



Easy Arm[®] Model Q & iQ Preventative Maintenance Bulletin

IMPORTANT! DO NOT DISCARD

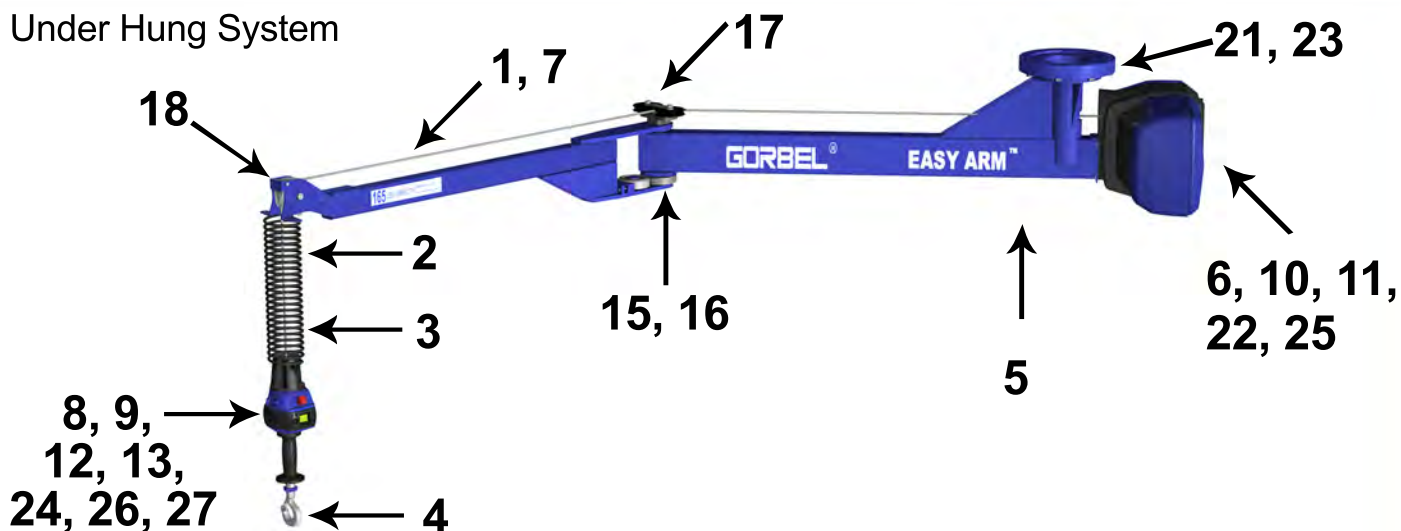
This document contains important preventative maintenance procedures that could help eliminate potential service issues and prolong the life of your Easy Arm[®] unit.

Please familiarize your Easy Arm[®] operators and maintenance staff with the procedures detailed in this bulletin.

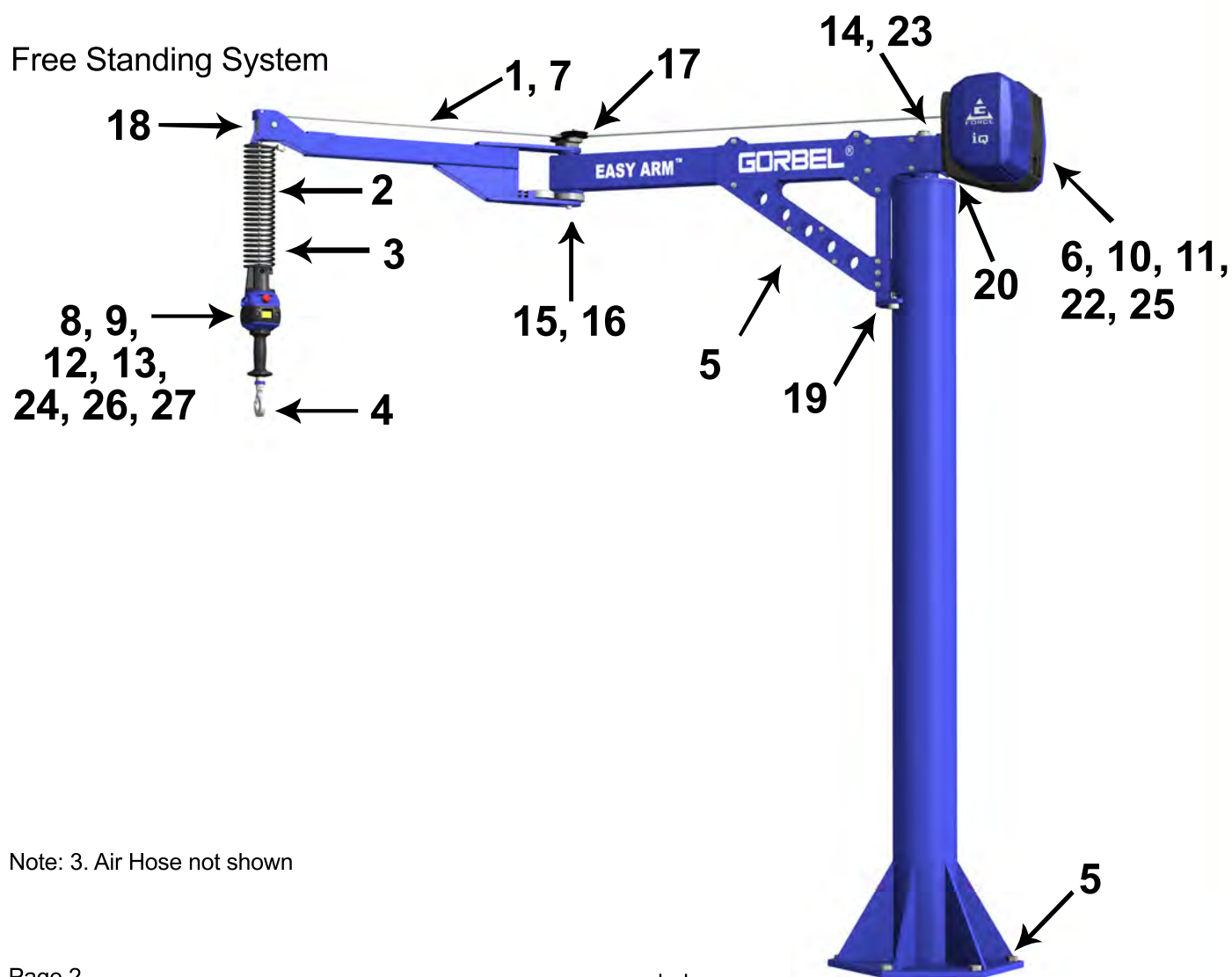
For a copy of the Easy Arm[®] Service Manual, call 1-800-821-0086, or contact your Gorbel distributor.

G-Force® Q & iQ Easy Arm models

Under Hung System



Free Standing System



Note: 3. Air Hose not shown

Preventative Maintenance Introduction

This document is intended to be used as a guide for preventative maintenance. Some maintenance items may require the use of the Q – iQ Service Manual for specific removal and replacement procedures.

If you observe any unusual wear or damage to the components outlined in this document as well as any other associated components, replace them before they fail completely and cause unscheduled downtime.

The procedures are divided into four specific intervals; daily, monthly, quarterly and yearly. Refer to the image on the opposite page for the approximate location of the components listed by numbers 1 through 27 on the following pages.

NOTE: You may find it necessary to increase the frequency based on equipment use and environmental conditions in your facility.

Daily Checks

These are quick visual checks that do not require any tools.

1. Wire Rope:

Look for any obvious external defects, damage or excessive wear. Check the lower end where it attaches to the Handle, Swivel Assembly or tooling (by others) for signs of damage or excessive wear.

2. Coil Cord:

Look for any obvious external defects or damage caused by the Wire Rope or other external causes. Make sure all the Coil Cord Clamps are in place.

3. Air Hose

Look for any obvious external damage or wear caused by the Wire Rope or other external causes. Make sure the Air Hose is secured properly with the correct clamps.

4. Load Hook and/or tooling (by others):

Check that the Load Hook is secured properly to the handle or swivel. Make sure lock washers are compressed completely and any other associated hardware is secure.

5. Easy Arm Structure

Look for any loose or out of place hardware or any signs of unusual wear or damage to the jib portion of the Easy Arm. Check that lockwashers are compressed including anchor bolt hardware.

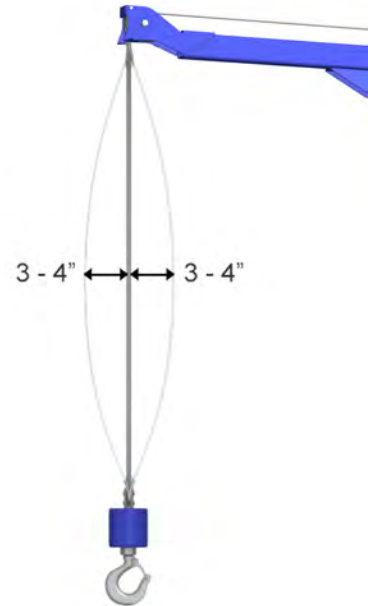
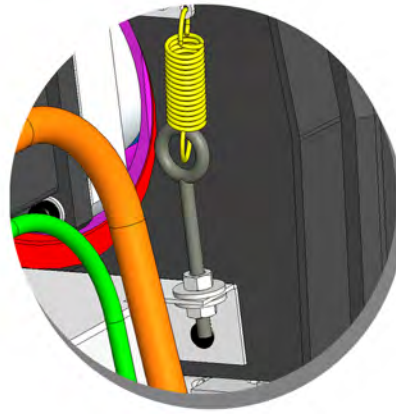
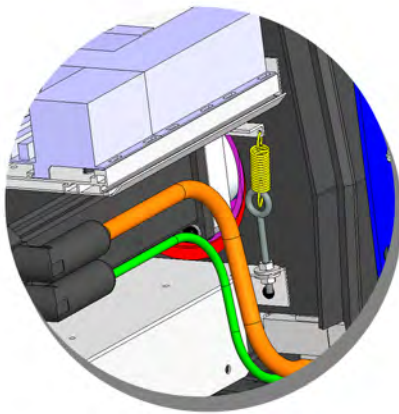
Monthly Tasks

Tools may be required, as well as a clean dry cloth and specific lubricants may be required

6. Slack Switch Adjustment:

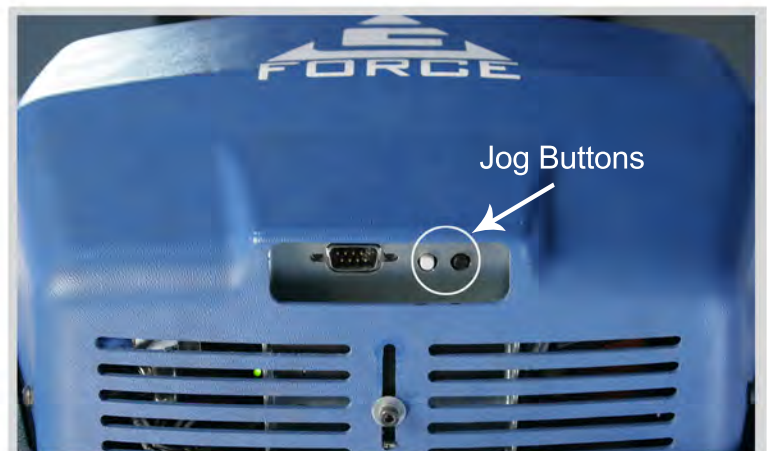
Using the Handle, lower the Wire Rope until it goes slack. There should be no additional movement downward once it is slack. If the Wire Rope continues to pay out, stop immediately and refer to the Q – iQ Service Manual, section 9 to perform the Slack Switch Adjustment.

Note: It is important that you hold whatever is at the end of the wire rope upright when it contacts the floor otherwise the wire rope will continue to pay out and the slack measurement will not be accurate.



7. Wire Rope:

Expose as much of the Wire Rope as possible and wipe it off with a clean dry cloth. Wire ropes contain a certain amount of internal lubrication when they are new. If you decide to add any additional lubrication (light machine oil, for example) be sure to wipe off any excess oil before putting the system back into operation. Use the Jog Buttons to pay out as much of the Wire Rope as possible.



Monthly Tasks

Tools may be required, as well as a clean dry cloth and compressed air.

8. Operator Present Sensor (sliding handle only):



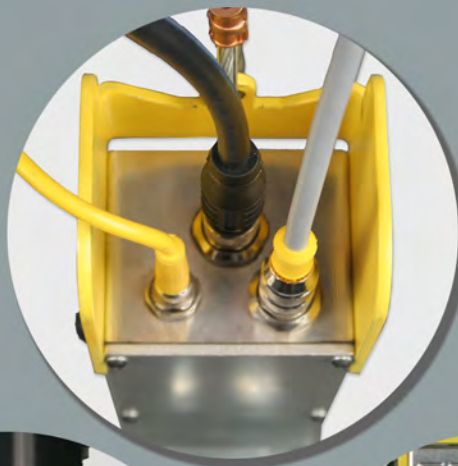
Use a gentle puff of compressed air or a soft cloth to clean the sensor. Do not apply any pressure to the lens or do anything that may scratch it.

OPERATOR PRESENT SENSOR

NOTE: PHOTO ENHANCED TO SHOW LOCATION OF SENSOR. RED BEAM WILL NOT BE VISIBLE DURING NORMAL OPERATION.

9. Handle I/O Connections (if equipped)

Check connections at handle (if equipped). Wipe off any oil or other contamination from either Handle at this time. Clean the LCD screen as well.



I/O CONNECTION PORTS

NOTE: FORCE SENSING HANDLES HAVE THE SAME I/O CONNECTIONS AS SLIDE HANDLES

LCD SCREENS



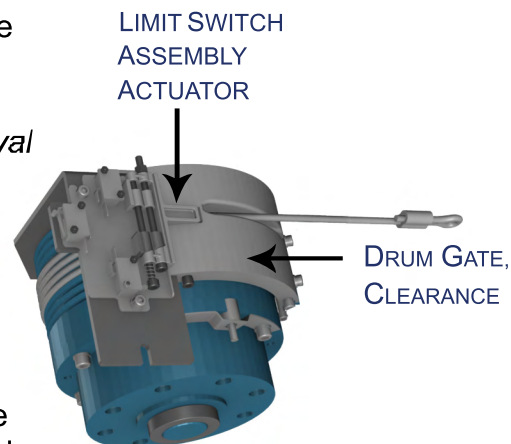
Quarterly Tasks

Tools, compressed air and specific lubricants are required.

10 Limit Switch Assembly Actuator:

Check for excessive wear and for proper position with the Drum Gate.

Refer to the Q – iQ Service Manual, section 10 for removal and replacement procedures.



11. Drum gate, Clearance:

Remove and look for excessive wear. Only the clearance drum gate can be removed without any major disassembly.

Refer to the Q – iQ Service Manual, section 10 for removal and replacement procedures.

12. Air Swivel Assembly (if equipped) O-rings:

These should be replaced if worn or damaged. Apply a thin coating of non-synthetic general purpose grease.

Refer to the Q – iQ Service Manual, section 10 for removal and replacement procedures.



13. Swivel Assembly Slip Rings:

Check for wear. Wipe clean with a soft dry cloth and apply a thin layer of DeoxIT (or D100L)(contact cleaner and lubricant). This also applies to the independent G360.

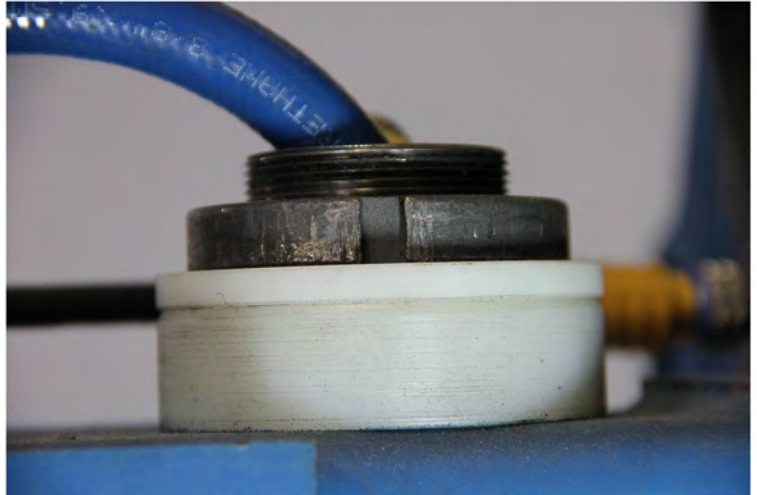
Refer to the Q – iQ Service Manual, section 10 for removal and replacement procedures.

Quarterly Tasks

Check for excessive or unusual wear or damage to nylon parts and metal surfaces. Re-adjust primary and secondary brakes as required. Replace worn parts if necessary.

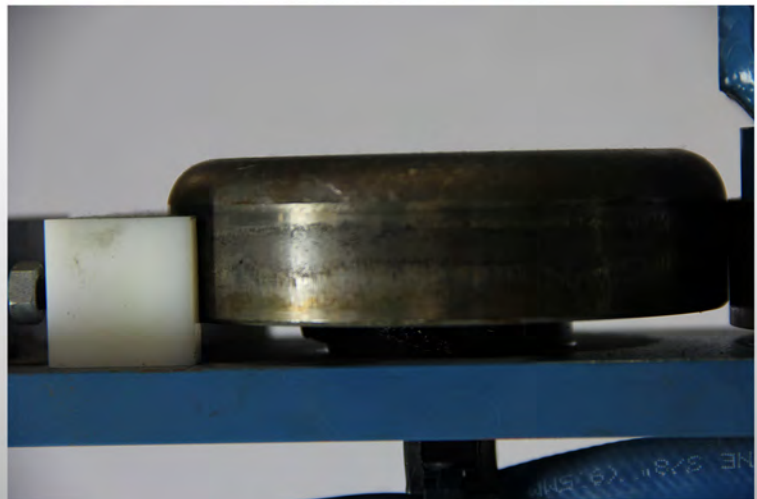
14. Primary Brake (Free-Standing Units Only)

Tightening or loosening the round nut will increase or decrease the drag on the Primary Arm.



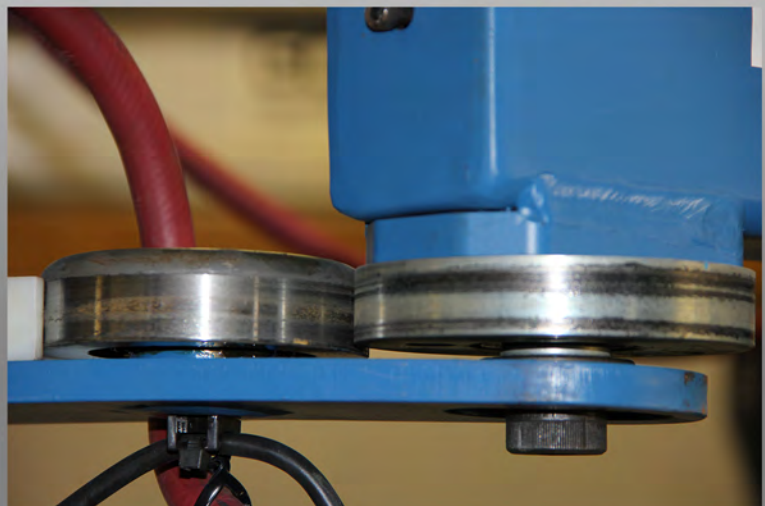
15. Secondary Brake (All Models)

Tightening or loosening the two allen head screws on the nylon block will increase or decrease the drag on the Secondary Arm.



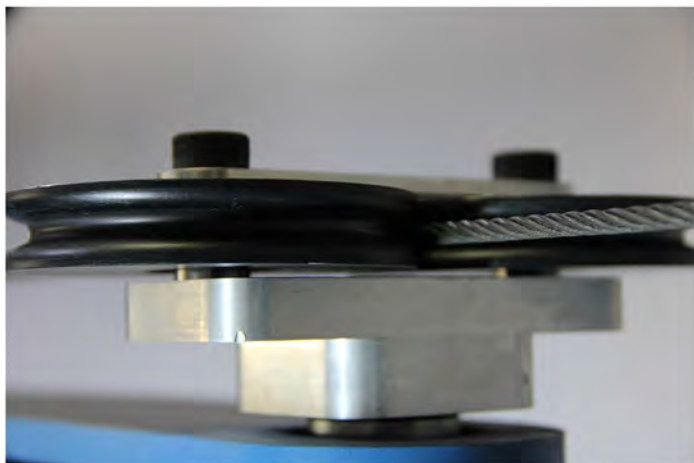
16. Pivot Cam (All Models)

It's important that the contact surfaces of the cam and roller are even and flat. Uneven contact may indicate a structural problem.



Quarterly Tasks

Check for excessive or unusual wear or damage to components. Replace as required.



17. Pivot Assembly Pulleys (All models)



18. Pulley Block Assembly (All models)

The standard pulleys are approximately 4" in diameter. Some systems are equipped with High Cycle Pulleys which are approximately 7" in diameter.

19. Mast Wear (Free Standing Units Only)

Over time a wear pattern will develop around the mast. The maximum allowable wear is 25% of the mast wall thickness which is nominally 0.25 inches. To accurately measure the depth of the wear mark you must scrape away any excess paint and scale from the edges of the wear mark, position a straight edge accross the cleaned area and position a feeler gage between the bottom of the straight edge and the bottom of the wear mark.

Note: You can flip the position of the rollers if the mast wear approaches the limit stated above,



Yearly Tasks

Check for excessive or unusual wear or damage.
Check that hardware is tight. Replace if necessary.

20 A. Rotation Stop (Free Standing units only)

Some units are equipped with two stops.



20 B. Bottom View of Rotation Stop Bumpers

Rubber bumpers can be replaced however the entire boom must be raised to access this area.



21. Rotation Stop (Underhung Units Only)

Some units are equipped with two stops.

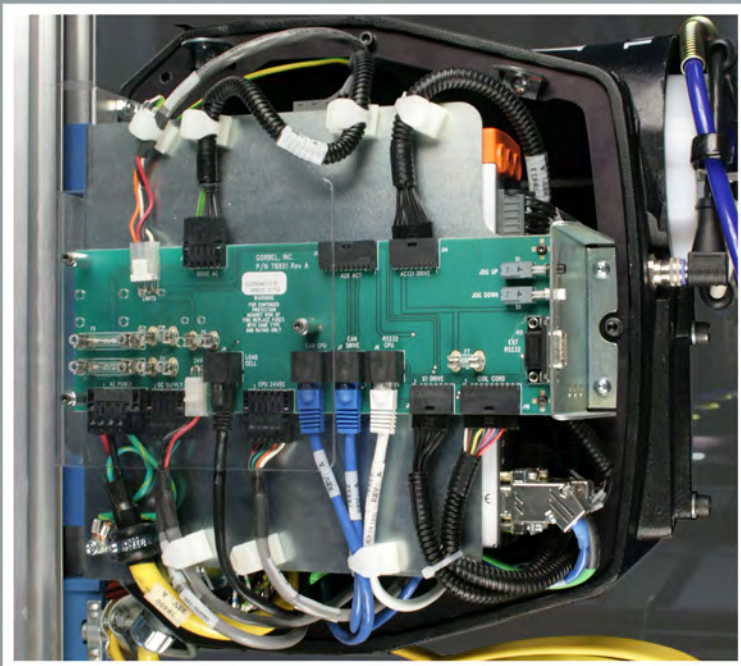


Yearly Tasks

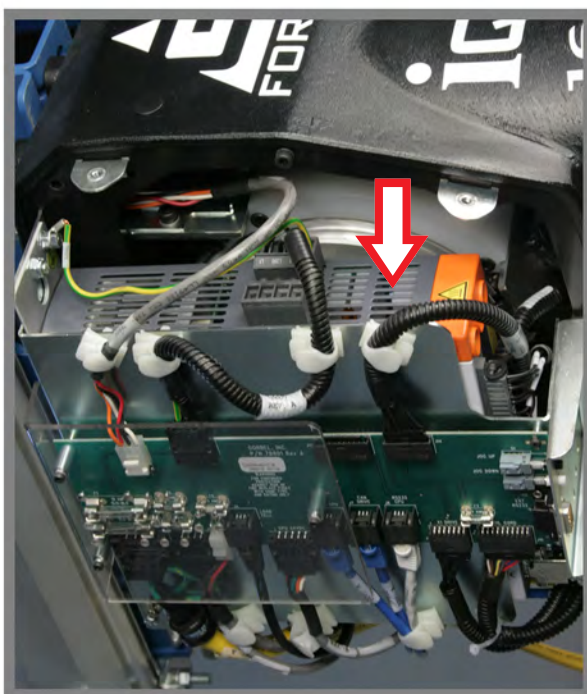
Tools and compressed air are required.

22. Internal and External Electrical Connectors: 23.

This includes Coil Cord, Swivel Assembly and Main pwb connectors. Check each connector carefully. Some are secured with hardware, some are the quick disconnect type.



24.



Note: Power off the system when checking or clearing electrical components

25. Servo Drive Heat Sink:

Clean this area only if the operating environment is especially dusty. Use compressed air and safety glasses.

Yearly Tasks

Tools, compressed air and specific lubricants are required.

26. Sliding Handle:

The ball bearings on the slide mechanism should be lubricated with white lithium grease. Use the grease sparingly and wipe any excess off immediately.



27. Linear Transducer Position:

Check the Linear Transducer by using the Diagnostic Menu as described in the Q -- iQ Service Manual, section 9. Adjust only if necessary.



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