Name:	Amico
Models:	LP, PLP



## WARNINGS

- Do not use this equipment prior to understanding the contents of this manual. Keep this manual for future reference.
- To avoid the risk of electric shock, this equipment must only be connected to supply mains with protective earth.
- Do not modify this equipment without authorization from ACS.
- Only connect accessories that are compatible with the Amico Boom and Pendant System.
- Connecting equipment to the Multiple Socket-Outlet (MSO) effectively leads to creating a Medical Equipment (ME) System and the result can be a reduced level of safety.
- Only personnel that have been trained by ACS may perform installation of this product.
- Maximum rating of fuses (breaker) used in supply mains is 20 A.
- To terminate the operation of the equipment, turn off the breaker at the panel.
- Do not locate an additional multiple socket item when provided as a separate item on the floor.
- Do not connect additional MSO or extension cords to the Boom and Pendant.
- Operator should not touch part mains and the patient simultaneously.

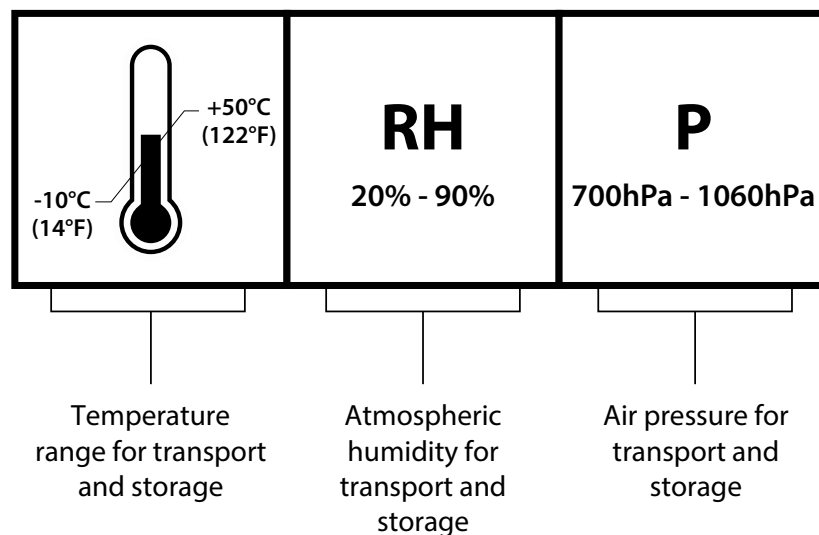
# Introduction

## Amico Booms - Patient Lift Pendant (PLP), OR, and iCE Series Equipment Storage, Shipping, and Operating Environment

Operation		
	Minimum	Maximum
Temperature	+10°C	+30°C
Relative Atmospheric Humidity	30%	75%
Air Pressure	700 hPa	1060 hPa

Amico Equipment is designed to withstand the elements during its life installed in a controlled hospital environment. During storage, however, the environmental conditions can vary due to transportation and storage locations. Below are a set of rules that must be followed to prevent damage to the product and maximize product life:

1. Amico product must **NOT** be stored in a damp or wet environment with no protection against the elements.  
**The Warranty will be void if these rules are not followed.**
2. Always ensure the packaging is not damaged when storing product for long term. Patch the packaging (bubble wrap, shrink wrap) if punctured.
3. Storage/Transport conditions with length of period less than 1 month are as follows:
  - a. Temperature = +10°C to +40°C
  - b. Relative Humidity = 20% to 90%



# Patient Lift Pendant (PLP) System



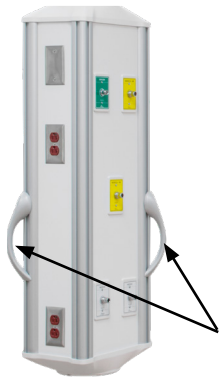
Amico offers a PLP option that integrates Booms, Pendants and Safe Patient Handling into one comprehensive system. The unique design frees up ceiling space for proper pendant placement, and medical lighting. This system can safely lift up to 1000 lbs (454 kg).

The PLP integrates equipment rails positioned on the Boom and Pendant consoles. The end user is also able to choose from a wide range of accessories to enhance their pendant system.



# Patient Lift Pendant (PLP) System

## Operation of the Arm



Electric Brake Handles

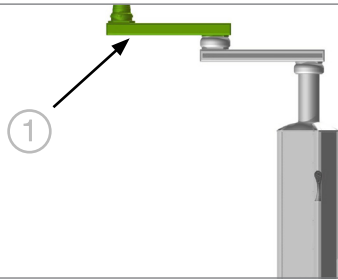
### Moving the Arm:

1. To begin moving Amico's Boom arm, locate the electric brake handle that is mounted on the service console.
2. Press and hold button to move the boom.
3. The green LED light on the handle will illuminate to indicate you have successfully released the brake.

### Button One



### First Arm

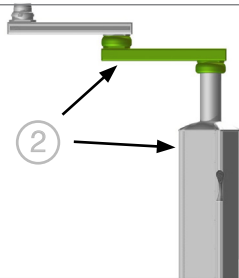


Press and hold Button One (1) to release the First Arm of the Boom.

### Button Two



### Second Arm & Console

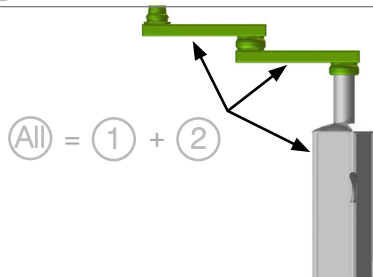


Press and hold Button Two (2) to release the Second Arm of the Boom AND the Console.

### Button All (All)



### All Arms & Console



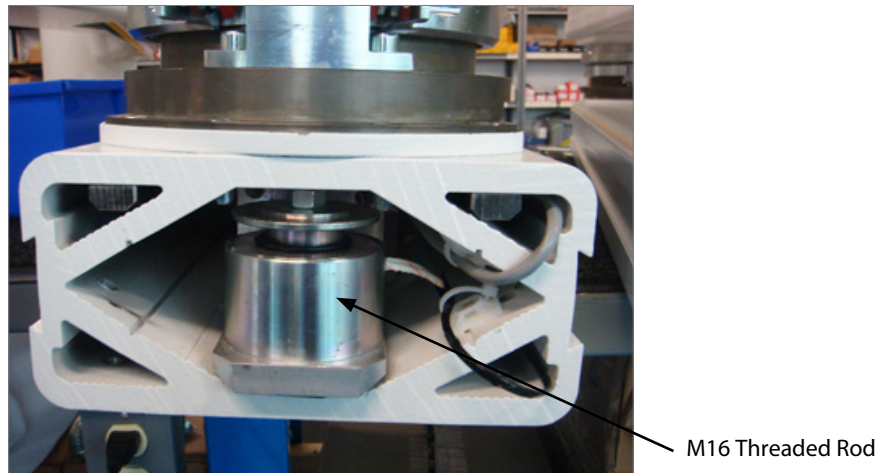
Press and hold Button All (All) to release all Arms controlled by Buttons One (1) and Two (2) and the Console.



# Patient Lift Pendant (PLP) System

## How the Brakes Operate

Amico Booms have one (1) solenoid mounted at each bearing. The solenoid disengages and re-engages the braking mechanism. When the arm is stationary with no buttons activated, the brake remains fully engaged. This prevents accidental repositioning of the console and arms.



Boom with Solenoid Mounted at Each Bearing

In dual arm systems, in order to reposition the first arm, press and hold the "One (1)" button as indicated on the handle. A green LED light will then illuminate to indicate that the ceiling bearing brake has been released. When pressing the "Two (2)" button, the adapter bearing and service console bearing brakes will be released. To move "All" of the arm(s) and the service console, depress the 'All' button. This will allow the full system to be positioned freely.

## Precautions When Repositioning the Arm

### **WARNING:**

1. Prior to moving the Boom, ensure ALL equipment is secured.
2. Be sure all obstacles are removed out of the path before moving the arm.

It is important to remember that even when the brake handle buttons are activated, once the unit has reached its maximum rotation, it will not move any further in that particular direction.

In the event of an emergency, the arms may be manually pushed out of the way without the requirement of pressing the brake release button.

### **WARNING:**

Amico highly recommends manual maneuvering of the arm is only done in the event of an emergency, as pushing the arms without releasing the brake will cause undue stress on the braking system.

**NOTE:** Do not conduct any maintenance/service of parts while the equipment is in use with a patient.



# Maintenance of the Service Console

## Medical Gas Outlets

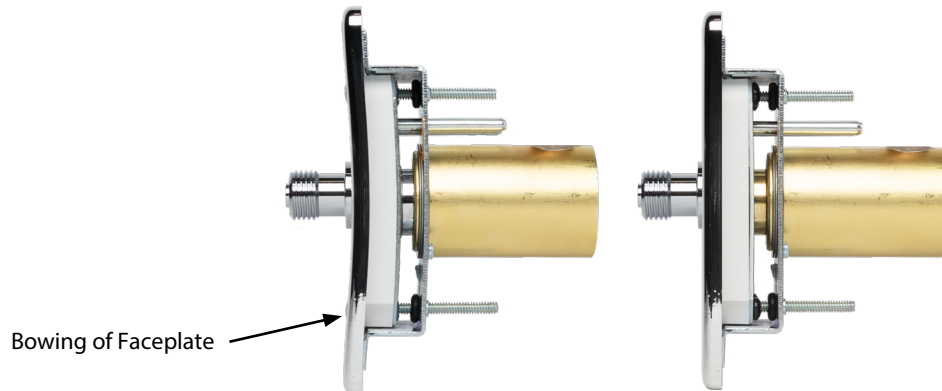
The medical gas outlets should be inspected periodically (at least once per year). The gas valve assemblies should be examined to ensure proper operation (ease of inserting a gas fitting or locking).



Medical Gas Outlet

Check for leaks with or without the adapter inserted. If the gas outlet is leaking, first determine whether the screws on the gas outlet face plate have been over-tightened (indicated by the “bowing” of the face plate).

Second, examine the tightness of the hose fitting to determine whether a loose hose fitting is the cause of the leak.



Outlet Faceplate Inspection

### **WARNING:**

Please ensure the gas adapter is inserted into the correct medical gas outlet and is sealed at all times. If the problem persists, replace the gas outlet immediately.

# Maintenance of the Service Console

Proper flow of the gas valve should be tested annually against the following standards:

## NFPA-99 (2005)

Types of Gases Flow Rate	Flow Rate (SCFM)	Static Pressure (PSI)	Max Allowable Pressure Drop (PSI)
Medical Gases	3.5	50 - 55	5.0
Support Gases	5.0	160 - 185	5.0
Vacuum	3.0	9.9	4.1

## CSA-9170-1

Types of Gases		Test Pressure (kPa)	Test Flow (L/min)	Max Allowable Pressure Drop (kPa)
Medical Gases	Low Flow	320 (46.4 PSI)	40 (1.41 SCFM)	15 (2.18 PSI)
	High Flow	320 (46.4 PSI)	350 (12.35 SCFM)	70 (10.15 PSI)
Support Gases		560 (81.2 PSI)	350 (12.35 SCFM)	15 (2.18 PSI)
		5.8 (40 kPa)	25 (0.8825 SCFM)	70 (10.15 PSI)

The following tests must be carried out on the flexible hoses per ISO 7396-1:2007.

- Test for leakage, test for obstruction, test for particulate contamination.
- Test for flow and pressure drop, and test for cross connection, and test of gas identify.

All hose assemblies comply with ISO 5359:2014.

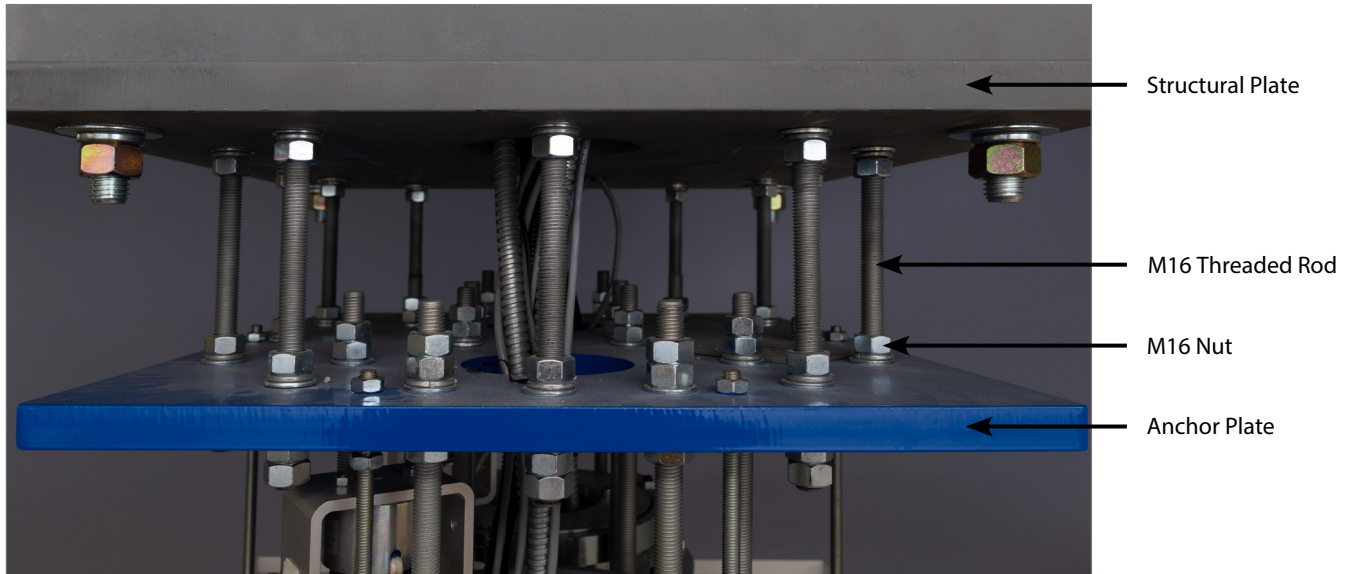
## Electrical Outlets

The electrical outlets should be inspected annually for voltage drop when maximum current load is applied. A drop in voltage can indicate a problem with the wiring system inside the arm. As a result, more serious problems may follow.

# Maintenance of the Arm

## Anchor Plate

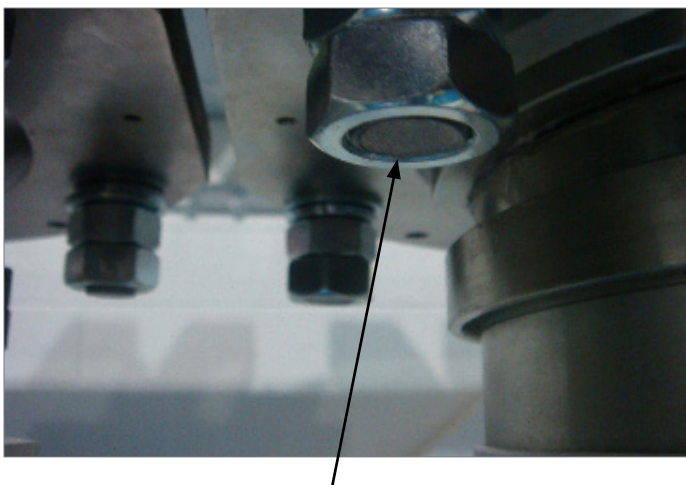
The M16 nuts and the M16 threaded rods that secure the anchor plate to the structural plate should be checked annually. The M16 nuts holding the gas riser to the ceiling structure should be snug and the lock washers compressed.



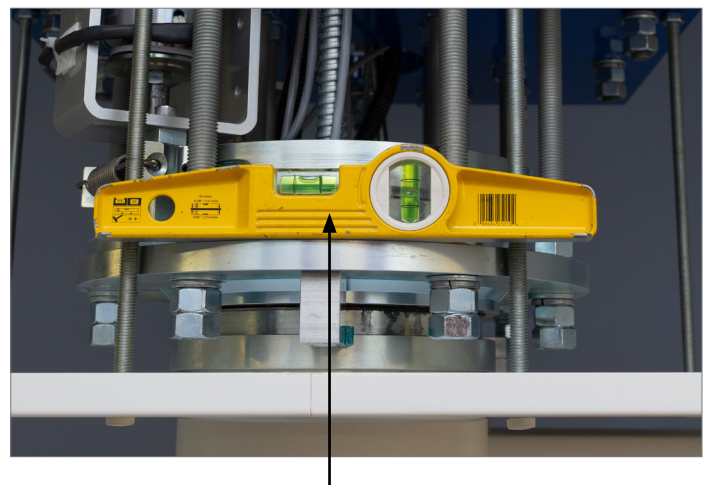
M16 Nut Securing Anchor Plate to Structural Plate

## Ceiling Bearing Flange

The M16 nuts and the M16 rods that secure the ceiling bearing flange to the anchor plate should be checked annually. The M16 nuts holding the ceiling bearing flange to the ceiling structure should be snug and the lock washers compressed. Amico also recommends systematic checking of the ceiling bearing flange to ensure the bearing is leveled, especially if the arm drifts on its own with the bearings unlocked.



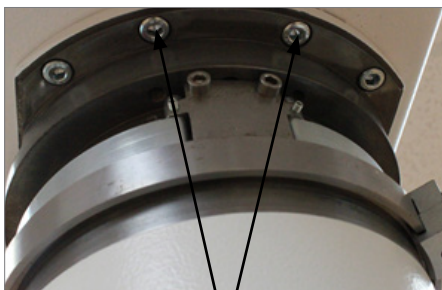
M16 Nut  
Check M16 Nuts Connection



Ceiling Bearing Flange  
Check Level of Ceiling Bearing Flange

# Maintenance of the Arm

## Mounting Bolts

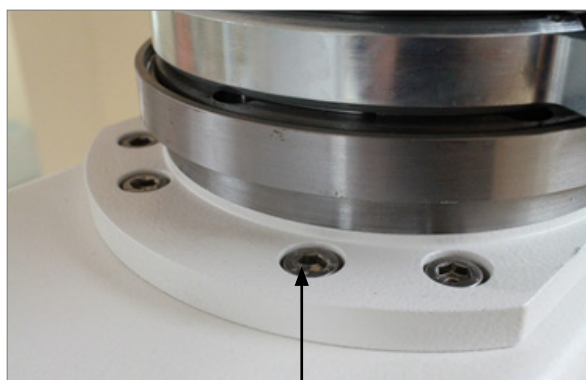


M8 Allen Bolts



Screws  
The Screws Connecting the Service  
Console to Drop Tube

Check all bolts in the adapter bearing holding the top and bottom arm.



Bolts Securing Bearing to Arm

To inspect for damages of the drop tube and the console, lift the console top cover upward by removing the nut from the threaded rods on the inside of the console. This method of inspection also ensures any gaps between the console flange and console top are eliminated. Should a gap occur, please ensure the screws mounting the console top to the console flange are fully tightened.

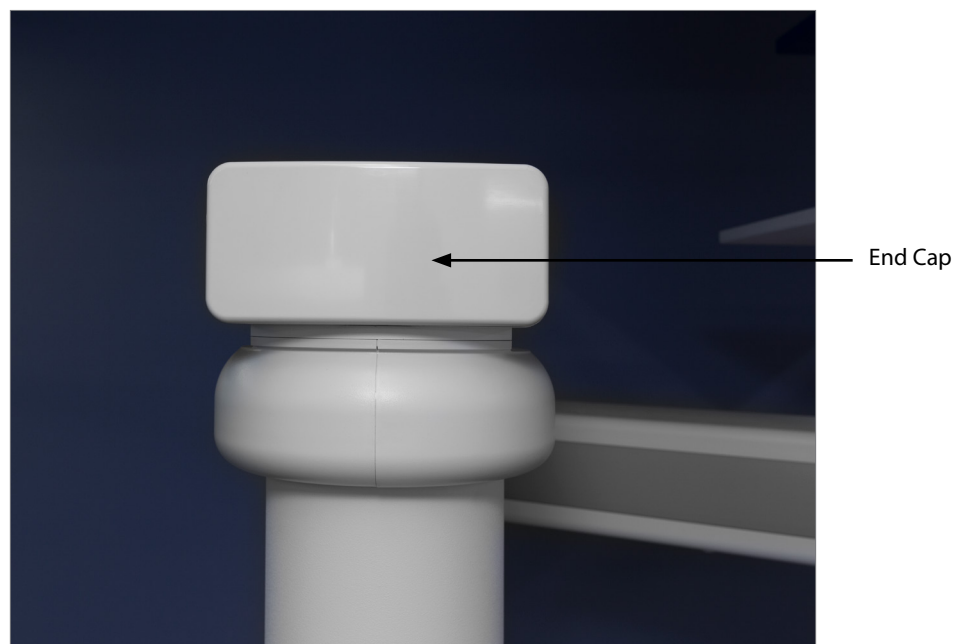
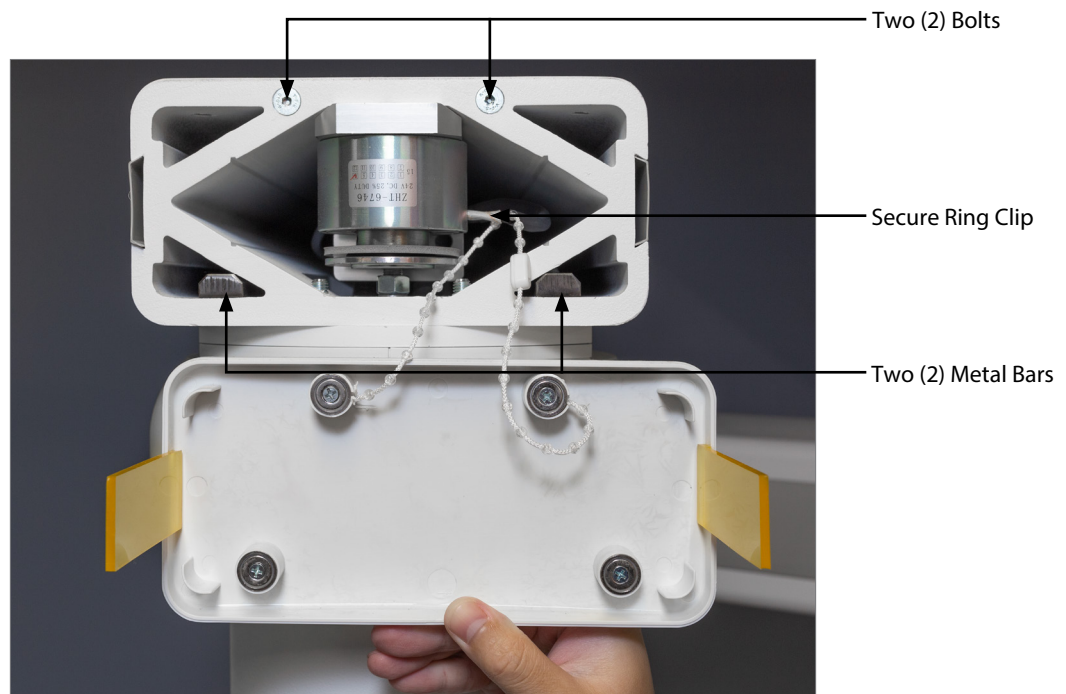


Checking for Gaps Between the Console Flange

# Maintenance of the Arm

## End Caps

Attach one (1) end cap to one side of the arm and the other end cap to the other side of the arm. There are four (4) magnets inside the end cap. Ensure the magnets align with the two (2) bolts and the two (2) metal bars installed at each end of the arm. Additionally, a secure ring clip should also be placed around one of the gas hoses.



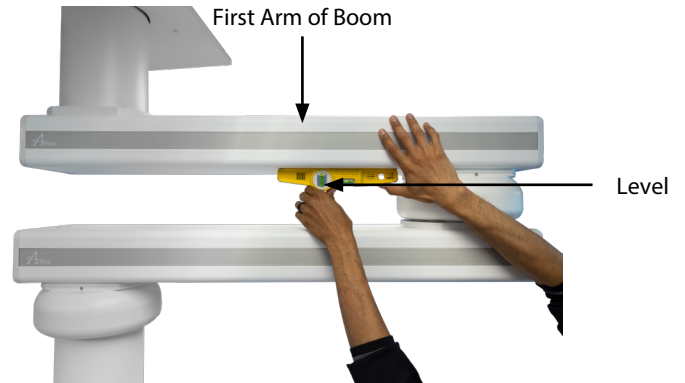
Boom Arm with the End Cap Attached



# Maintenance of the Arm

## Arms

The bearings of the arms and service console should be checked annually for movement when the brake is activated. The arm should also be checked to ensure it is level.



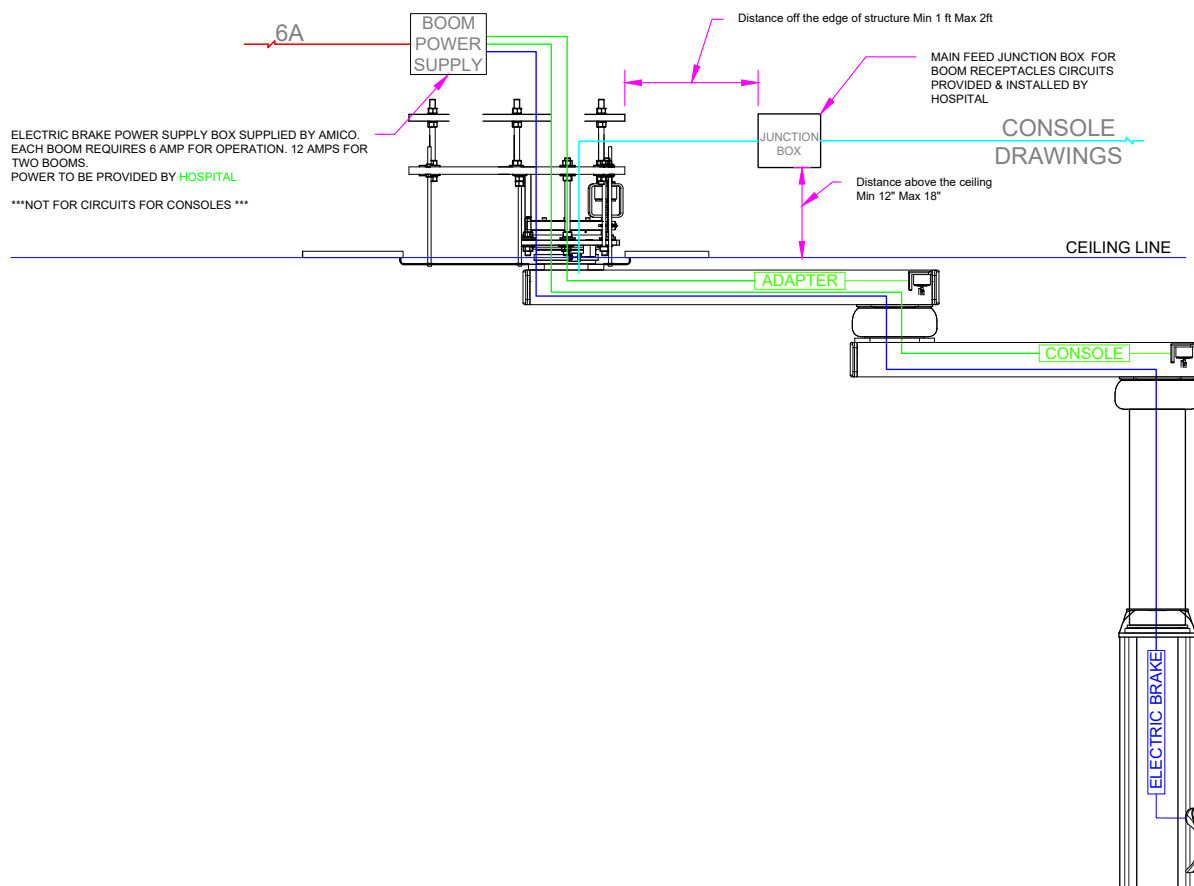
Ensure the first Arm is leveled

## Electric Brake System

Inspection for the wiring or the electric brake must be made on an annual basis to ensure proper connection. Systematic inspection of the electric brake will also reduce the potential of a short circuit to the system.

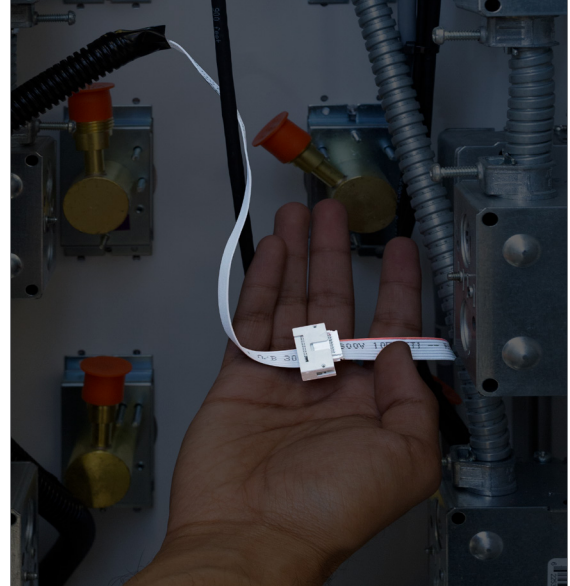
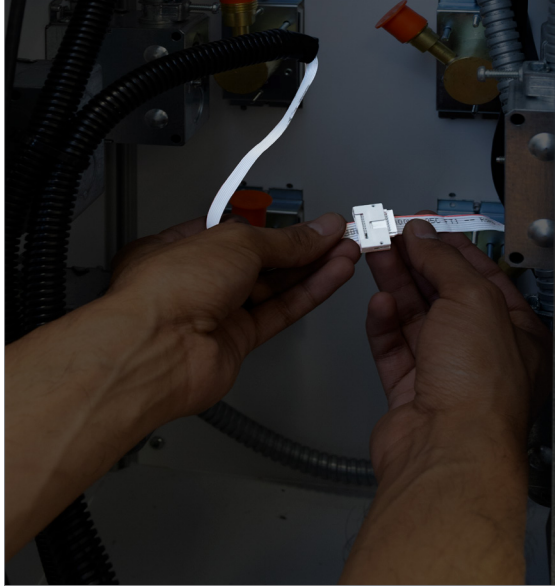


Connect PE from junction box to the welded stud in the power supply box.



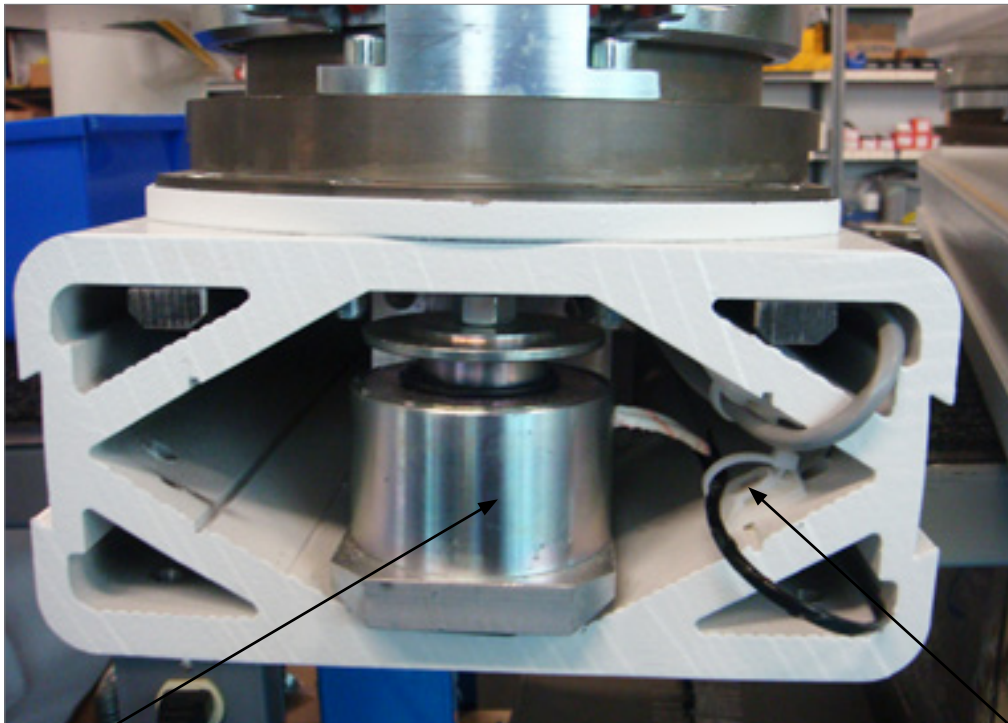
# Maintenance of the Arm

The electric brake system should be checked annually for proper electrical connection. This should be completed both above the ceiling and inside the console to reduce the occurrences of potential damages to the electrical wiring.



Zip Tie Fastening Connection

The solenoids at each bearing location will need to be inspected for any damages and to ensure whether proper electrical connection has been established.



Electric Brake Solenoid

Electric Brake Solenoid Inspection

Electric Connection



# Maintenance of the Arm

## Replacing the Electric Brake Handle

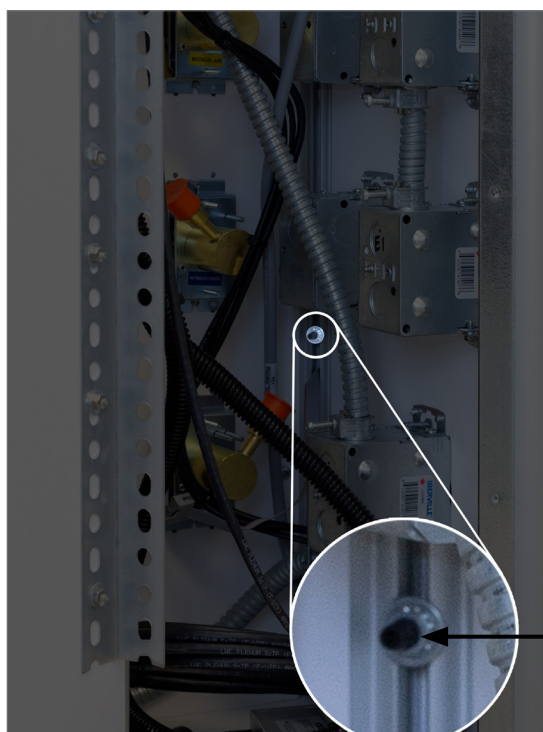
To begin the electric brake handle replacement, please follow the steps below:

1. Open the back door panel of the service console.



Back Door Panel of  
Service Console

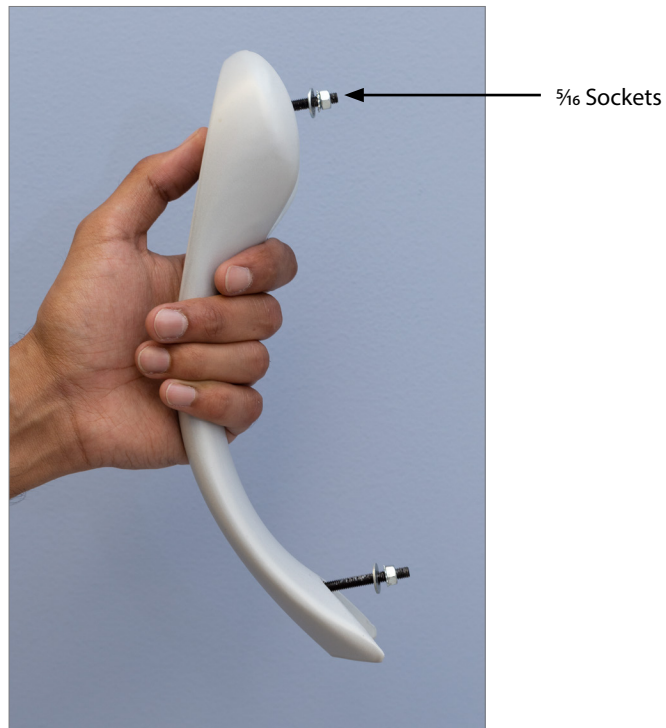
2. Locate the nuts located on console extrusion.



Nut

# Maintenance of the Arm

3. Using  $\frac{5}{16}$  sockets, remove the two (2) nuts that are holding the assembly.



4. Pull the handle assembly out and disconnect the ribbon cable assembly from the mylar.



# Maintenance of the Arm

5. Locate the replacement handle.

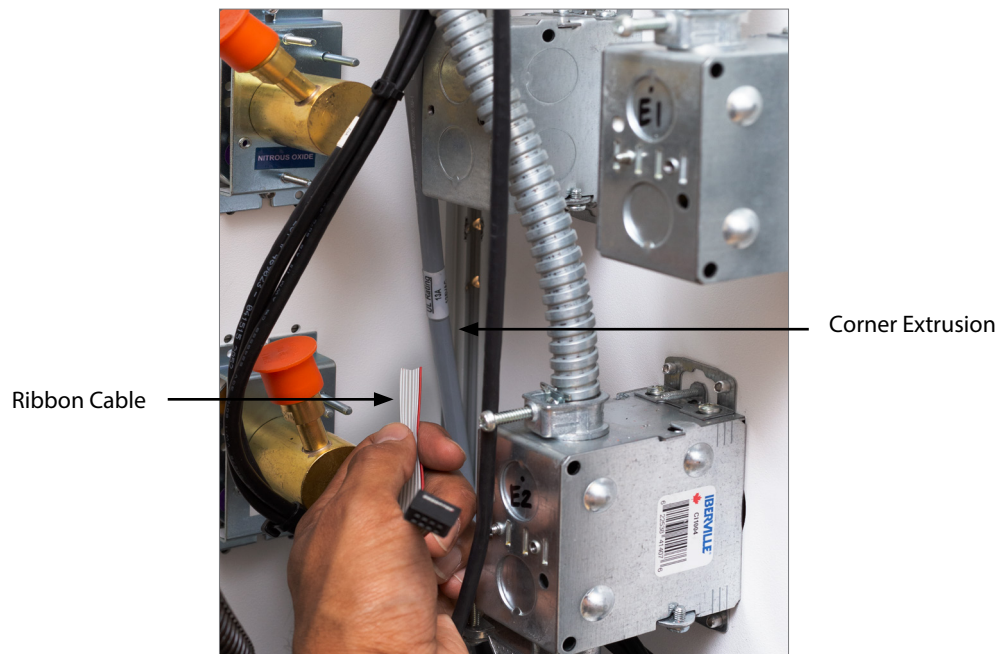
## Replacing the Ribbon Cable:

To begin replacing the ribbon cable, please follow the steps below:

- a. Cut the ribbon cable.



- b. Pull the ribbon cable out of the corner extrusion.

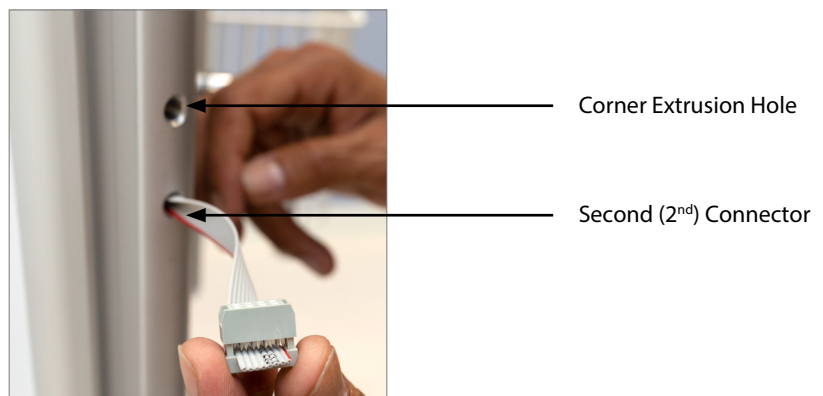


# Maintenance of the Arm

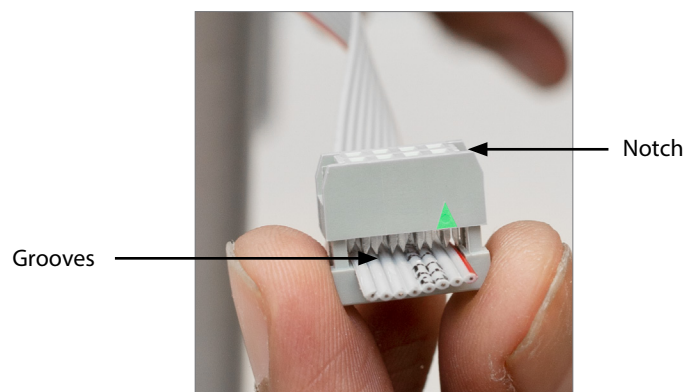
- c. Locate the spare ribbon cable and connector assembly. Clean with Acetone.



- d. Take the ribbon cable and pull it through the corner extrusion hole.  
e. Once through, the next step is to crimp the second (2<sup>nd</sup>) connector onto the ribbon cable.

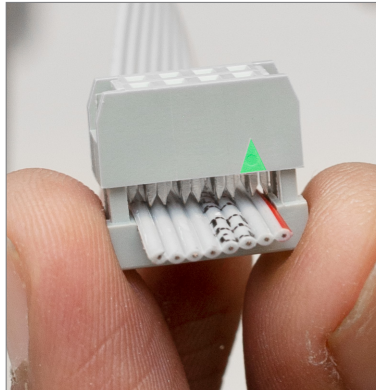


- f. To ensure proper crimping, locate the notch.



# Maintenance of the Arm

- g. Align the notch with the red/pink segment of the cable.



- h. Using a crimping tool, squeeze the two (2) halves while ensuring ribbon cables are seeded in the grooves of the connector.



- i. Reconnect the new handle ribbon cable to the main ribbon cable. Check to ensure solenoid actuation by pressing all three (3) buttons one after another.



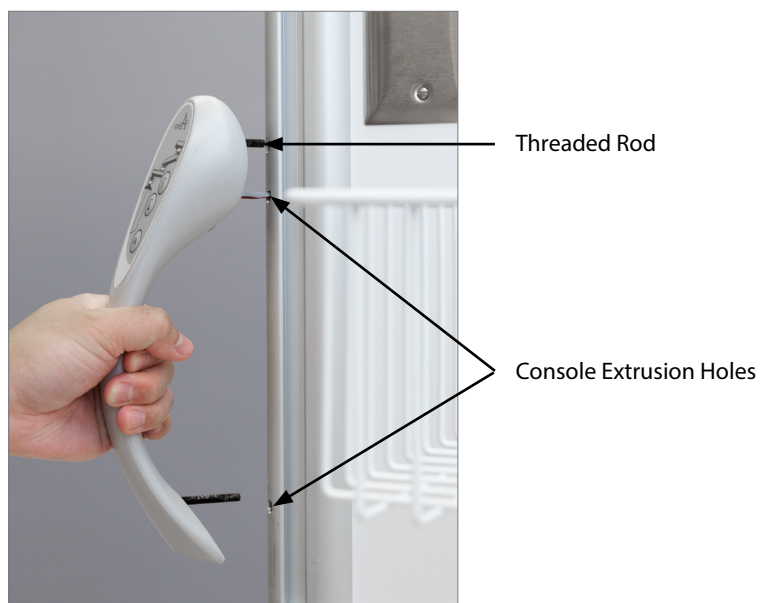


# Maintenance of the Arm

- j. Re-fasten the handle using steps 1 to 5 in reverse and close the back door upon completion.



6. Replace the electric brake handle into the console extrusion. Ensure the threaded rods are inserted through the respected holes.



# Maintenance of the Arm

7. Using the flat washer and nylon nut, fasten the handle onto the console extrusion.



8. Test to ensure full functionality.
9. Close the service console upon completion.

## Brake Pad Inspection

At each bearing location, the brake shoes must be disassembled to inspect the brake pad for any signs of damages.

**Steps to disassemble the brake shoes are as follows:**

1. Remove the bearing cover.
  - a. Remove the two (2) M3 screws.



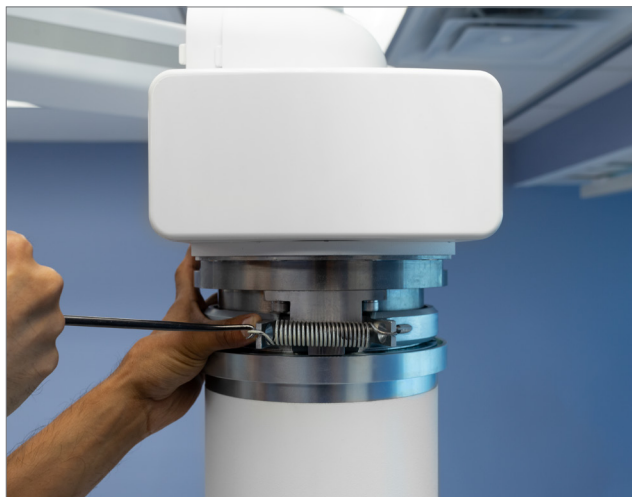


# Maintenance of the Arm

- b. Press at the seam to disassemble the bearing cover.



- 2. Carefully remove the spring with a spring tool.



- 3. Open the brake shoes to reveal the brake pad.



# Maintenance of the Arm

4. Clean the brake pad with Acetone
5. Inspect for cuts or rips in the brake pad.
6. If cuts or rips are observed, please document (through photos) and contact ACS for replacement and instructions on replacement of brake shoe. An example of a damaged brake shoe shown below.



7. Follow steps 1 through 3 in reverse to re-assemble the brake.

## Replacing the Adaptor/Console Brake Shoe

1. On the adaptor/console remove the bearing cover (refer to step one (1) in Replacing Electric Brake Handle).
2. Carefully remove the spring with a spring tool (refer to step two (2) in Brake Pad Inspection).
3. Replace the brake shoes (refer to Adjusting Brake Shoes).

## Replacing the Ceiling Brake Shoe

1. Access the ceiling brake shoes through the drop ceiling/access panel.
2. Carefully remove the spring with a spring tool.
3. Locate the shoulder bolts on brake hinge. Using a 4 mm Allen key remove one of the brake shoes.



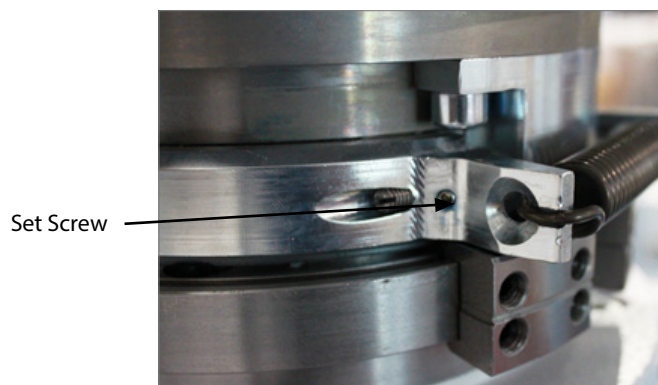
Shoulder Bolts

# Maintenance of the Arm

4. Next, by using a 6 mm Allen key remove the two M8 screws holding the hinge down.
5. Remove the complete brake shoe assembly.
6. Locate the replacement shoes and following the steps 1 through 4 in reverse to re-assemble the brake.

## Adjusting Brake Shoe (Adapter/Console/Ceiling)

1. Ensure brake shoes are closed and the spring is in place.
2. Confirm the set screws are loose.



3. By using a flathead screwdriver, begin to tighten the screw such that the head of the screw moves closer towards the slider assembly.



# Maintenance of the Arm

## **NOTE:**

If you have trouble turning the screw using the screwdriver or have an older style screw, please adjust by using a 10 mm wrench or spanner.

4. Discontinue turning once the screw is touching the slider body.
5. Repeat steps 2 to 4 for the second brake shoe.
6. Check for brake strength and movement of the arms. If movement of arm with the brakes disengaged is tight and or if a squeaking sound can be heard, turn screws closer in towards the slider body. Check for brake strength and movement and repeat this process until requirement is met.

## **NOTE:**

Ensure solenoid actuation is present. If not, turn the screw such that the head moves away from the slider body until actuation is present.

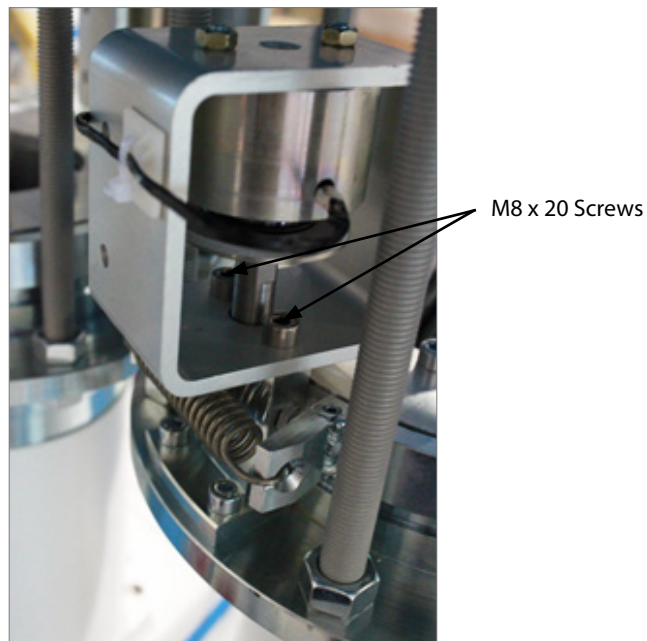
## **NOTE:**

If no solenoid actuation is present despite contact of screws to the slider body, check for magnetism of the solenoid by touching a steel component to the solenoid body. If no magnetism is present, contact Amico Clinical Solutions for assistance. Make sure finger is clear of solenoid before trying to activate.

7. Once the desired movement and strength is achieved, tighten the set screws and clean up any debris present.

## Replacing the Ceiling Solenoid

1. Remove the two (2) M8 x 20 screws.

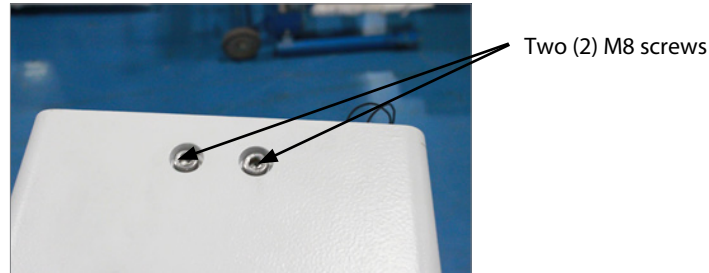


2. Unthread the solenoid from plunger in order to separate them.

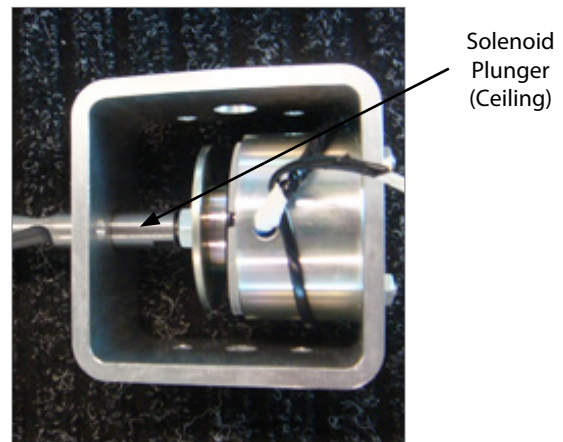
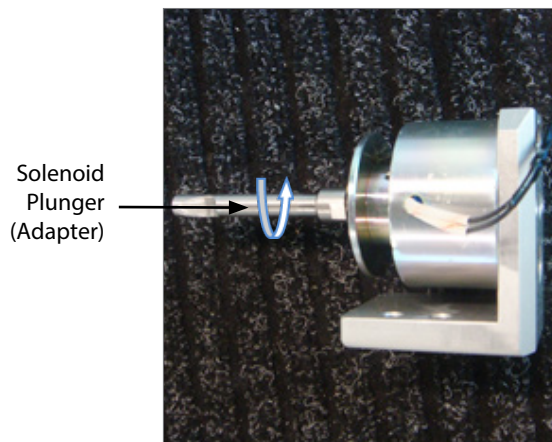
# Adapter and Console

## Adapter and Console

1. Remove the two (2) M8 screws that secure the solenoid in place.



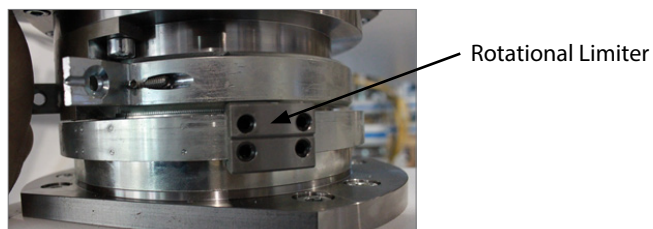
2. Remove the sound absorbent pad.
3. Turn the solenoid plunger in counterclockwise direction until the rod is loose by squeezing the solenoid plunger closer to the solenoid body.



4. Replace the sound absorbent pad.
5. Replace the solenoid plunger by rotating it clockwise until the rod is tightened.
6. Replace the two (2) screws to secure the solenoid.

## Rotational Limiters

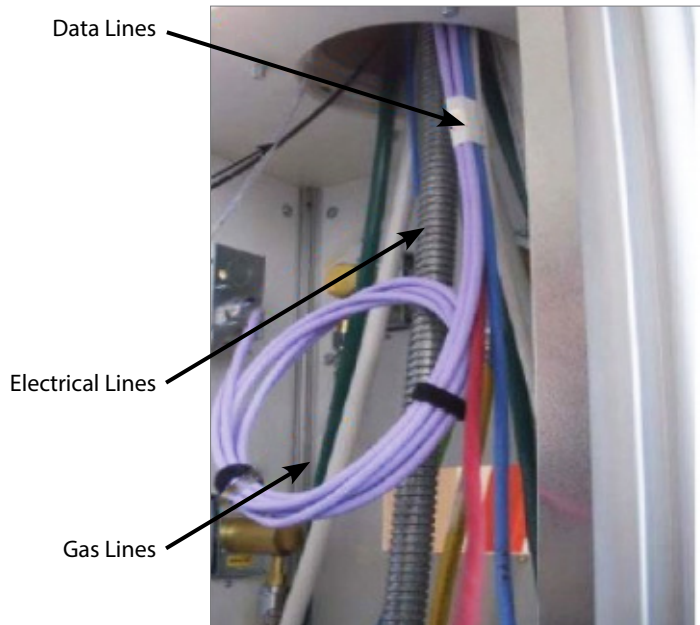
The Allen set screws that hold the rotational limiters must be checked annually for wear and tear.



# Adapter and Console

## Interior Hoses and Cabling

The gas lines and cables running through the interior of the arm and service console should be checked annually for wear and tear. Proper service loops are needed to allow for free movement of the medical gas. If a gas hose or cable is found to be damaged, it must be replaced immediately.



## Cleaning and Disinfection

The exterior of the Amico Boom and Pendant should only be cleaned/disinfected using the recommended cleaning agents shown below. Other chemicals and/or liquids not listed should not be used to clean and disinfect the products.

To start, dampen a cloth with the cleaning agent and wipe down entire exterior of the products. Take great care to ensure that no liquids get inside the Amico Boom and Pendant as it is not drip proof or water tight. Failure to protect the products from liquids may result in damage to the lift and may cause personal injury.

### Recommended Cleaning Agents

- Virox Accel TB
- Virox 5
- Dispatch Hospital Cleaner disinfectant towels with bleach
- Clorox Healthcare Professional Disinfecting bleach wipes
- Sani-cloth super germicidal disposable wipes
- Virocidin-X
- Birex disinfectant wipes

## Troubleshooting

Should problems arise with the use of the Amico Boom and Pendant, review the following chart. Find the fault and complete the recommended solution. If the fault is not found and or/the solution does not correct the problem contact ACS at [acs-service@amico.com](mailto:acs-service@amico.com).

# Guidance and Manufacturer's Declaration

## – Electromagnetic Emissions

Fault	Recommended Solution
If the handle controls fail to operate.	In an emergency, move the arms with the brakes engaged.
If the brakes are not working properly.	The pads may need to be replaced, if this is the case, contact ACS.
If there is a gas leak in the system.	Shutdown power and perform a leak test.

## Electromagnetic Compliance Data for Amico Boom and Pendant

### Guidance and Manufacturer's Declaration – Electromagnetic Emissions

The equipment or system is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment or system should assure that it is used in such an environment.

Boom and Pendant is intended for use in the electromagnetic environment specified below. The customer or the user of the Amico Boom and Pendant should assure that it is used in such an environment.		
Emissions	Compliance	Electromagnetic Environment - Guidance
RF Emissions CISPR 11	Group 1	The Amico Boom and Pendant uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	Class A	The Amico Boom and Pendant is suitable for use in all establishments other than domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic Emissions IEC 61000-3-2	Class A	
Voltage Fluctuations / Flicker Emissions IEC 61000-3-3	Complies	



# Guidance & Manufacturer's Declaration

## - Electromagnetic Emissions

### Electromagnetic Compliance Data for Amico Boom and Pendant

#### Guidance and Manufacturer's Declaration – Electromagnetic Emissions

The Amico Boom and Pendant is intended for use in the electromagnetic environment specified below. The customer or the user of the Amico Boom and Pendant should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment – Guidance
Electrostatic Discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical Fast Transient/Burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±1 kV for power supply lines ±0.250 kV for input/output lines	The Main power supply quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	±1 kV line(s) to line(s) ±2 kV line(s) to earth	Main power quality should be that of a typical commercial or hospital environment.
Voltage Dips, Short Interruptions, and Voltage Variations on Power Supply Input Lines IEC 61000-4-11	<5% UT (>95% dip in UT) for 0,5 cycle  40% UT (60% dip in UT) for 5 cycles  70% UT (30% dip in UT) for 25 cycles  <5% UT (>95% dip in UT) for 5 sec	<5 % UT (>95% dip in UT) for 0,5 cycle  40 % UT (60% dip in UT) for 5 cycles  70 % UT (30% dip in UT) for 25 cycles  <5 % UT (>95% dip in UT) for 5 sec	The Main power supply quality should be that of a typical commercial or hospital environment.  If the user of the Amico Boom and Pendant requires continued operation during main power interruptions, it is recommended that the Amico Boom and Pendant be powered from an interruptible power supply or a battery.
Power Frequency (50/60 Hz) Magnetic Field IEC 61000-4-8	3 A/m	Not Applicable	Power frequency magnetic fields should be at levels characteristic of a typical commercial or hospital environment.

**NOTE:** UT is the A.C. mains voltage prior to application of the test level.


# Guidance & Manufacturer's Declaration

## - Electromagnetic Emissions

### Electromagnetic Compliance Data for Amico Boom and Pendant

#### Guidance and Manufacturer's Declaration – Electromagnetic Emissions

The ME EQUIPMENT or ME SYSTEM is intended for use in the electromagnetic environment specified below. The customer or the user of the ME EQUIPMENT or ME SYSTEM should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment – Guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2.5 GHz</p>	<p>3 Vrms</p> <p>3 V/m</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the Amico Boom and Pendant, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance:  <math>d = 1.2\sqrt{P}</math>  <math>d = 1.2\sqrt{P}</math>      80 MHz to 800 MHz  <math>d = 2.3\sqrt{P}</math>      800 MHz to 2,5 GHz</p> <p>Where <b>P</b> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <b>d</b> is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey (a) should be less than the compliance level in each frequency range (b)</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

**NOTE:** At 80 MHz and 800 MHz, the higher frequency range applies.

**NOTE:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

- Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones, land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be accurately predicted. To assess the electromagnetic environment for fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ME EQUIPMENT or ME SYSTEM is used exceeds the applicable RF compliance level above, the ME EQUIPMENT or ME SYSTEM should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the ME EQUIPMENT or ME SYSTEM.
- Over the frequency range of 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

# Guidance & Manufacturer's Declaration

## - Electromagnetic Emissions

### Recommended Separation Distances Between Portable and Mobile RF Communications Equipment and the Equipment or System

The Amico Boom and Pendant is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Amico Boom and Pendant can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Amico Boom and Pendant as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d=1.2\sqrt{P}$	$d=1.2\sqrt{P}$	$d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance (d) in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where (P) is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

**NOTE:** At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

**NOTE:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

### Disposal

- The Amico Boom and Pendant does not contain any dangerous goods
- The components of the Amico Boom and Pendant should be properly disposed at the end of its shelf-life
- Make sure that the materials are carefully separated
- The electrical conducting boards should be submitted to an appropriate recycling proceeding
- The rest of the components should be disposed according to the contained materials



## Warranty Policy - Booms/Pendants

Amico Clinical Solutions Corp. will warrant its manufactured equipment for up to five (5) years from date of installation. Amico Clinical Solutions Corp.'s warranty will not cover any disposable, sterilizable or single use products.

Pendant systems are warrantied to be free of defects for five (5) years from date of installation. During the first twelve (12) months after installation, Amico Clinical Solutions Corp. will, at its own cost, repair and/or replace any part on site or at the factory which has proven to be defective. After the first twelve (12) months, Amico Clinical Solutions Corp. will only provide replacement parts; shipping and installation costs will be borne by the customer.

Equipment Transport Systems (ETS) are warrantied to be free of defects for five (5) years from date of installation. During the first twelve (12) months after installation, Amico Clinical Solutions Corp. will, at its own cost, repair and/or replace any part on site or at the factory which has proven to be defective. After the first twelve (12) months, Amico Clinical Solutions Corp. will only provide replacement parts; shipping and installation costs will be borne by the customer.

Amico manufactured accessories are warrantied to be free of defects for five (5) years from date of installation. During the first twelve (12) months after installation, Amico Clinical Solutions Corp. will, at its own cost, repair and/or replace any part on site or at the factory which has proven to be defective. After the first twelve (12) months, Amico Clinical Solutions Corp. will only provide replacement parts; shipping and installation costs will be borne by the customer.

Integrated lifts are warrantied as per the warranty provided by the lift manufacturer selected by the customer or Amico Clinical Solutions Corp.

This warranty is valid only when the equipment described above has been properly installed as outlined in the Amico Clinical Solutions Corp. specifications. The validity of this warranty also depends on the proper usage and timely servicing of our equipment according to Amico Clinical Solutions Corp.'s recommendations. Amico Clinical Solutions Corp. does not cover damages as a result of shipment failures, accidents, misuse, abuse, neglect, mishandling, alteration, misapplication or damages which may be attributed to acts of God.

Amico Clinical Solutions Corp. shall not be liable for incidental or consequential damages resulting from the use/misuse of the equipment.

All claims for warranty must first be approved by Amico Clinical Solutions Corp.'s service department at: [acs-service@amico.com](mailto:acs-service@amico.com) or through Amico's direct lines: 905-747-2032 or 1-833-843-8470. A valid Return Goods Authorization (RGA) number must be obtained from Amico Clinical Solution Corp. prior to commencement of any service work. Warranty work which has not been pre-authorized by Amico Clinical Solutions Corp. will not be reimbursed.



# Notes

# Notes

[www.amico.com](http://www.amico.com)

Amico Clinical Solutions Corp. | 122-B East Beaver Creek Road, Richmond Hill, ON L4B 1G6, Canada  
600 Prime Place, Hauppauge, NY 11788, USA  
Toll Free Phone: 1.877.462.6426 | Toll Free Fax: 1.866.440.4986 | Tel: 905.764.0800 | Fax: 905.764.0862  
Email: [info@amico.com](mailto:info@amico.com) | [www.amico.com](http://www.amico.com)