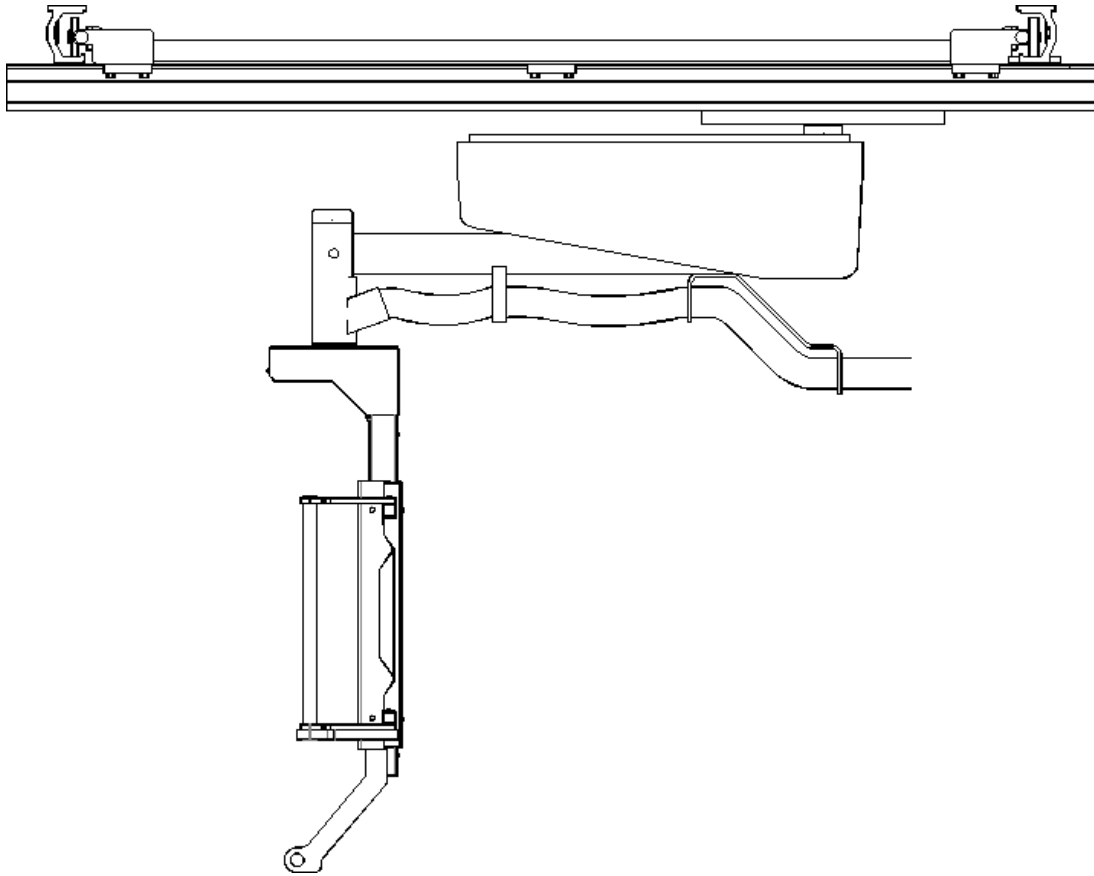


Installation and Maintenance Guide

Information for Installation and Users



IDI 1000F Series

Monitor Suspension System

Model IDI 1000F-1H
Adapter to IDI-03 Rails



Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

The text of this manual was originally written, approved and published by the manufacturer in English.

The information in this manual is subject to change without notice.

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A	INTRODUCTION, PRODUCT DATA, AND OPERATION
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I	DISPOSAL GUIDELINES
J	APPROVALS

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

A. INTRODUCTION

The IDI 1000F-1H Flat Panel Suspension System transports monitors used in medical imaging procedures. The system features a counterbalanced arm with vertical travel and internal cable routing. The mobile package includes clip-mounted ceiling rails.

PRODUCT DATA

Package Includes:

Mobile gantry and counterbalanced swing arm with 36" sweep radius, 20" vertical travel and $\pm 180^\circ$ rotation

Anodized aluminum ceiling rails with *Easymount* clip system

Flat panel array with $\pm 180^\circ$ rotation

Complete installation package; meter box mount, all mounting hardware and cable management components; brackets, covers and "flexhaust" hose

OPERATION

The monitor is moved along the overhead rails, positioned vertically, and rotated manually using the handle.

B. SYMBOLS



Attention, consult accompanying documents.
Failure to follow these instructions can cause accidents resulting in serious injury to patient, user, and damage to equipment.



Warning! Information or instructions shown near this symbol must be adhered to in order to prevent a potentially hazardous situation which if not avoided, could result in death, personal injury or damage to the equipment.



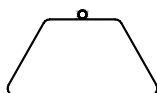
Caution, risk of electrical shock



Protective Ground
This is the common tie point between the AC monitor cord grounds, frame ground, and service (main) ground.



Alternating Current



Weight Limit



Recycle
Some of the materials can be recycled rather than discarded.

C. GENERAL SAFETY



Attention, consult accompanying documents.
Failure to follow these instructions can cause accidents resulting in serious injury to patient, user, and damage to equipment.

Only qualified persons may install, operate or maintain this equipment.

Installation of this unit must adhere to applicable codes and authorities having any jurisdiction over this installation. The customer's architect or engineer is responsible for assuring that the structural support plans comply with all applicable codes and regulations.

The unit should be used only in rooms that comply with state, federal and local recommendations concerning electrical safety when used in medical installations. All electrical connections shall be done by licensed/approved electrician per national electric codes.



CAUTION:

- Always switch off mains before performing nonelectrical tests or maintenance.
- Many positions exist where equipment or patient collision may occur. Care must be exercised during equipment positioning to avoid a patient or equipment collision.



Changes and additions to the equipment may be performed only by an authorized representative. These changes must conform to regulations and accepted standards of good practice. To prevent defeat of the built-in safety mechanisms, changes must be submitted in writing to the manufacturer for review.

Use only parts specified by Image Diagnostics, Inc. when repairing or servicing this equipment.

This equipment is intended to only be used with Image Diagnostics, Inc. rails.

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model
IDI 1000F-1H Adapter to IDI-03 Rails

D. SAFETY HAZARDS

Installers and Operators using this equipment should understand the safety issues and operating instructions provided.

Comments and questions regarding safety should be addressed to:

**Customer Support
Image Diagnostics, Inc.
310 AUTHORITY DRIVE
FITCHBURG, MA 01420
USA**

Or call IDI at (978)829-0009 or send fax to (978)829-0027
Or call Toll Free at (877)304-5434

SAFETY HAZARDS ALERTS

Alert	Circumstances for use
DANGER	Indicates an <i>imminently</i> hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Indicates a <i>potentially</i> hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a <i>potentially</i> hazardous situation which, if not avoided, may result in minor or moderate injury or equipment damage.

E. INSTALLATION

UNPACK

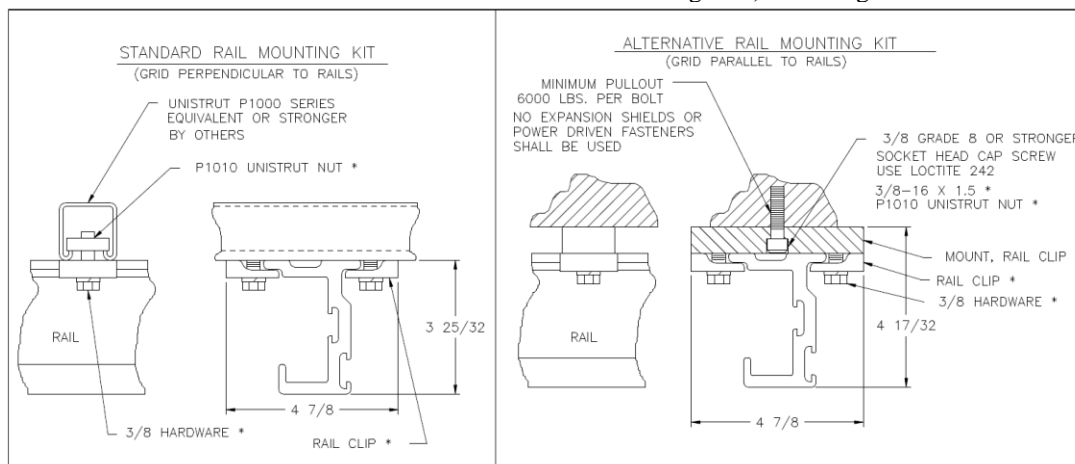


No special handling is required for unpacking this equipment at the site.
Conventional shipping materials are used.
Recycle or disposal of shipping material per local regulations

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

INSTALL CEILING RAILS

1. Refer to the *Adapter Plan* drawing IDI #D240-224 to determine the rail-to-grid attachment points.
2. Attach the pair of ceiling rails to the room mounting grid with Rail Mounting Kits. (Refer to the *Longitudinal Ceiling Rail Assembly* IDI #D240-514 and *Rail Mounting Kit* diagram shown below for information on orientation of rails and mounting kits.) Hand tighten hardware.



ITEMS MARKED * ARE INCLUDED IN MOUNTING KITS.
ONLY QUALIFIED PERSONS MAY INSTALL THIS EQUIPMENT.
INSTALLATION OF THIS UNIT MUST ADHERE TO APPLICABLE
CODES AND AUTHORITIES HAVING ANY JURISDICTION OVER
THIS INSTALLATION. STRUCTURAL SUPPORT PLANS ARE THE
RESPONSIBILITY OF THE CUSTOMER'S ARCHITECT OR
ENGINEER WHO SHALL SEE THAT ALL APPLICABLE CODES
AND REGULATIONS ARE COMPLIED WITH.

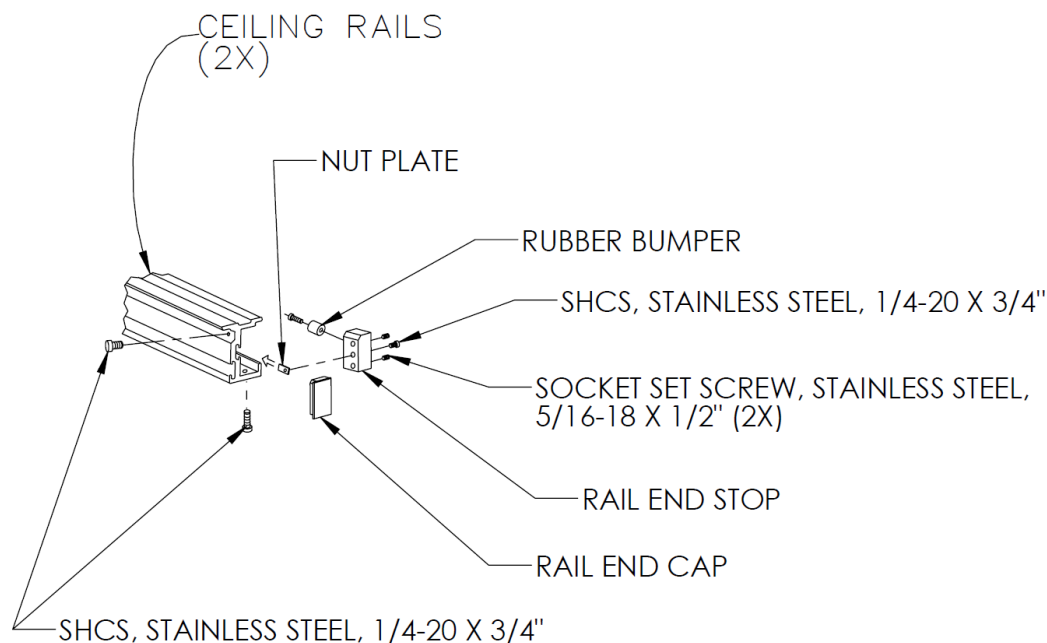
STRUCTURAL SUPPORT MUST BE BRACED TO FORM A
SUFFICIENTLY RIGID STRUCTURE.

3. Position the ceiling rails so that the ends line up with each other and the rails are parallel, then tighten all mounting hardware.

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

INSTALL CEILING RAIL END STOPS

1. The two adjustable end stops provided are to be positioned at diagonal ends of the rails. Load one Rail End Stop into a rail with the Rubber Bumper facing inward as shown below. Load the other Rail End Stop into the opposite side of the other rail also with the Rubber Bumper facing inward. Do not tighten socket set screws on Rail End Stop until Transverse Bridge Assembly is mounted.



2. Install all four Rail End Caps onto the ends of the Ceiling Rails. Use thread locker Loctite #242 on all threaded hardware used for the Rail End Caps.



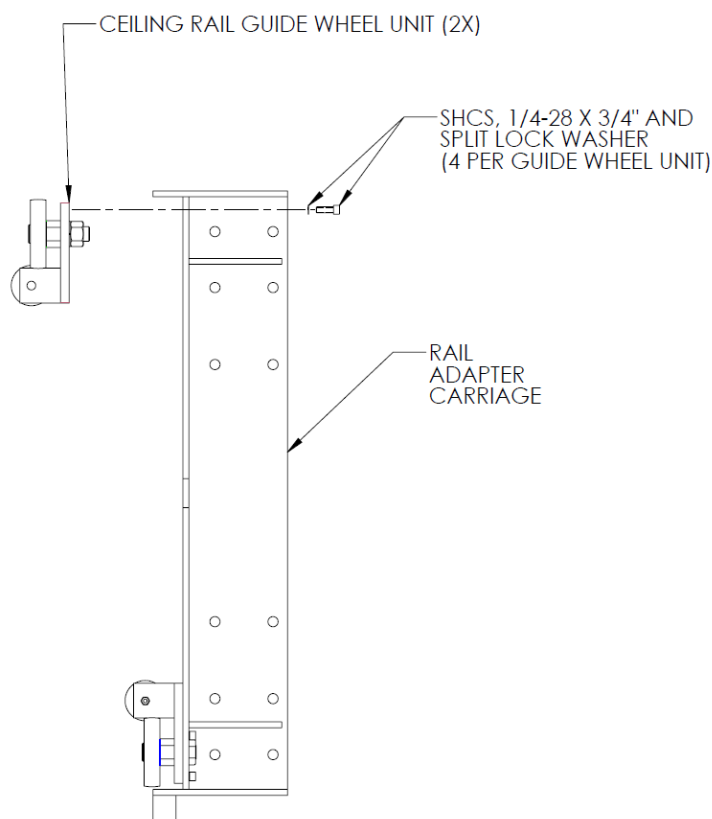
WARNING!

Failure to install both pairs of end caps could result in serious injury to patient, user, and damage to equipment.

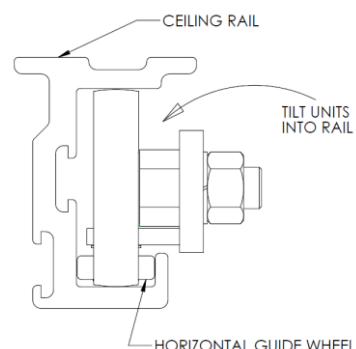
Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

BUILD TRANSVERSE BRIDGE

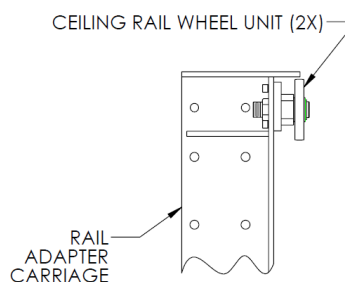
1. Remove the two Ceiling Rail Guide Wheel Units from the Rail Adapter Carriage that has them as shown to the right.



2. Mount the two Guide Wheel Units into the Ceiling Rail by tilting them until the horizontal guide wheel can seat into the bottom cavity of the Ceiling Rail.



3. Remove the two Ceiling Rail Wheel Units from the other Rail Adapter Carriage as shown to the right. Tilt those two Wheel Units until they mount into the other Ceiling Rail.

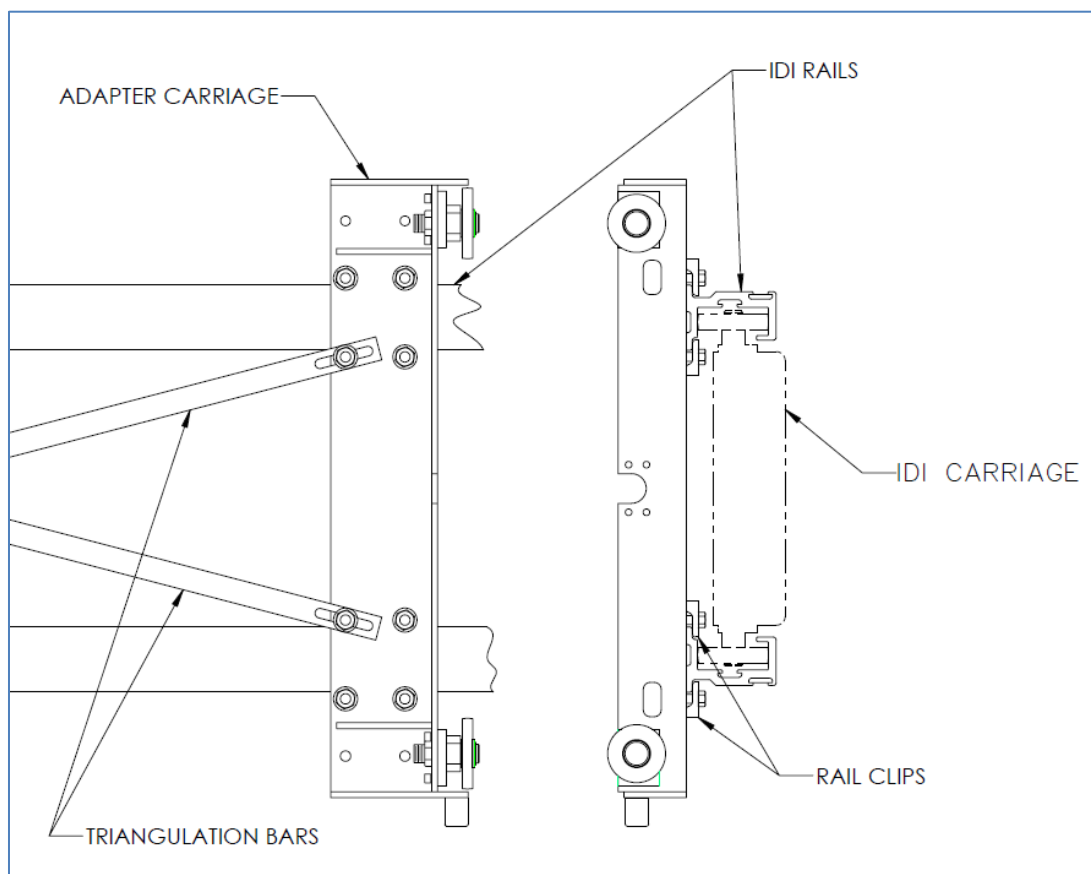


4. Bolt the two Ceiling Rail Guide Wheel Units to their respective Adapter Carriage and bolt the two Ceiling Rail Wheel Units to their respective Adapter Carriage with socket head cap screws and lock washers. Use thread locker **Loctite #242** and tighten hardware to 170 inch-lbs.

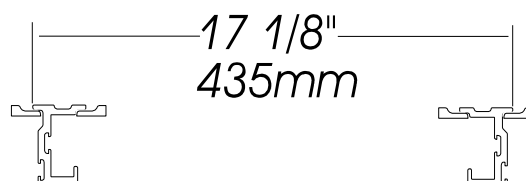
Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

INSTALL TRANSVERSE RAILS

1. Raise up one 6ft. 8in. long IDI Rail perpendicular to the Adapter Carriages and hold in place approximately located in the diagram shown below. Place two pairs of Rail Clips over the rail flanges under the four-hole mounting patterns in the Adapter Carriages. Insert painted bolts through Rail Clips and Adapter Carriages and install flat washer and nylon imbedded nuts from the opposite side. Hand tighten bolts. Mount the second IDI Rail in the same manner.



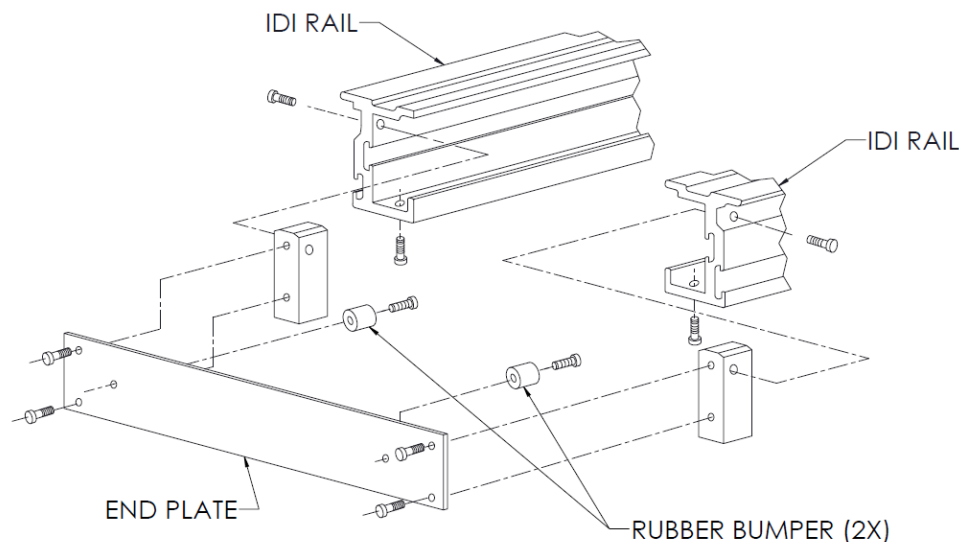
2. Place the slots of the two Triangulation Bars over the Painted Bolt Studs on the Adapter Carriages and under the washers and nuts as shown above. Hand tighten the rail mounting hardware.
3. Slide the IDI Rails back and forth to center them under the Adapter Carriages and to align both ends. Make adjustments to the Triangulation Bars and Rail Clips until the rails are spaced 17 1/8" apart at both ends as shown below. Tighten hardware.



Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

INSTALL RAIL END PLATES

1. Install End Plates onto only one end of the movable IDI Rails. Make sure rubber bumpers face inwards as shown below. Use thread locker **Loctite #242** on all threads.



END-LOAD GANTRY

1. Remove packing material from Carriage. Using Hi-Jack or other suitable lift table, raise Gantry (still attached to pallet) up and into the rails. ***Make sure all carriage wheels are engaged onto rails before lowering Hi-Jack.*** Remove pallet and shipping bars from support unit.
2. Install the second End Plate at the near end of the rails, making sure rubber bumper faces in towards the carriage. (refer to diagram above) Use thread locker **LOCTITE #242** on all threads.

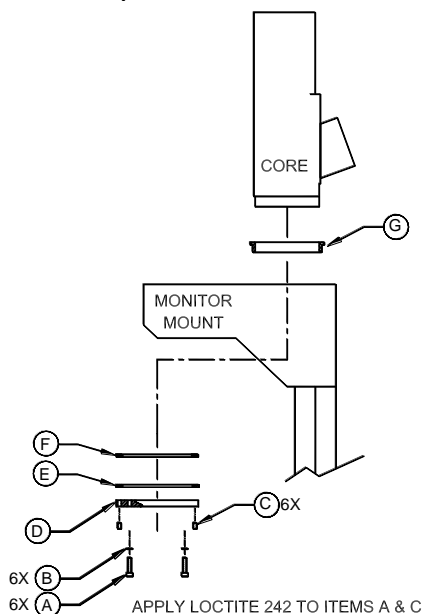


WARNING! Failure to install both rail end plates may result in serious injury to patient, user, and damage to equipment.

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

INSTALL MONITOR MOUNT

NOTE TO INSTALLER: It is important that the load be balanced on the monitor mount.



1. Remove wireway cover at top of monitor mount.
2. Drop rotation bearing (G) into pivot plate (top of monitor mount).
3. Take the moly coated thrust ring (F) and put around rotation bearing (G).
4. Place the thin stainless steel thrust ring (E) below the stainless steel thrust ring (F).
5. The six bolts (A) with lockwashers (B) go through rotation cap (D) and rotation bearing (G) into the pivot tube of the core. Use thread locker **LOCTITE #242** on hardware.
6. Apply a very little amount of thread locker **LOCTITE #242** to and insert the six setscrews (C) into the six threaded holes of the rotation cap (D). Thread the setscrews in until they contact the stainless steel ring (E). The setscrews may be tightened or loosened later to adjust rotational resistance.



WARNING!

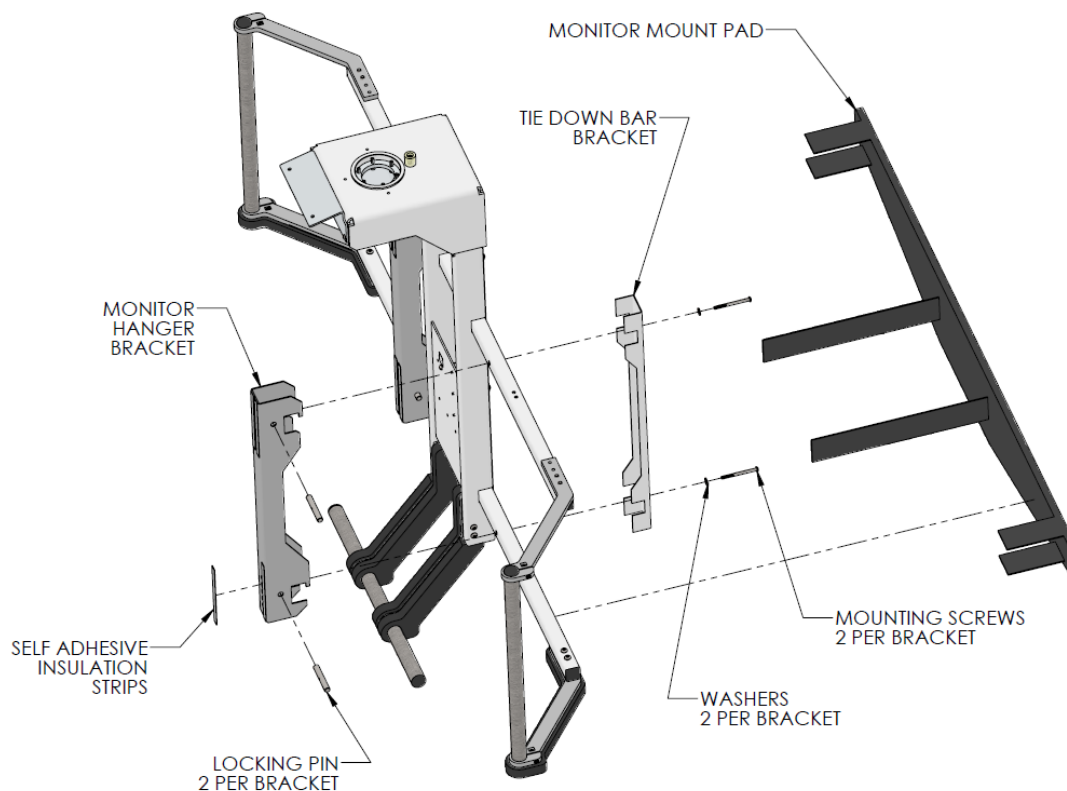
Failure to securely attach hardware may result in serious injury to patient, user, and damage to equipment.

MOUNTING MONITOR

70.3 kg
155 LBS

Maximum total weight of monitors.

1. To mount a monitor to the system, first remove the monitor mount brackets (front and rear and on each side of the central pivot body) by unscrewing the two screws that hold the front bracket to the rear bracket as shown below.



2. Insulation strips may be applied to the Monitor Hanger Brackets at this time if desired. Mount both front Monitor Hanger Brackets to the rear of the monitor using hardware provided by Image Diagnostics, Inc. Make sure that the orientation of the brackets match the view above so that the rectangle slots in the bracket will hook over the cross bars of the monitor mount. This will prevent the monitor from falling during the process of attaching it to the monitor mount. Use thread locker **LOCTITE #242** on all threaded hardware.
3. Lift the monitor using two people and hook the square slots in the Monitor Hanger Brackets over the cross bars on the Monitor Mount.
4. Slide Locking Pins (2 per bracket) into the side holes of the Monitor Hanging Brackets as shown above and orientate them so that the holes in each Locking Pin line up with the holes in the cross bars.
5. Mount the Tie Down Bar Brackets in the rear with washers and mounting screws (2 per bracket) as shown above. The screws will thread into the Locking Pins in the Monitor Hanging Brackets. Use thread-locking fluid on threads of screws.
6. Remove the Back Cover of the Monitor Mount to hard wire the power and signal cables of the Monitor to the Monitor Mount.
7. Attach Monitor Mount Pad to the back of the Bottom Bar as shown above.



WARNING!

Failure to attach hardware securely may result in serious injury to patient, user, and damage to equipment.

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

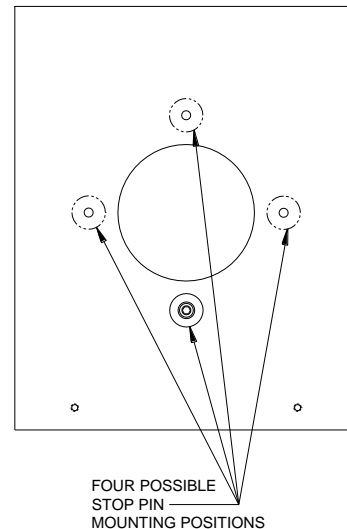
NOTE TO INSTALLER: Ground stud has been provided to properly ground monitor.
Terminal strip has been provided for distribution of line voltage to monitor. Cut and strip
monitor power cord to fit.



WARNING! Remove plastic cover and remove block of wood between gantry core and arm. Failure to do so may result in serious injury to user and damage to equipment.

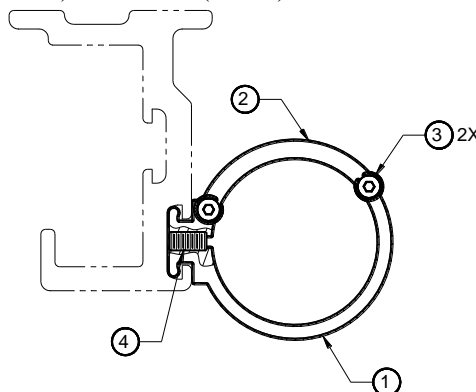
SET ROTATIONAL LIMITS

If desired, the stop pin bumper on top of the Monitor Mount Cover can be relocated to one of four possible mounting locations.



INSTALL STATIONARY CABLE HANDLING ASSEMBLY

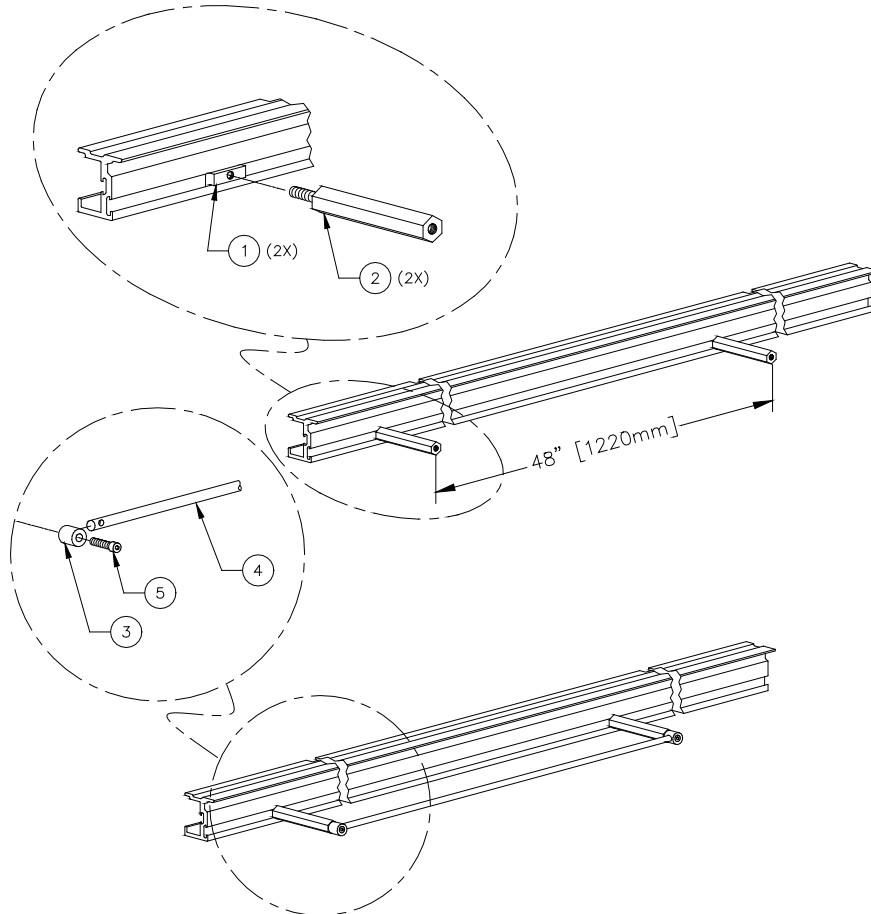
1. Determine which end of the rail the *stationary* cable handling kit will be positioned. If, at the far end of the rail, slide kit into rail track *prior* to positioning the *mobile* cable handling kit. If stationary kit is to be positioned at the near end of rail, slide into rail *after* positioning mobile cable handling kit. Stationary kit is typically mounted approximately 6 inches (15cm) from rail end.
2. After applying thread locker LOCTITE #242 to threads, tighten the setscrew (item 4) to secure in place. See diagram below for reference.
3. Remove retainer (item 2) by taking out the two mounting screws (item 3).
4. Place section of cable hose into clamp (item 1).
5. Reinstall retainer (item 2) and screws (item 3).



Installation and Maintenance Guide for IDI 1000F Series Suspension System Model
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INSTALL MOBILE CABLE HANDLING ASSEMBLY

1. See diagram below for reference. Slide nut plates (items 1) into rail track.
2. Position standoffs approximately 48" (122cm) from each other.
3. To assure proper fit and positioning, temporarily assemble cable hanger shaft (item 4) to standoffs.
4. Place one shaft support (item 3) onto far end standoff. Place the other shaft support to the second standoff, while temporarily installing cable hanger shaft (item 4) into holes of shaft supports.
5. Hand tighten socket head cap screws (item 5). **Use thread locking LOCTITE #242 on hardware.**



6. Position shaft/cable handling subassemblies (items 1-5) to desired location along the length of rail. Without disrupting alignment, remove shaft and shaft supports. Torque standoffs to ~35-50 inch pounds, 4.2-6.0(Nm). **Use thread locker LOCTITE #242 on hardware.**



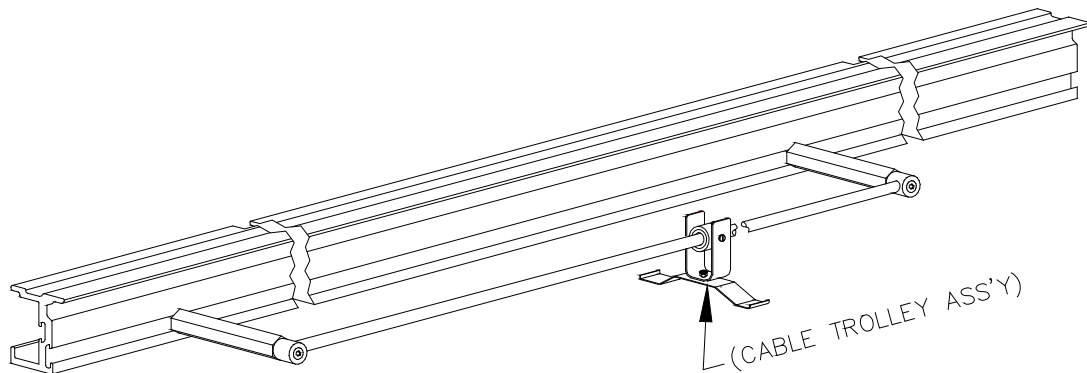
CAUTION!

Over tightening the standoff will weaken or break the set screw connecting the standoff to the nut plate causing attached components to fall.

7. Reattach shaft supports. Install one end of shaft to a shaft support. Tighten socket head cap screw (item 5).

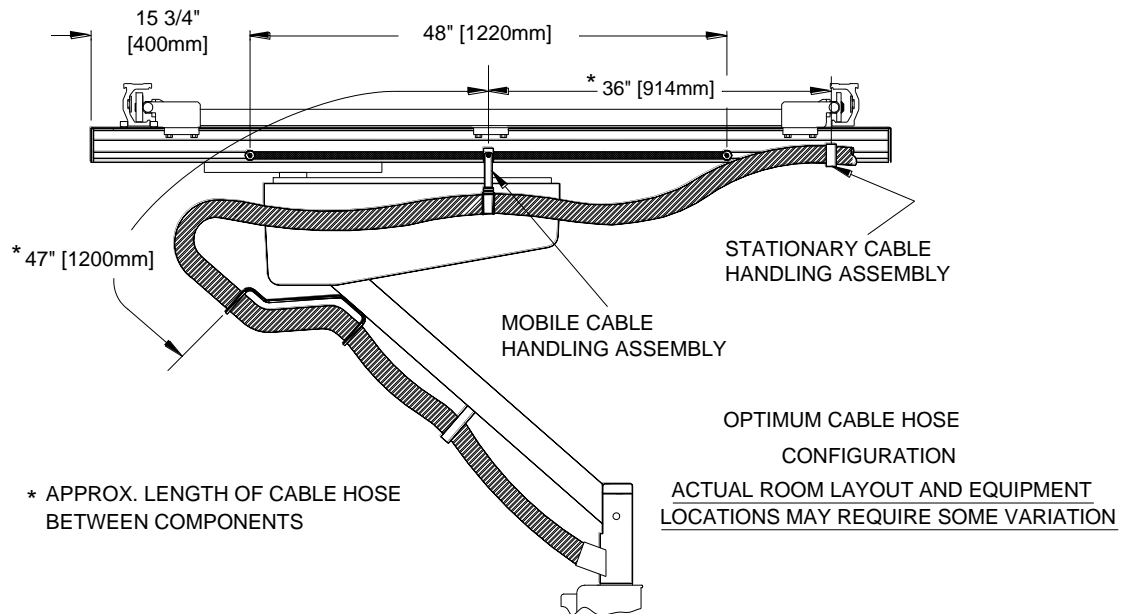
Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

- Slide cable trolley assembly(s) onto cable hanger shaft (item 4) as shown below. Install free end of shaft into other shaft support. Tighten second socket head cap screw (item 5). **Use thread locker LOCTITE #242 on hardware.**



DRESS CABLES

- When the monitor has been properly installed, it is recommended that the cables be brought through the pivot tube at the bottom of the arm. 2" (5cm) flexaust (provided) is to be attached to pivot tube and to be routed underneath the arm via the cable clamps as shown below. Rotate entire system and bring to maximum positions. the system should not drift from any position. If it does, check that enough cable has been left to allow freedom of motion.




BALANCE SYSTEM

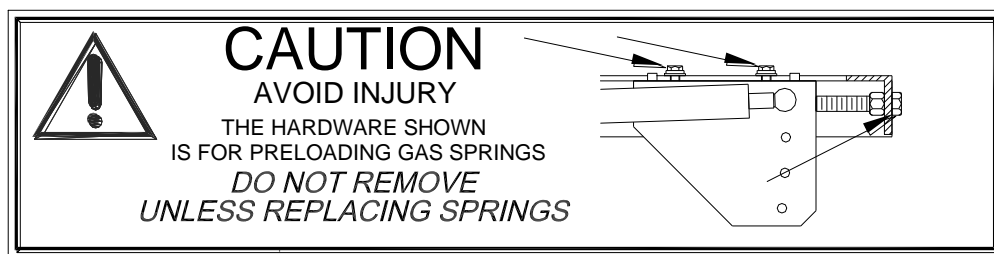
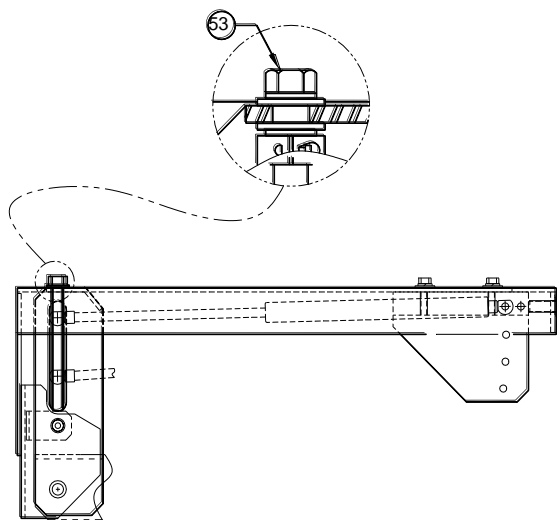
1. Note initial settings written on Spring Data label (blank label is shown below for reference). Substantial increases in payload may require spring change.

- PRELOAD LOCKING BOLTS**
DO NOT REMOVE OR LOOSEN - NOT FOR ADJUSTMENT
(LOOSEN 1/2 TURN ONLY DURING GAS SPRING REPLACEMENT)

The diagram shows a side view of the assembly with labels A through F pointing to specific components. A dashed line indicates the internal structure. Below the diagram is a table for recording weights.

A	B	C	D	E	F	QTY	FORCE
TOTAL SYSTEM WEIGHT							

 counter clockwise to decrease payload capacity



WARNING! Do not remove gas springs. Maximum payload: 155 lbs. (70.3kg)

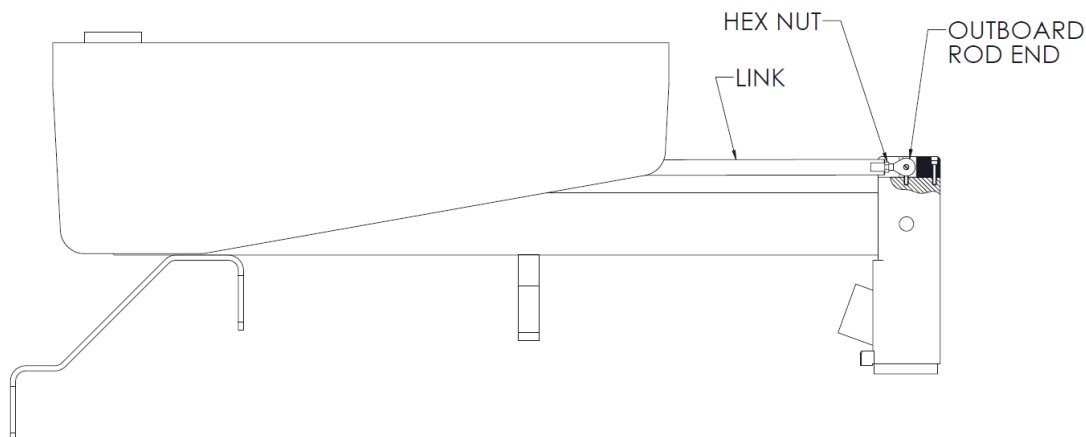
YOKE BALANCE ADJUSTMENT



WARNING! Yoke has been leveled at manufacturers. Make adjustment only if absolutely necessary to compensate for an unbalanced load.

NOTE: Prior to yoke adjustment - payload must be secure.

Fine adjustment, to compensate for yoke balance, can be made by turning the link. Loosen threaded hex nut at outboard rod end as shown below; spin link until yoke is in a horizontal position; retighten hex nut.



MONITOR MOUNT ASSEMBLY ROTATION RESISTANCE

1. The setscrews (C) installed in step 6 of "INSTALL MONITOR MOUNT" on page 12 can be loosened or tightened to adjust the rotation resistance of the suspended monitor mount assembly.
2. Replace wireway cover after making adjustment.

F. CLEANING THE EQUIPMENT

No part of this unit is designed to be sterilized in an autoclave. Do not allow water or other liquids to enter the equipment as this may cause short circuits or corrosion. Clean parts with a clean cloth dampened with disinfectant or a mild detergent solution. Do not use abrasives, solvents, sprays or corrosive cleaning agents. Gently rub with a clean soft cloth to dry.

If room is to be disinfected by means of an atomizer, the equipment must be covered with plastic or similar sheeting. The equipment must be turned off well in advance of this procedure to prevent convection currents from drawing the disinfectant mist into the equipment. After the mist disperses completely, the sheeting may be removed and the equipment disinfected as described above.

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

G. MAINTENANCE

"Authorized Technician"

All maintenance procedures should be done by an experienced technician with demonstrated knowledge and skills (electrical and mechanical) relative to this type of equipment.

This individual must have access to this manual and the proper tools.

Daily Maintenance Checks:

1. Pre-Operational and Post-Operational Checks

When performing daily checks of the monitor suspension, perform the same steps pre-operational and post-operational.



CAUTION! If any abnormality is found in the monitor suspension, stop using it. Post a sign reading "DO NOT USE" so that the system is not used by mistake. Then contact your representative for inspection and repair.

1.1. Visual check

Before checking the operation, confirm the following:

- The monitor suspension is not tilted.
- Monitor is securely attached.
- Any Hardware or Components have not been loosened or removed.

1.2. Operational check

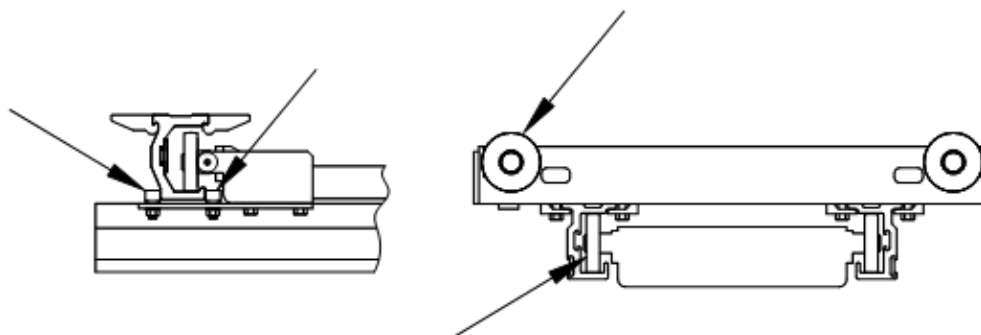
Move all the articulating sections and confirm the following:

- Operation does not lack smoothness compared to when the monitor suspension was first installed.
- There is no play.
- There are no abnormal sounds.
- The monitor is not tilted due to loose hardware.

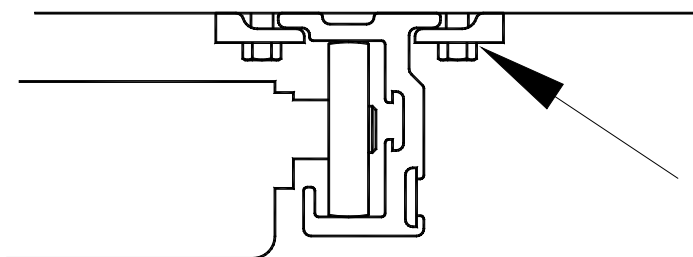
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Annual Maintenance Check:

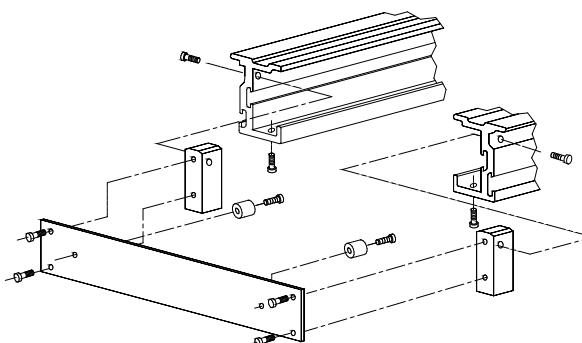
1. Clean carriage wheels and guides and the rails where carriage wheels and guides ride inside the rails.



2. Check that the rail mounting hardware has not become loose.



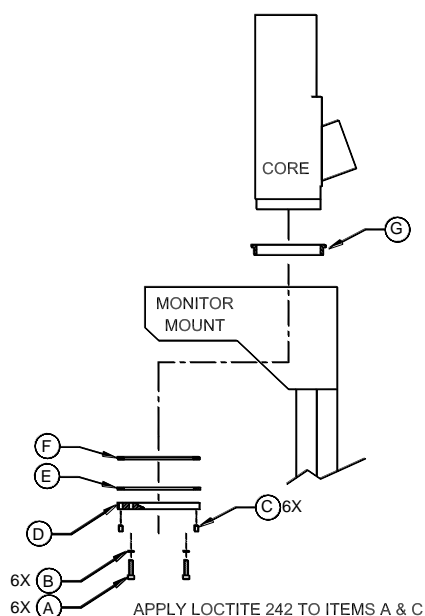
3. Check that the hardware securing the end plates are tight.



4. Perform a complete functional inspection:
 - Rotate monitor mount assembly through complete range.
 - Raise and lower monitor mount assembly.
 - Roll carriages through complete range of rails.

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model IDI 1000F-1H Adapter to IDI-03 Rails

5. Clean and touch up painted surfaces.
6. Check that all mounting hardware is tight and that there is no wear at:
 - the end of the gantry core arm.
 - the rotational section between the gantry core arm and the monitor mount assembly.
 - the monitor mount assembly pivot joint.
 - the monitor bracket pivot and the monitor.



Should the screws labeled above as “A” become loose, there will be an opening of the mechanical junction between the gantry core arm and the monitor mount assembly.

The procedures mentioned in these instructions are based on the recommendations of HHS, I.E.C., etc.

In cases of increased wear or where severe working conditions exist, maintenance checks should be made at shorter than the specified intervals.

Should any control or indicator fail to operate properly, do not use the equipment until a repair has been completed. Operating equipment with defective components may expose the operator or the patient to safety hazards.

The manufacturer strongly recommends that a maintenance program be initiated and that a maintenance record be kept detailing dates and nature of maintenance performed, the name of the service engineer, and any other relevant information.



WARNING!

Removal of any hardware requires re-assembly with thread locker Loctite #242 or equivalent (depending on hardware size) following manufacturer's instructions.

H. CUSTOMER SUPPORT

Installation and Maintenance Guide for IDI 1000F Series Suspension System Model
IDI 1000F-1H Adapter to IDI-03 Rails

For technical assistance, be sure you have the complete model and serial number before contacting the local or national service office.

**Customer Support
Image Diagnostics, Inc.
310 Authority Drive
FITCHBURG, MA 01420-6047
USA**

Or call IDI at (978)829-0009 or send fax to (978)829-0027
Or call Toll Free: (877)304-5434

I. DISPOSAL GUIDELINES



Most of the components used in this suspension system are made of metal, usually aluminum or steel, and are easily recycled.

J. APPROVALS



SGS Testing Service



The system was tested and found to be in compliance with the requirements of all relevant directives and standards in effect within the European Union at the time of manufacture.



European
Authorized
Representative:

Advena Ltd. Tower Business Centre, 2nd Flr.,
Tower Street, Swatar, BKR 4013 Malta

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REVISIONS TO THIS MANUAL

<u>Rev</u>	<u>Date</u>	<u>Description</u>
A	December 2011	Preliminary Release
B	May 2012	ECO 324
C	September 2018	Removed references to “Toshiba.”