Barrier-Free™ Bariatric Power Treatment Table

Ritter® by MIDMARK

Service and Parts Manual

Model Numbers:

244 -001

To purchase a printed copy of this manual, click on the "Place Order" button below.

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FOR USE BY MIDMARK TRAINED TECHNICIANS ONLY

SF-1856

Part No. 004-0462-00 Rev. D (6/1/11)

Style B

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**** Indicates multiple pages due to a serial number break for the parts illustration***

Symbols

Caution
Indicates a potentially hazardous situation which could result in injury if not avoided.

Equipment Alert
Indicates a potentially hazardous situation which could result in equipment damage if not avoided.

Note
Amplifies a procedure, practice, or condition.

Indicates that the component the check mark appears beside should be tested before replacing it.
In Section A, test the components in the order indicated.
(ex. ***1st*** ✓ then, ***2nd*** ✓)

Refer to Section B for component testing procedures.

These symbols are used throughout this manual to represent the operational status of table functions and components.

Indicates the function / component is working properly. No action required.

Indicates the function / component is working, but a problem exists.

Indicates the function / component is not working at all.

Ordering Parts

The following information is required when ordering parts:

- Serial number & model number
- Part number for desired part.
  [Refer to Exploded Views / Parts Lists section]

<u>Non-warranty</u> parts orders may be faxed to Midmark using the Fax Order Form in the back of this manual.

For warranty parts orders, call Midmark's Technical Service Department with the required information.
Hours: 8:00 am until 5:00 pm EST [Monday - Friday]
Phone: 1-(800)-Midmark

Model / Serial Number Location

General Information

Weights, Dimensions, Electrical Specifications

Patient Weight (Maximum) ..... 850 lbs (385 kg)
w/Caster Base Accessory ..... 650 lbs (295 kg)
Paper Roll (maximum size): ..... 24 in. long x 6 in. diameter (61cm x 15.2 cm)
Range of Motion & Dimensions ..... [See illustration]
Weight of Table ..... 340 lbs (154 kg)
w/packaging & skid ..... 400 lbs (181 kg)
Power Cord: ..... 8 ft. (243.8 cm) long
Electrical Requirements: ..... [See Compliance Charts]
Hand Control Voltage: ..... 5 VDC, SELV (Safety Extra Low Voltage)

Fuses:
Located at power cord inlet: ..... 6.3A, 250V, Slo-Blo, 5 x 20 mm
Duty Cycle *(motor run time)*: ..... Intermittent Operation [1 minute ON / 9 minutes off]

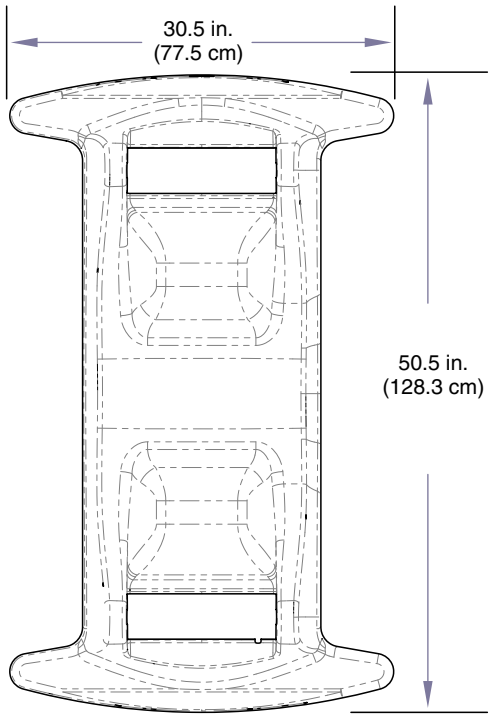
Classifications: ..... Class 1, Type B Applied Part

Protection against ingress of fluids: ..... Ordinary Equipment

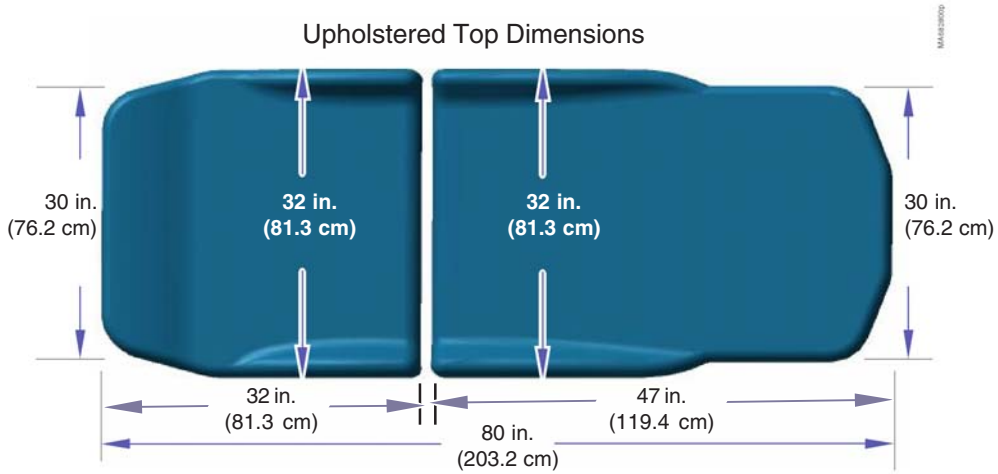
Regulatory Compliance: ..... [See Compliance Charts]

Equipment not suitable for use in the presence of a flammable anesthetic mixture with air, or with oxygen, or nitrous oxide.

Base Cover Dimensions



Upholstered Top Dimensions



General Information

Range of Motion

Note: *Movement automatically stops at the maximum / minimum height.*

[The table is equipped with safety switches to stop all movement if any pressure is applied to the base cover].

Max.
65° ±3°

Min.
0° ±1°

Max.
34 in.
(86.4 cm)

Min.
18 in.
(45.7 cm)

Max.
15° ±2°

Horizontal
0°

Min.
-15° ±2°

Model Identification / Compliance Chart - 244

Fire Code Ratings

All Midmark *Standard* Upholstery sets comply with: California Bureau of Home Furnishing Technical Bulletin 117

Model	Description	Serial Number Prefix	Complies To:					Electrical Ratings:		
			UL 60601-1	CAN/CSA 22.2, #601.1-M90	EN 60601-1-2 (EMC)	EN 60601-1	CE	VAC +/- 10%	Amps	Cycles (Hz)
244-001	**Bariatric Treatment Table**	**n/a**	**X**	**X**				120	2.5	60

Scheduled Maintenance
Bariatric Power Treatment Table

Interval	Inspection or Service	Service, Adjust, Repair, and / or Replace as Required (Refer to appropriate S&P or Quick Reference Guide)	244
Weekly	Cleaning	Clean upholstery with 20:1 diluted bleach solution (water:bleach).	X
		Wipe painted metal & plastic surfaces with a clean soft cloth and mild cleaner. *(NOTE: Periodic application of common furniture wax will ease cleaning, and maintain the luster of the surfaces).*	X
	Obvious Damage	Visually inspect components for damage that could cause problems during operation or unsafe operation.	X
Semi-Annually	Mechanical Operation	Check all mechanical functions using the hand control. Repeat using the foot control when present.	X
		Table should move smoothly & quietly when any function is activated.	X
		Check base cover limit switches for proper operation. ***A.*** *Press down firmly on the base cover.* ***B.*** *Activate any table function with the hand / foot control.* If table function does not move, limit switches OK. If table function does move, inspect / test limit switches.	X
	Labels / Decals	Replace any missing or illegible labels.	X
	Hardware	All fasteners must be present and fastened securely.	X
	Electrical System	Inspect power cord and all wiring for damage.	X
		Be sure all electrical connections are tight.	X

Date of Service: _____/_____/_____

Location:

Service Technician:

Model

Serial Number:

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Warranty Information

SCOPE OF WARRANTY
Midmark Corporation (“Midmark”) warrants to the original purchaser its new Alter-nate Care products and components (except for components not warranted under “Exclusions”) manufac-tured by Midmark to be free from defects in material and workmanship under normal use and service. Midmark’s obligation under this warranty is limited to the repair or replacement, at Midmark’s option, of the parts or the products the defects of which are reported to Midmark within the applicable warranty period and which, upon examination by Midmark, prove to be defective.

APPLICABLE WARRANTY PERIOD
The applicable warranty period, measured from the date of delivery to the original user, shall be one (1) year for all warranted products and components.

EXCLUSIONS
This warranty does not cover and Midmark shall not be liable for the following: (1) repairs and replacements because of misuse, abuse, negligence, alteration, acci-dent, freight damage, or tampering; (2) products which are not installed, used, and properly cleaned as required in the Midmark “Installation” and or “Installation / Oper-ation Manual for this applicable product. (3) products considered to be of a consum-able nature; (4) accessories or parts not manufactured by Midmark; (5) charges by anyone for adjustments, repairs, replacement parts, installation, or other work performed upon or in connection with such products which is not expressly authorized in writing in advance by Midmark.

EXCLUSIVE REMEDY
Midmark’s only obligation under this warranty is the repair or replacement of defec-tive parts. Midmark shall not be liable for any direct, special, indirect, incidental, exemplary, or consequen tial damages or delay, including, but not limited to, dam-ages for loss of profits or loss of use.

NO AUTHORIZATION
No person or firm is authorized to create for Midmark any other obligation or liability in connection with the products.

THIS WARRANTY IS MIDMARK’S ONLY WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. MIDMARK MAKES NO IMPLIED WARRANTIES OF ANY KIND INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACE MENT OF DEFECTIVE PARTS.

SF-1487 REV. A1

Additional Information
Failure to follow the guidelines listed below will void the warranty and/or render the table unsafe for use.

- If a malfunction is detected, do not use the table until necessary repairs are made.
- Do not attempt to disassemble table, replace components, or perform adjustments unless you are a Midmark authorized service technician.
- Do not use another manufacturer's parts to replace malfunctioning components. Use only Midmark replacement parts

Section A

Operation & Troubleshooting

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitve. ex. A-2)

Operation & Troubleshooting

Power To The Table

Troubleshooting
[Power to the Table]

Problem — **Go To Page:**

Facility Supply Voltage
With the table's power cord properly connected, facility supply voltage *(115 VAC)* is supplied thru the cord to the power inlet.

Power Inlet *(Power Switch & Fuses)*
Current flows thru two fuses in the power inlet to the power switch. When the power switch is turned ON (**I**), current flows to the control box.

Control Box
Line voltage *(115 VAC)* is supplied to the control box thru the power inlet. *(An indicator light on the control box illuminates when power is present)*. The control box reduces the voltage and supplies approximately 5 VDC to the base cover limit switch circuit.

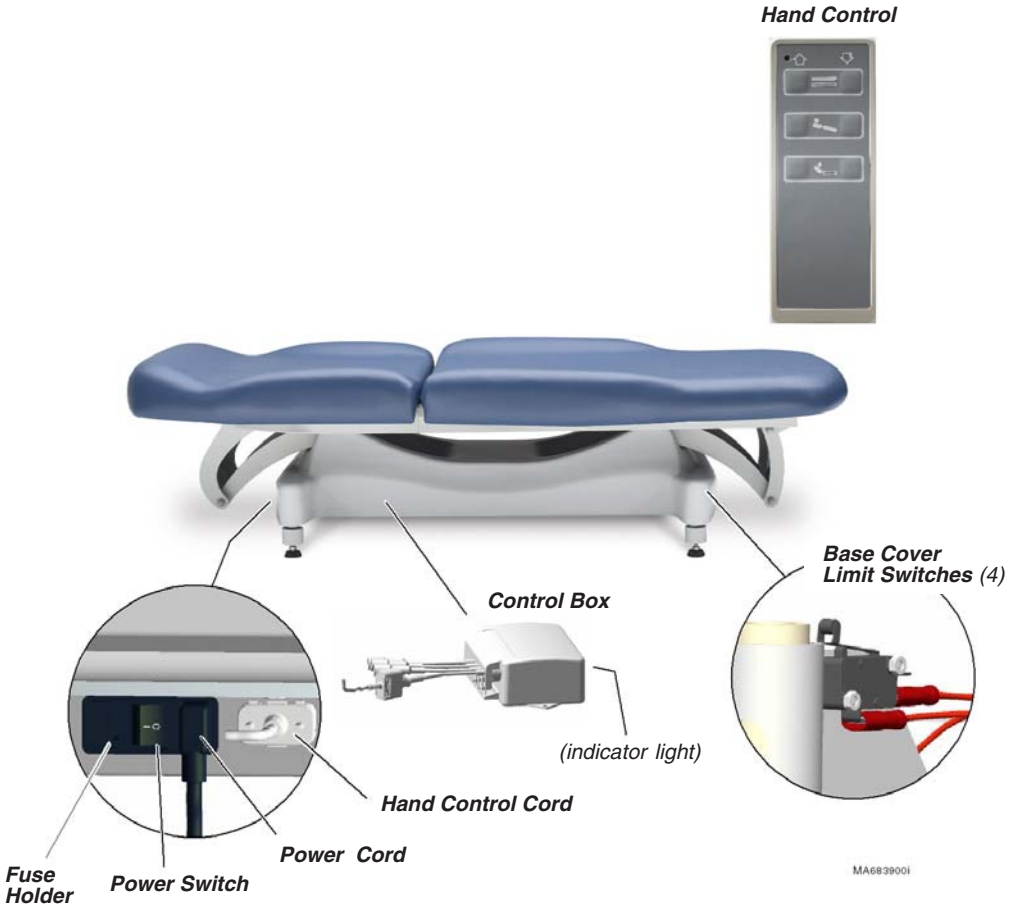
Base Cover Limit Switch Circuit

> **Note**
> The base cover limit switches prevent injury and/or equipment damage by disabling all table functions if any pressure is applied to the base cover.

The control box supplies approximately 5 VDC to the four base cover limit switches. During normal operating conditions, current flows thru all four normally-closed switches, then to the hand control.

If pressure is applied to the spring-loaded base cover, one or more of the limit switches will be tripped. When any of the limit switches are tripped, there is no current supplied to the hand control.

Hand Control
With the hand control cord properly connected, 5 VDC is supplied to the hand control thru the four base cover limit switches. This current continuously flows back to the control box thru seperate wires for each table function. When a function is selected from the hand control, this "signal voltage" is removed from the wire corresponding to the selected function. When the signal voltage is removed, the control box activates the selected function.

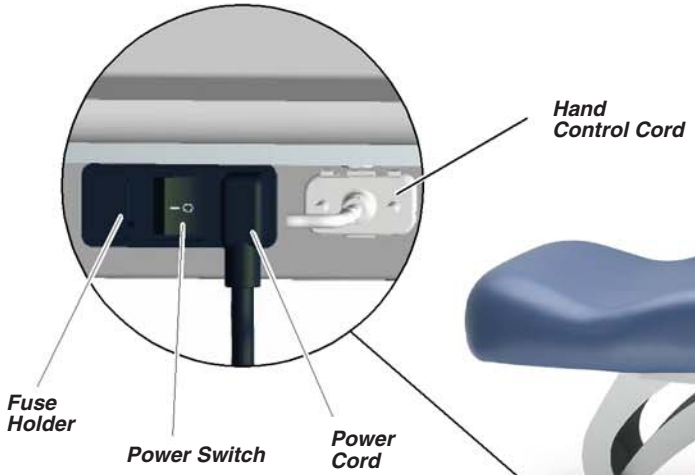


Power To The Table - *continued*

Problem: *No table functions will operate.*

Refer To: **Go To Page:**
Limit Switch Circuit Test A-4
Fuse Replacement B-2

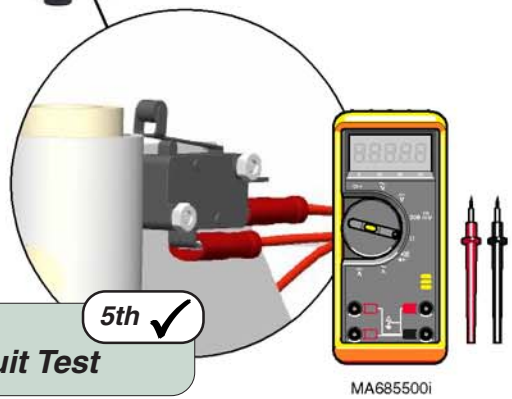
Is there power to the table? *1st* ✓
*Power switch must be turned ON (**I**).*
Check facility circuit breaker.



Loose / Damaged Wire Connections *4th* ✓
Check power cord and hand control cord.

Fuses (2) *3rd* ✓

Is there pressure / weight on the base cover? *2nd* ✓
Any pressure on the base cover will disable <u>all</u> table functions.



Perform *5th* ✓
Limit Switch Circuit Test

Models:	***All***
Serial Numbers:	

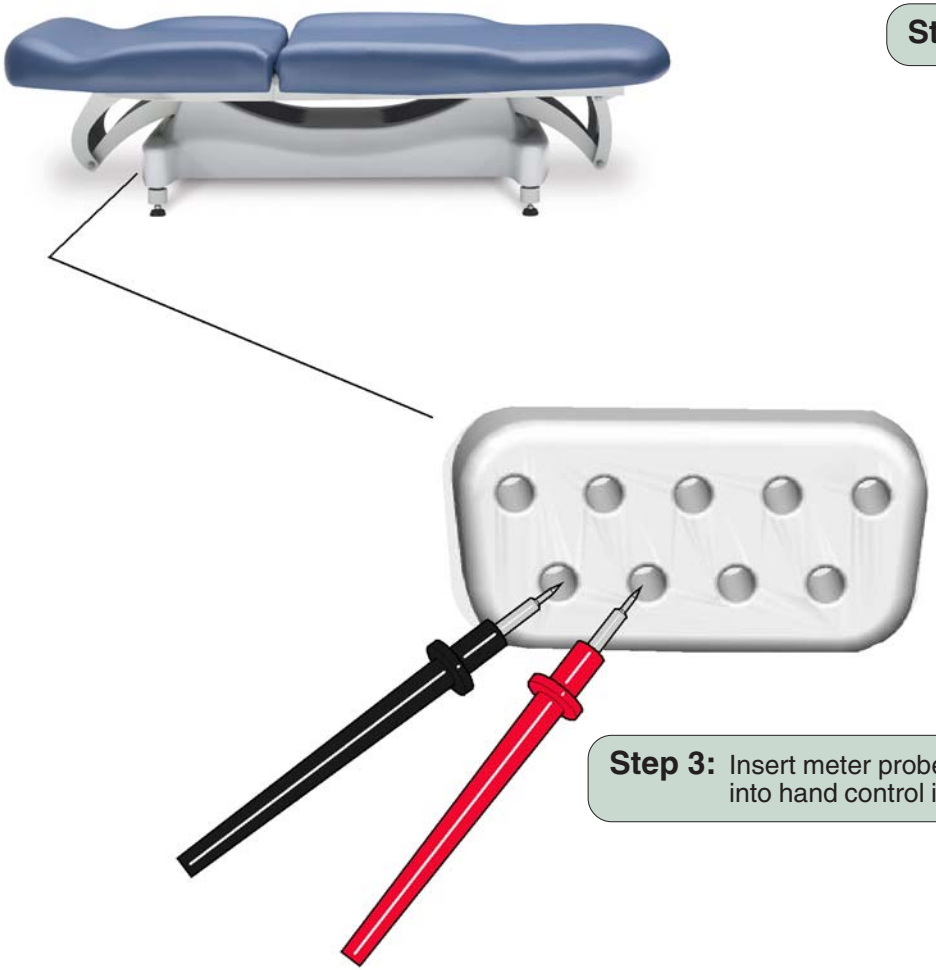
Operation & Troubleshooting

Power To The Table - continued

Limit Switch Circuit Test

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

Step 1: Unplug hand control cord from table.



Step 2: Set meter to read DC voltage.

MA686000i

5 VDC (approximately) indicates:
Limit Switch Circuit* - OK
(includes fuses & power switch)*

Required Action:
Perform *Signal Voltage Test #1.*

0 VDC indicates:
Limit Switch Circuit is malfunctioning.

Required Action:
Perform *Supply Voltage Test.*

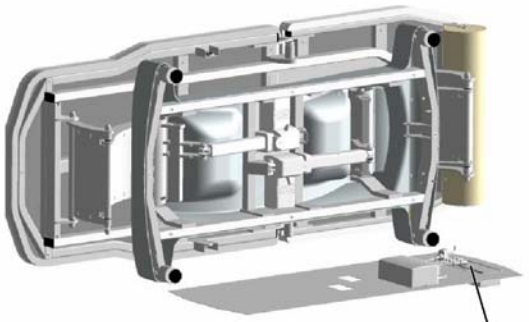
Step 3: Insert meter probes *(exactly as shown)* into hand control inlet on table.

Power To The Table - continued

Supply Voltage Test

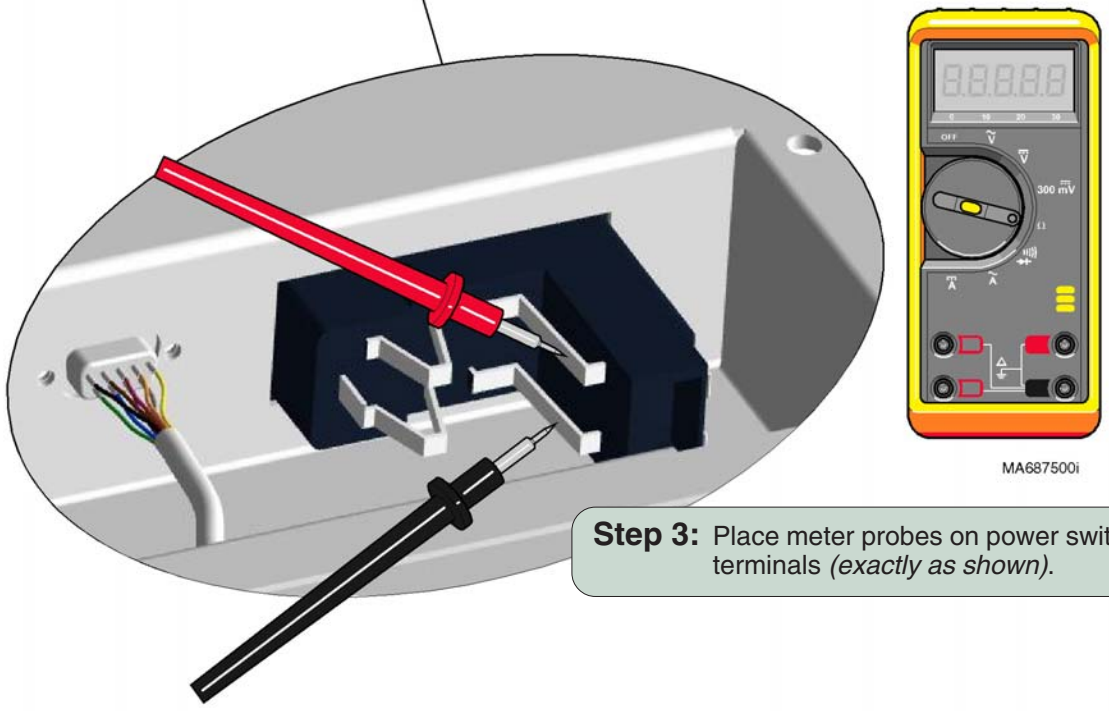
Caution
*The power cord must be plugged in, and the power switch must be ON (**I**) during this test.*

Refer To: | **Go To Page:**
Fuse Test B-2
Power Inlet Replacement B-3
Limit Switch Test B-5
Control Box Replacement B-7
Exploded Views / Part Numbers E-1



Step 1: Remove bottom cover.
Remove power inlet housing cover.

Step 2: Set meter to read AC voltage.



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Step 3: Place meter probes on power switch terminals *(exactly as shown)*.

120 VAC (approximately) indicates:
Fuses - OK
Power Inlet - OK

Required Action:
Test all four Base Cover Limit Switches.
Replace any faulty limit switch(es).

If all limit switches are OK...
Inspect hand control port harness. Replace if damaged.
If hand control harness is OK, replace control box.

0 VAC indicates:
Power supply problem.

Required Action:
Check fuses.
Replace faulty fuse(s).
If fuses are OK, replace power inlet.

Operation & Troubleshooting

Power To The Table - continued

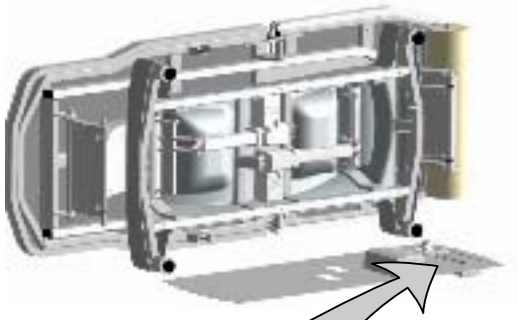
Signal Voltage Test

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

Refer To: | **Go To Page:**

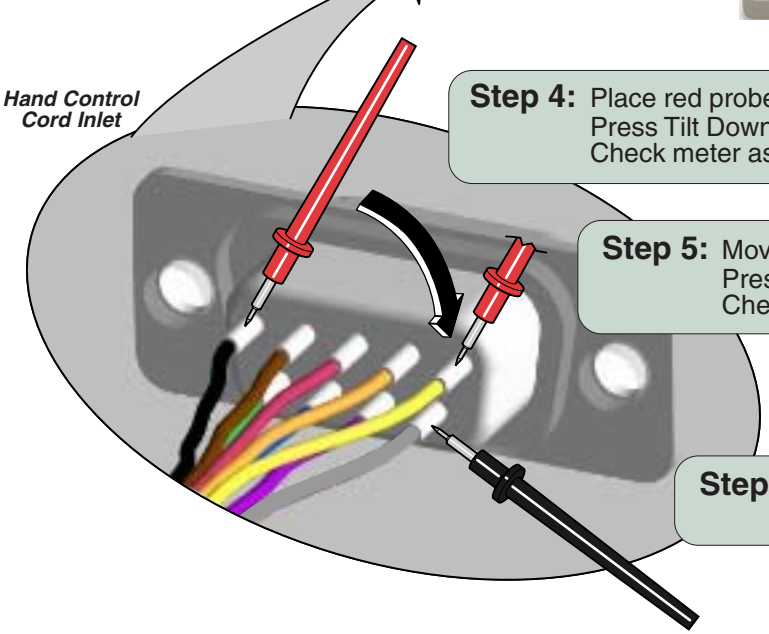
Control Box Replacement B-7
Bottom Cover Removal C-3
Exploded Views / Part Numbers E-1

Step 1: Remove bottom cover.
Remove power inlet housing cover.



Step 2: Set meter to read DC voltage.

[Meter should indicate approx. 5 VDC, when hand control button is released. If not, repeat Limit Switch Circuit Test]



Step 4: Place red probe on BLACK wire.
Press Tilt Down button on hand control.
Check meter as button is pressed & released.

Step 5: Move red probe to YELLOW wire.
Press Back Down button on hand control.
Check meter as button is pressed & released.

Step 3: Place black probe on GREY wire *(common)*.

When specified hand control button is pressed, does voltage drop to approx. 0.7 VDC?
If YES, replace control box.
If NO, replace hand control.

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Base Up / Down Function

Troubleshooting
[Base Up / Down Function]

Problem — ***Go To Page:***

Power To The Hand Control
[Refer to 'Power To The Table' (page A-2), for description of current flow to the hand control].

Signal Voltage
The hand control continuously supplies signal voltage *(approx. 5 VDC)* to the control box thru seperate wires for each function.

Base Up Operation
When the Base Up button is pressed, the circuit for this function opens, stopping the flow of signal voltage to the control box. When the signal voltage for the Base Up function is removed, the control box supplies 24 VDC to both lower actuators.

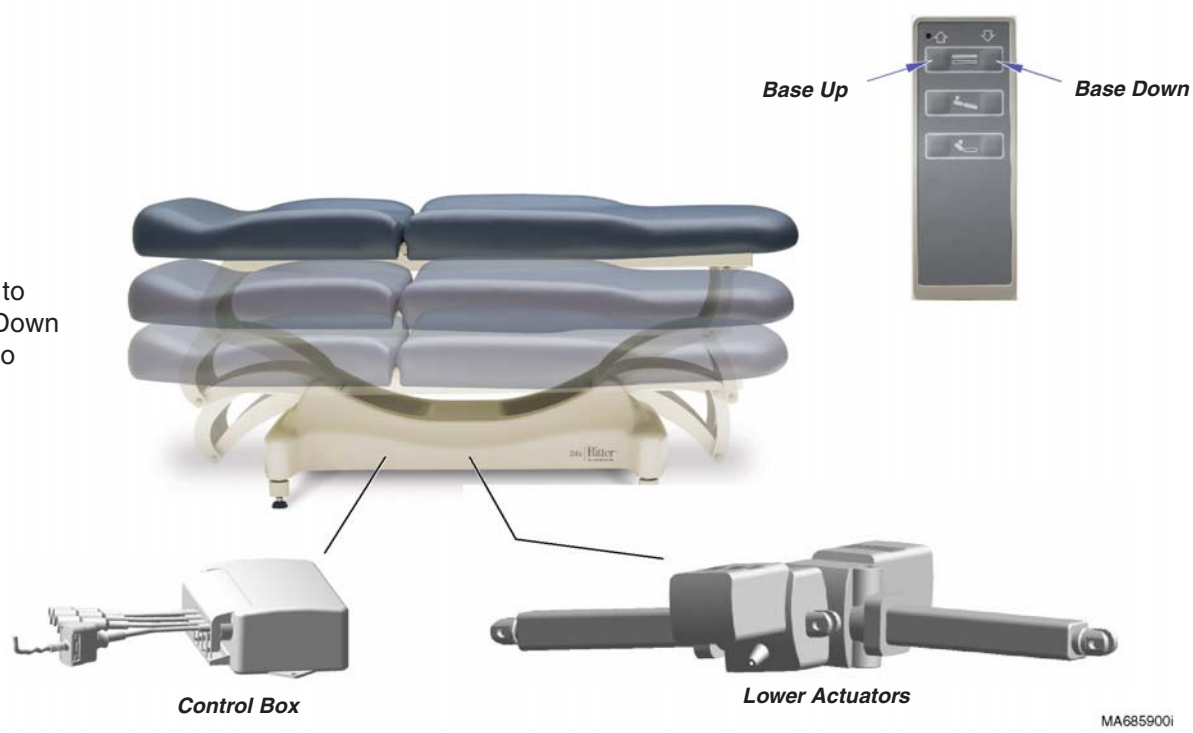
The two lower actuators extend and raise the table.

Both actuator motors run until:
1. Hand control button is released.
2. Both actuators are fully extended.
   (internal limit switches - not serviceable)

Base Down Operation
When the Base Down button is pressed, the circuit for this function opens, stopping the flow of signal voltage to the control box. When the signal voltage for the Base Down function is removed, the control box supplies 24 VDC to both lower actuators.

The two lower actuators retract and lower the table.

Both actuator motors run until:
1. Hand control button is released.
2. Both actuators are fully retracted.
   (internal limit switches - not serviceable)



Operation & Troubleshooting

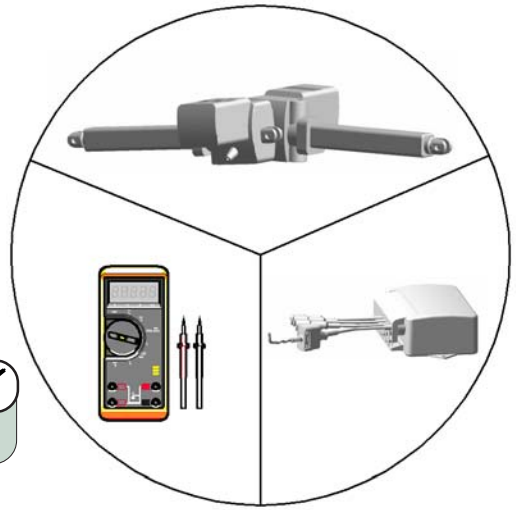
Base Up / Down - continued

Problem: *No Base Up and/or No Base Down. (Tilt function does not work)*

Does the Back function work? 1st ✓

If YES, go to 2nd ✓

If NO, refer to, Section A: Power To The Table



Perform 2nd ✓

Control Box / Lower Actuator Test

MA688000i

Base Up / Down - *continued*

Problem: *No Base Up and/or No Base Down. (Tilt function - OK)*

Refer To: **Go To Page:**
SIgnal Voltage Test: *Base Function* A-14

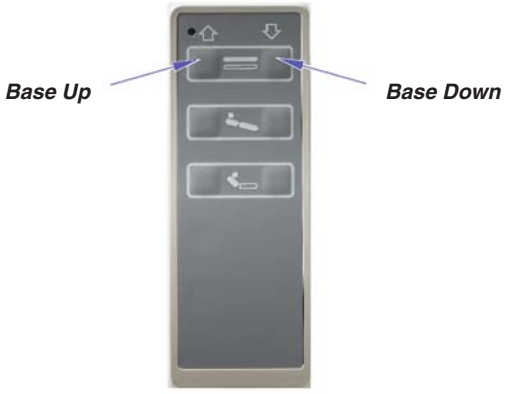
Perform *1st* ✓
Signal Voltage Test: Base Function

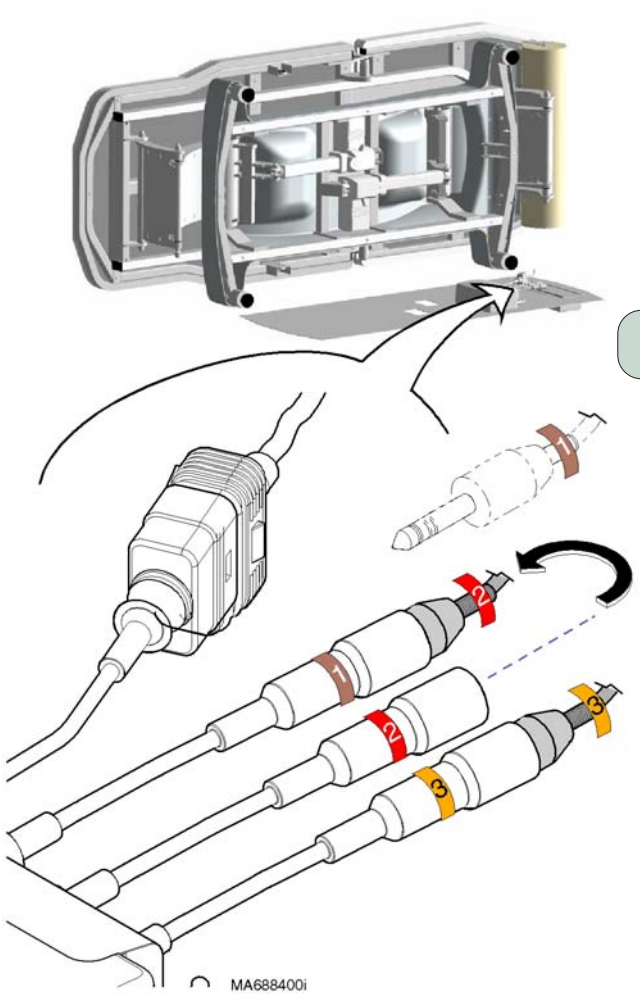
Operation & Troubleshooting

Base Up / Down - continued

Problem: *When Base Up or Base Down is selected, the table tilts up or down.*

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.





Step 1: Remove bottom cover.

Caution
Keep the area around the table clear!
The table will move when performing Steps 2 thru 5.

Step 2: Press the BASE UP button briefly, then release.

If both lower actuators extend...
Go to Step 3.

If only one lower actuator extends...
Go to Step 4.

Step 3: Press the BASE DOWN button briefly, then release.

If both lower actuators retract...
Repeat Step 2.

If only one lower actuator retracts...
Go to Step 4.

Step 4: Disconnect both lower actuator wires *(1 & 2)* from control box wires.

Step 5: Plug non-working actuator into control box wire for working actuator.
[ex. If lower actuator (2) did not move, plug it into control box wire (1)]
Press BASE UP / DOWN button.

If actuator works...
Replace the control box.

If actuator does not work...
Replace the actuator.

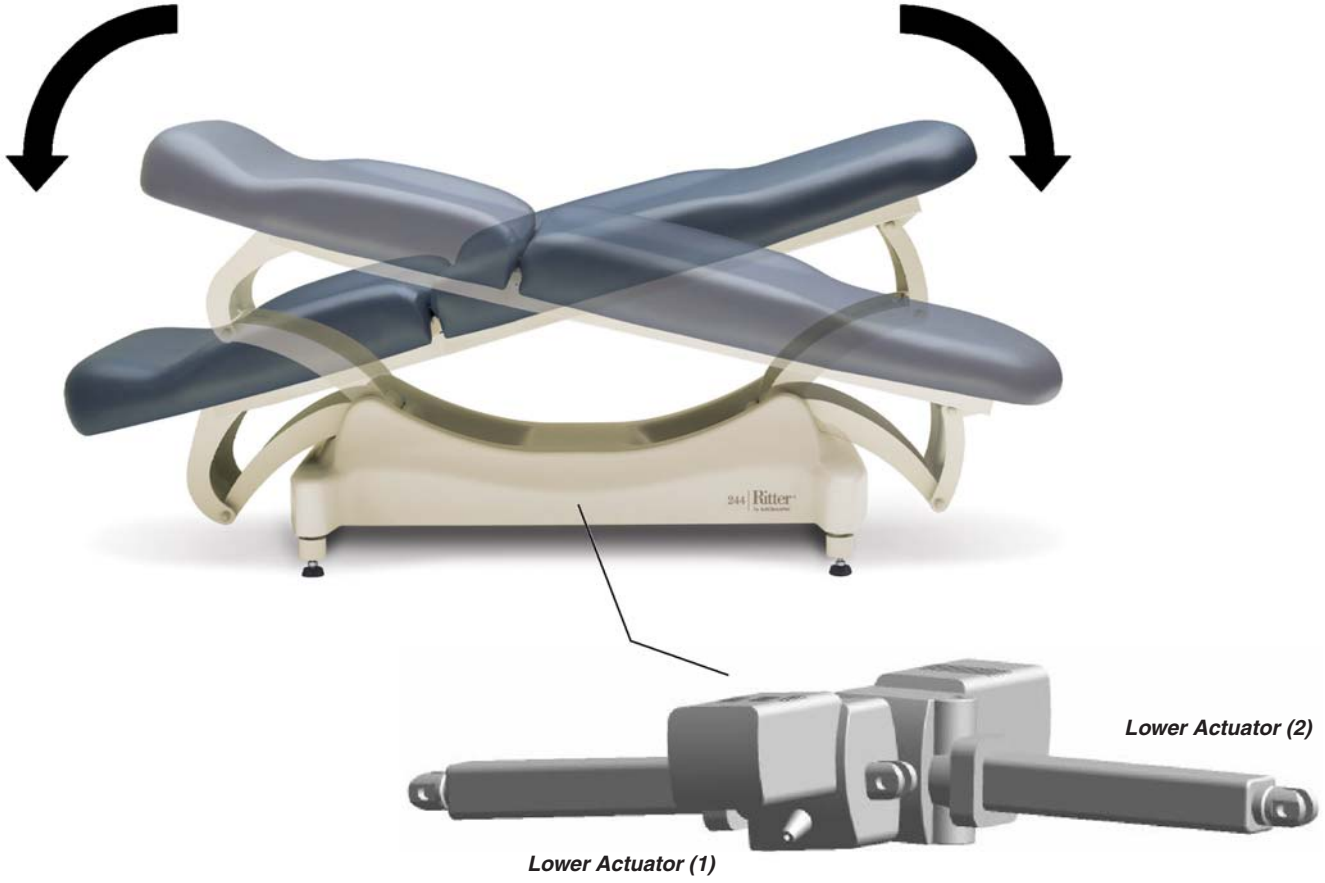
Base Up / Down - *continued*

Problem: *Table drifts down.*

Refer To: | ***Go To Page:***
Lower Actuator Replacement B-9
Exploded Views / Parts List E-8

If head-end drifts down...
Replace Lower Actuator (1).

If foot-end drifts down...
Replace Lower Actuator (2).



Models: ***All***
Serial Numbers:

Operation & Troubleshooting

Base Up / Down - continued

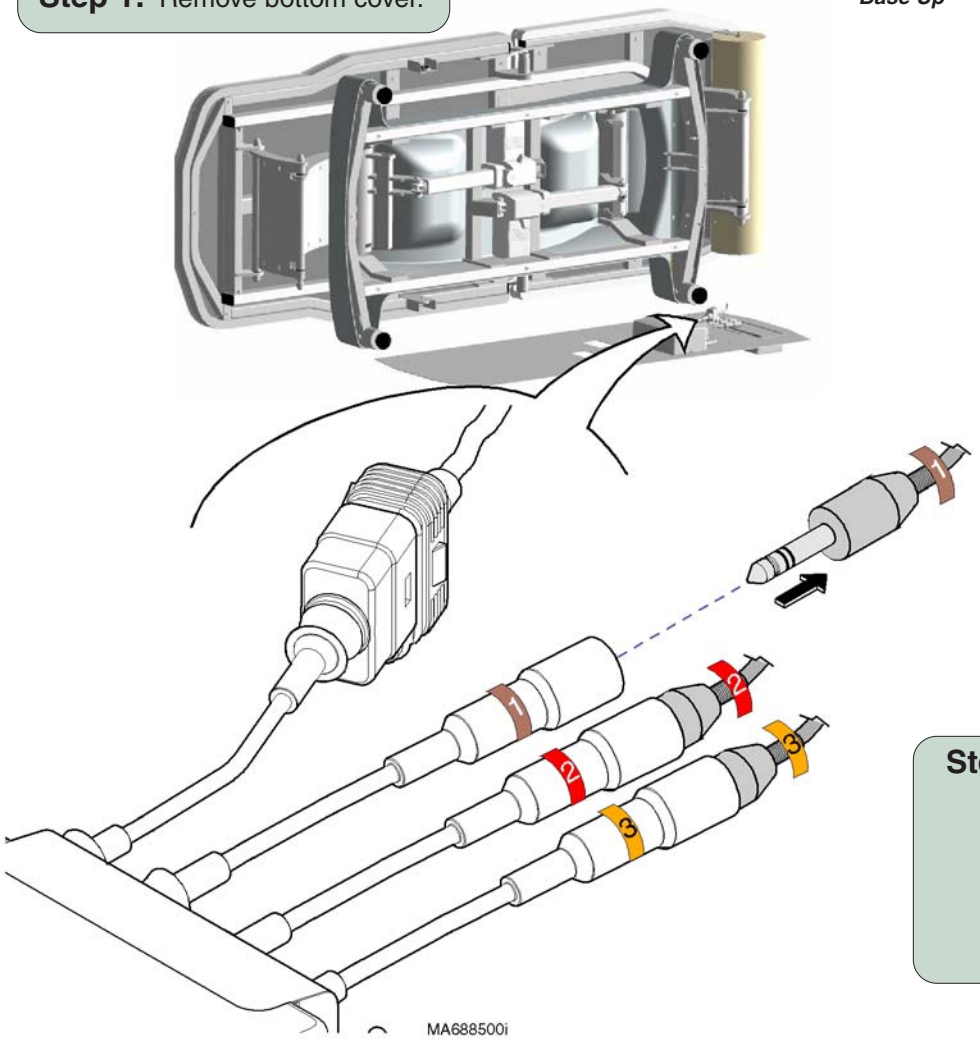
Problem: *Noisy actuator(s)*

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

Refer To: **Go To Page:**

Lower Actuator Replacement B-9
Bottom Cover Removal C-3
Exploded Views / Parts List E-8

Step 1: Remove bottom cover.



Caution
Keep the area around the table clear!
The table will move when performing Steps 2 & 3.

Step 2: Disconnect lower actuator wire (1).
Run Base Up & Base Down functions briefly.

If actuator (2) makes loud grinding noise...
Replace lower actuator (2).

If actuator (2) sounds OK...
Reconnect lower actuator wire (1).
Go to Step 3.

Step 3: Disconnect lower actuator wire (2).
Run Base Up & Base Down functions briefly.

If actuator (1) makes loud grinding noise...
Replace lower actuator (1).

If actuator (1) sounds OK...
Reconnect lower actuator wire (2).

Operation & Troubleshooting

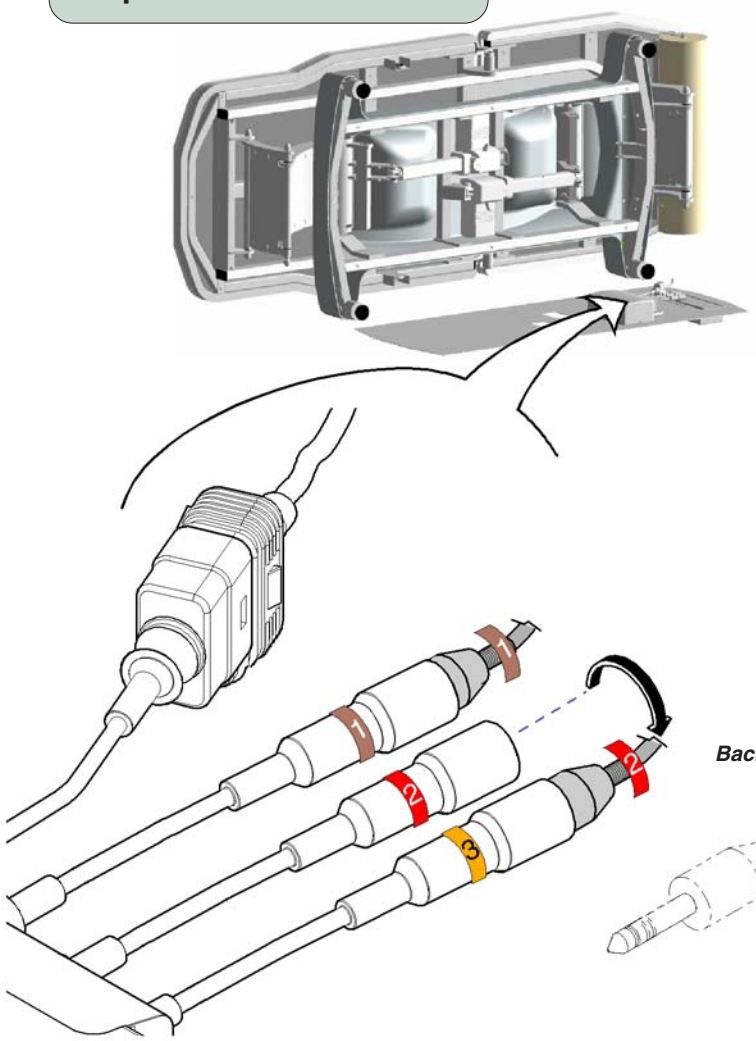
Base Up / Down - *continued*

Control Box / Lower Actuator Test

Caution
*The power cord must be plugged in, and the power switch must be ON (**I**) during this test.*

Refer To: | **Go To Page:**
Signal Voltage Test: *Base Function* A-14
Lower Actuator Replacement B-9
Bottom Cover Removal C-3
Exploded Views / Parts List E-8

Step 1: Remove bottom cover.



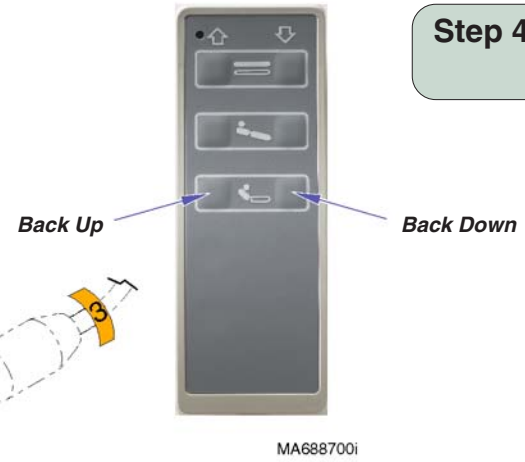
Step 2: Unplug back acutator wire (3).
Connect lower actuator wire (2) to control box wire (3).

Caution
Keep the area around the table clear!
The table may move when performing this step.

Step 3: Press the BACK UP button briefly, then release.
Press the BACK DOWN button breifly, then release.

Does lower actuator move when buttons are pressed?
If YES, lower actuator is OK.
If NO, replace actuator.

If both lower actuators are OK...
Go to Step 5.



Step 4: Connect lower actuator wire (1) to control box wire (3).
Then, repeat Step 3.

Step 5: Reconnect actuator wires *(1, 2, & 3)* to corresponding control box wires.

Step 6: Perform *Signal Voltage Test: Base Function.*

Models: ***All***
Serial Numbers:

Operation & Troubleshooting

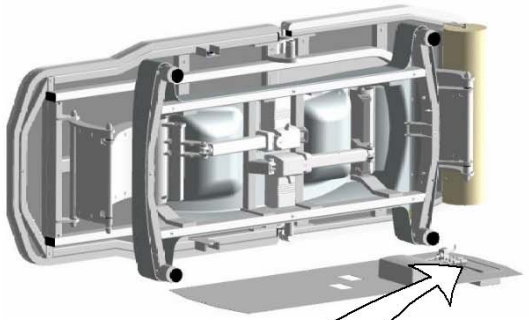
Base Up / Down - continued

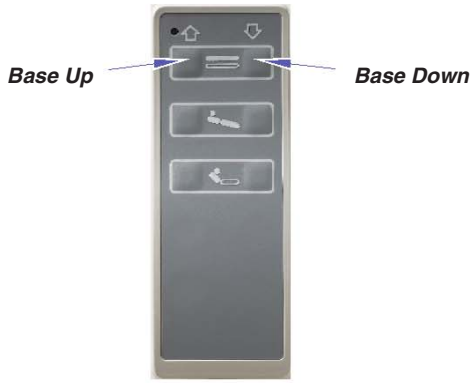
Signal Voltage Test: Base Function

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

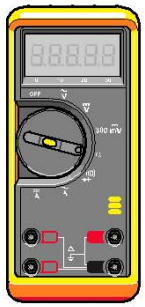
Refer To: | **Go To Page:**
Control Box Replacement B-7
Bottom Cover Removal C-3
Exploded Views / Parts Lists E-1

Step 1: Remove bottom cover.
Remove power inlet housing cover.



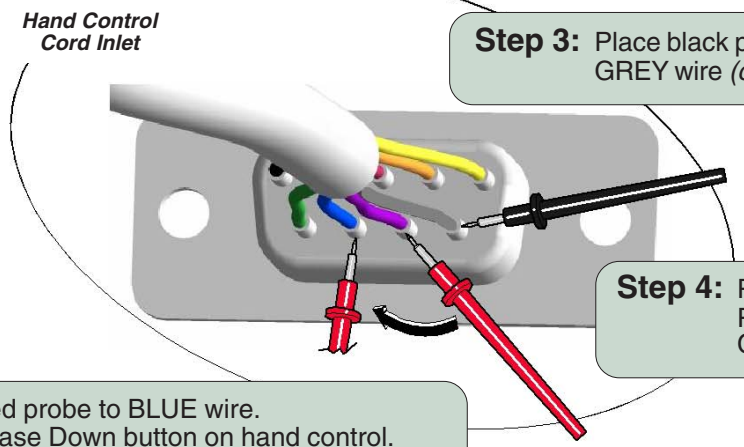


Step 2: Set meter to read DC voltage.



[Meter should indicate approx. 5 VDC, when hand control button is released. If not, refer to Limit Switch Circuit Test]

When specified hand control button is pressed, does voltage drop to approx. 0.7 VDC?
If YES, replace control box.
If NO, replace hand control.



Step 3: Place black probe on GREY wire *(common)*.

Step 4: Place red probe on PURPLE wire.
Press Base Up button on hand control.
Check meter as button is pressed & released.

Step 5: Move red probe to BLUE wire.
Press Base Down button on hand control.
Check meter as button is pressed & released.

MA688200i

Tilt Up / Down Function

Troubleshooting
[Tilt Up / Down Function]

Problem — ***Go To Page:***

Power To The Hand Control
[Refer to 'Power To The Table' (page A-2), for description of current flow to the hand control].

Signal Voltage
The hand control continuously supplies signal voltage *(approx. 5 VDC)* to the control box thru seperate wires for each function.

Tilt Up Operation *(Foot-end UP)*
When the Tilt Up button is pressed, the circuit for this function opens, stopping the flow of signal voltage to the control box. When the signal voltage for the Tilt Up function is removed, the control box supplies 24 VDC to both lower actuators.

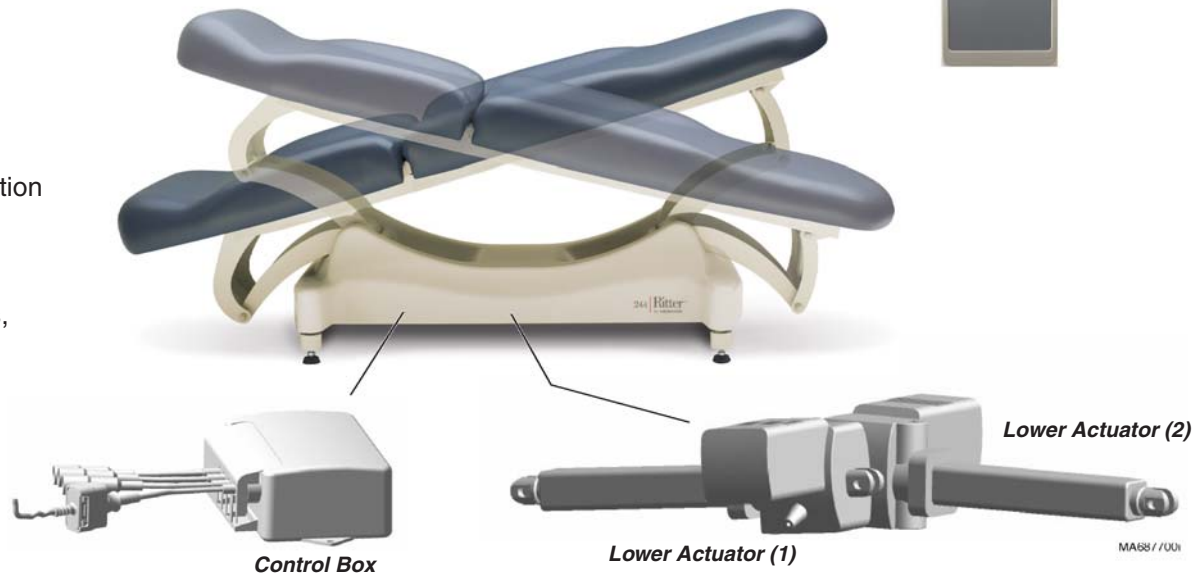
Lower actuator (1) retracts, and lower actuator (2) extends, raising the foot-end of the table.

Both actuator motors run until:
1. Hand control button is released.
2. Lower actuator (1) is fully retracted.
   Lower actuator (2) is fully extended.
   (internal limit switches - not serviceable)

Tilt Down Operation *(Foot-end DOWN)*
When the Tilt Down button is pressed, the circuit for this function opens, stopping the flow of signal voltage to the control box. When the signal voltage for the Tilt Down function is removed, the control box supplies 24 VDC to both lower actuators.

Lower actuator (1) extends, and lower actuator (2) retracts, lowering the foot-end of the table.

Both actuator motors run until:
1. Hand control button is released.
2. Lower actuator (1) is fully extended.
   Lower actuator (2) is fully retracted.
   (internal limit switches - not serviceable)



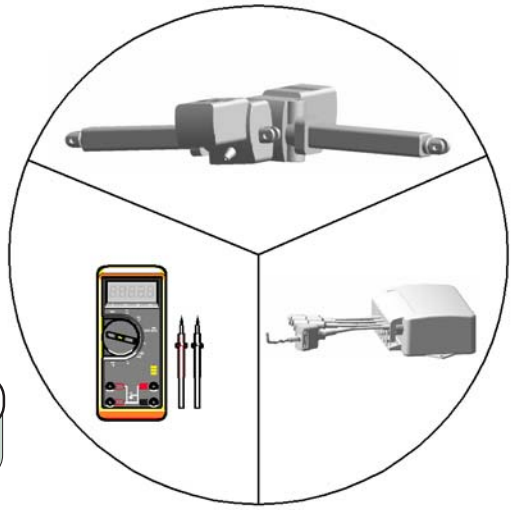
Operation & Troubleshooting

Tilt Up / Down - *continued*

Problem: *No Tilt Up and/or No Tilt Down.*
(Base function does not work)

Refer To: **Go To Page:**

Does the Back function work? *1st* ✓
If YES, go to 2nd ✓
If NO, refer to, Section A: Power To The Table



Perform *2nd* ✓
Control Box / Lower Actuator Test

Operation & Troubleshooting

Tilt Up / Down - *continued*

Problem: *No Tilt Up and/or No Tilt Down.*
(Base function - OK)

Refer To: **Go To Page:**
SIgnal Voltage Test: *Tilt Function* A-21

Perform *1st* ✓
Signal Voltage Test: Tilt Function

Models: ***All***
Serial Numbers:

Tilt Up / Down

Operation & Troubleshooting

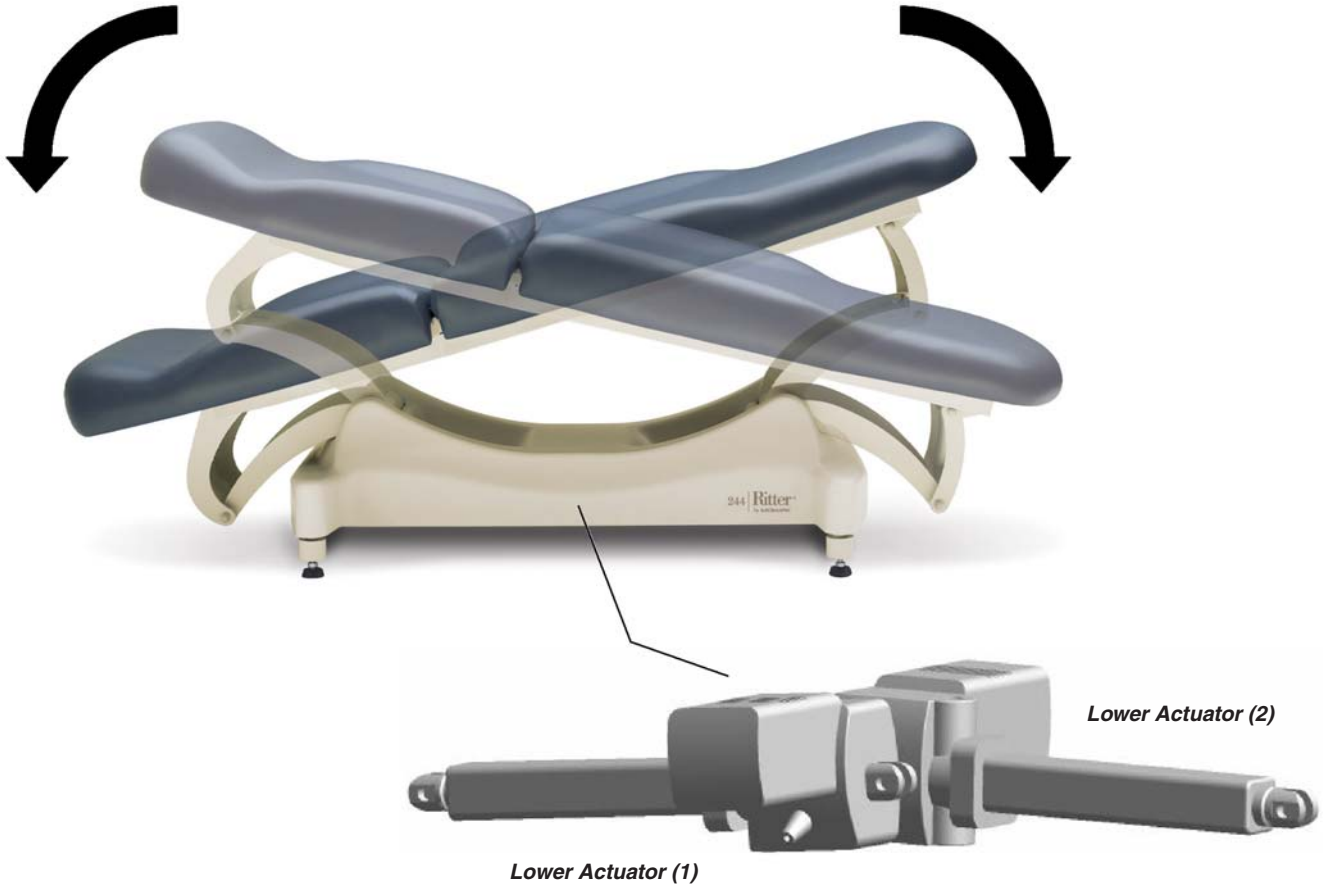
Tilt Up / Down - *continued*

Problem: *Table drifts down.*

Refer To: **Go To Page:**
Lower Actuator Replacement B-9
Exploded Views / Parts List E-8

If head-end drifts down...
Replace Lower Actuator (1).

If foot-end drifts down...
Replace Lower Actuator (2).



Operation & Troubleshooting

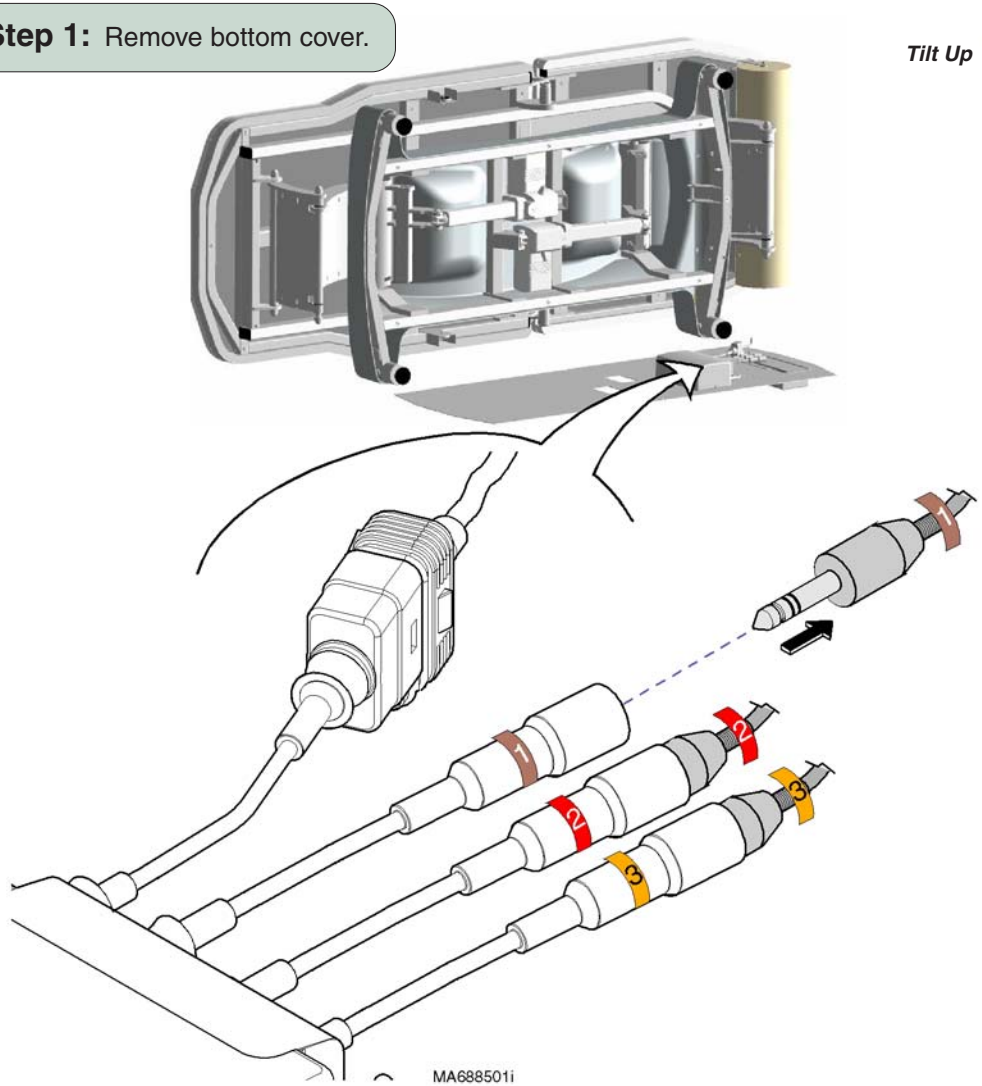
Tilt Up / Down - *continued*

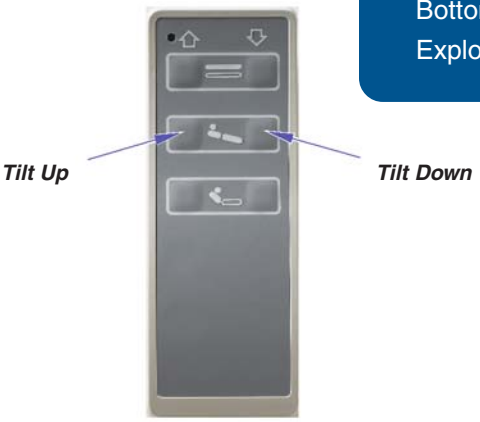
Problem: *Noisy actuator(s)*

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

Refer To: | **Go To Page:**
Lower Actuator Replacement B-9
Bottom Cover Removal C-3
Exploded Views / Parts List E-8

Step 1: Remove bottom cover.





Caution
Keep the area around the table clear!
The table will move when performing Steps 2 & 3.

Step 2: Disconnect lower actuator wire (1).
Run Tilt Up & Tilt Down functions briefly.

If actuator (2) makes loud grinding noise...
Replace lower actuator (2).

If actuator (2) sounds OK...
Reconnect lower actuator wire (1).

Step 3: Disconnect lower actuator wire (2).
Run Tilt Up & Tilt Down functions briefly.

If actuator (1) makes loud grinding noise...
Replace lower actuator (1).

If actuator (1) sounds OK...
Reconnect lower actuator wire (2).

Models: ***All***
Serial Numbers:

Tilt Up / Down

Operation & Troubleshooting

Tilt Up / Down - continued

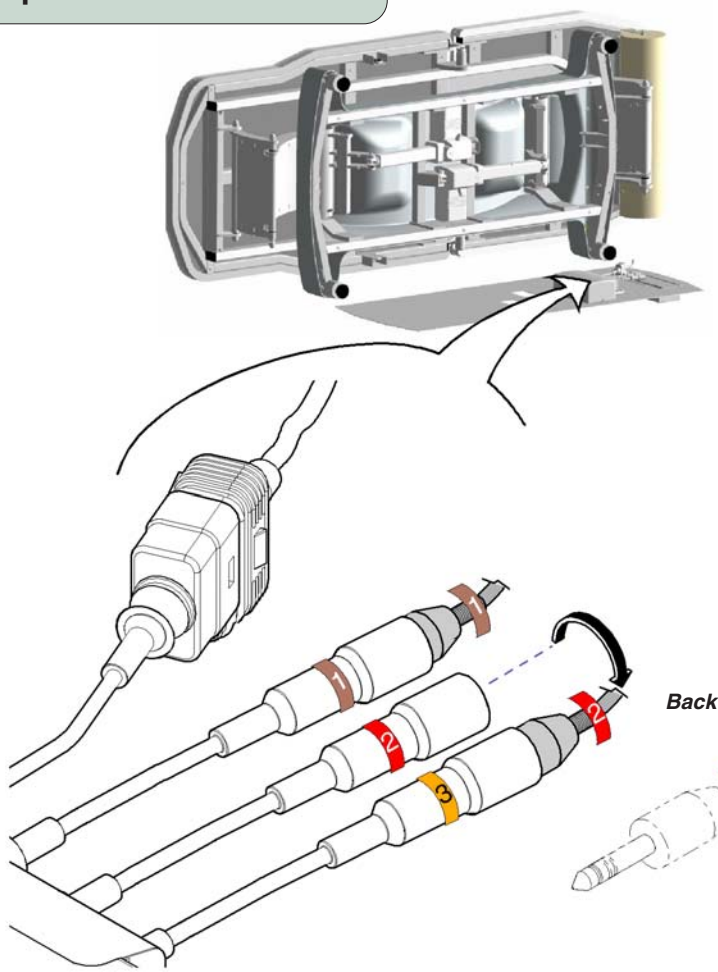
Control Box / Lower Actuator Test

Caution
*The power cord must be plugged in, and the power switch must be ON (**I**) during this test.*

Refer To: | **Go To Page:**

Signal Voltage Test: *Tilt Function* A-21
Lower Actuator Replacement B-9
Bottom Cover Removal C-3
Exploded Views / Parts List E-8

Step 1: Remove bottom cover.



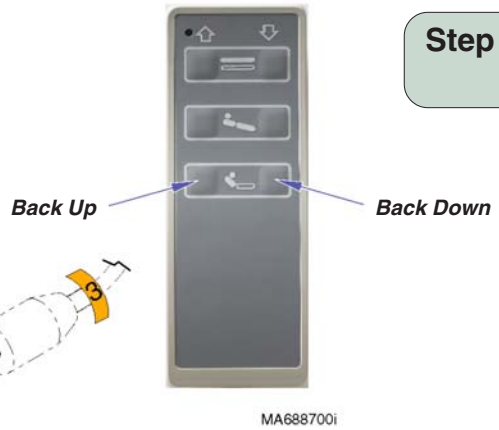
Step 2: Unplug back acutator wire (3).
Connect lower actuator wire (2) to control box wire (3).

Caution
Keep the area around the table clear!
The table may move when performing this step.

Step 3: Press the BACK UP button briefly, then release.
Press the BACK DOWN button breifly, then release.

Does lower actuator move when buttons are pressed?
If YES, lower actuator is OK.
If NO, replace actuator.

If both lower actuators are OK...
Go to Step 5.



Step 4: Connect lower actuator wire (1) to control box wire (3).
Then, repeat Step 3.

Step 5: Reconnect actuator wires *(1, 2, & 3)* to corresponding control box wires.

Step 6: Perform *Signal Voltage Test: Tilt Function.*

Tilt Up / Down

Models: ***All***
Serial Numbers:

Operation & Troubleshooting

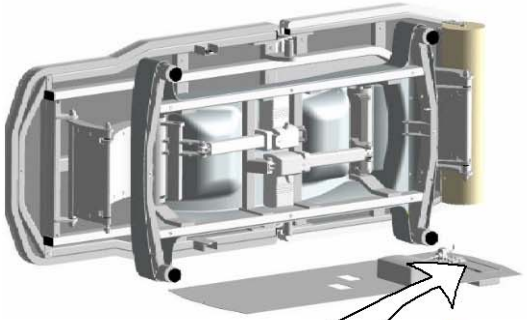
Tilt Up / Down - continued

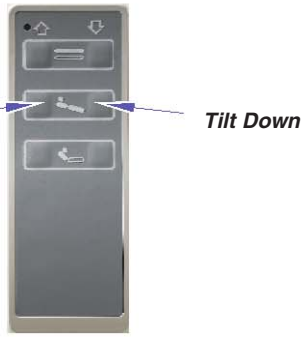
Signal Voltage Test: Tilt Function

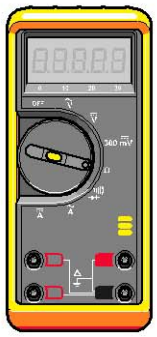
Caution
*The power cord must be plugged in, and the power switch must be ON (**I**) during this test.*

Refer To: | **Go To Page:**
Control Box Replacement B-7
Bottom Cover Removal C-3
Exploded Views / Parts Lists E-1

Step 1: Remove bottom cover.
Remove power inlet housing cover.





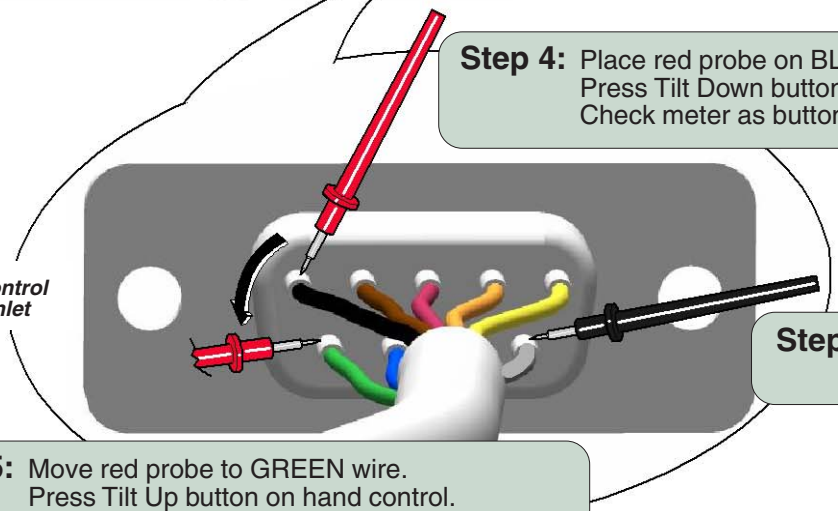


Step 2: Set meter to read DC voltage.

[Meter should indicate approx. 5 VDC, when hand control button is released. If not, refer to Limit Switch Circuit Test]

When specified hand control button is pressed, does voltage drop to approx. 0.7 VDC?
If YES, replace control box.
If NO, replace hand control.

Step 4: Place red probe on BLACK wire.
Press Tilt Down button on hand control.
Check meter as button is pressed & released.



Step 3: Place black probe on GREY wire *(common)*.

Step 5: Move red probe to GREEN wire.
Press Tilt Up button on hand control.
Check meter as button is pressed & released.

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Operation & Troubleshooting

Back Up / Down Function

Troubleshooting
[Back Up / Down Function]

Problem — ***Go To Page:***

No Back UP and/or No Back DOWN:
- *Base & Tilt functions do not work* A-3
- *Base & Tilt functions - OK* A-23

Back Drifts Down A-24

Noisy Actuator A-24

Power To The Hand Control
[Refer to 'Power To The Table' (page A-2), for description of current flow to the hand control].

Signal Voltage
The hand control continuously supplies signal voltage *(approx. 5 VDC)* to the control box thru seperate wires for each function.

Back Up Operation
When the Back Up button is pressed, the circuit for this function opens, stopping the flow of signal voltage to the control box. When the signal voltage for the Back Up function is removed, the control box supplies 24 VDC to the back actuator.

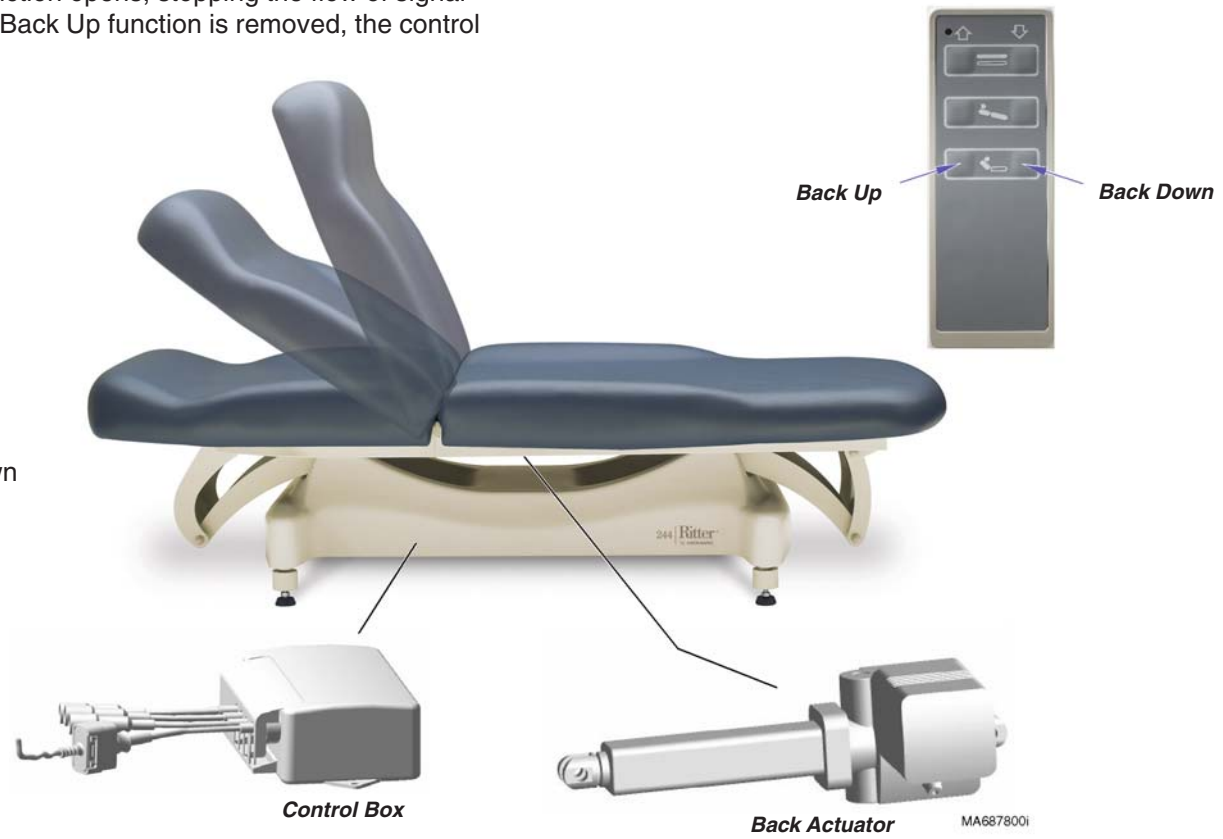
The back actuator extends, raising the back section.

Back actuator motor runs until:
1. Hand control button is released.
2. Back actuator is fully extended.
   (internal limit switch - not serviceable)

Back Down Operation
When the Back Down button is pressed, the circuit for this function opens, stopping the flow of signal voltage to the control box. When the signal voltage for the Back Down function is removed, the control box supplies 24 VDC to the back actuator.

The back actuator retracts,lowering the back section.

Back actuator motor runs until:
1. Hand control button is released.
2. Back actuator is fully retracted.
   (internal limit switch - not serviceable)



Operation & Troubleshooting

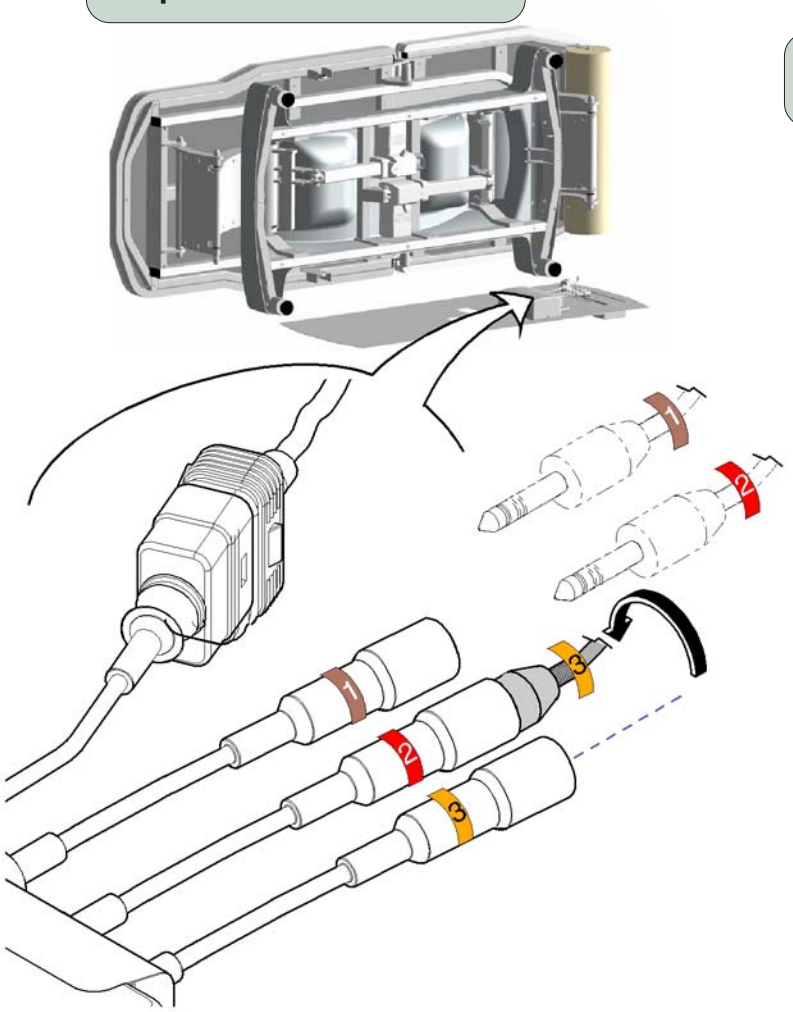
Back Up / Down - *continued*

Problem: *No Back Up and/or Back Down function.*
(Base & Tilt functions - OK)

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

Refer To: | **Go To Page:**
Signal Voltage Test: *Back Function* A-25
Back Actuator Replacement B-11
Bottom Cover Removal C-3

Step 1: Remove bottom cover.



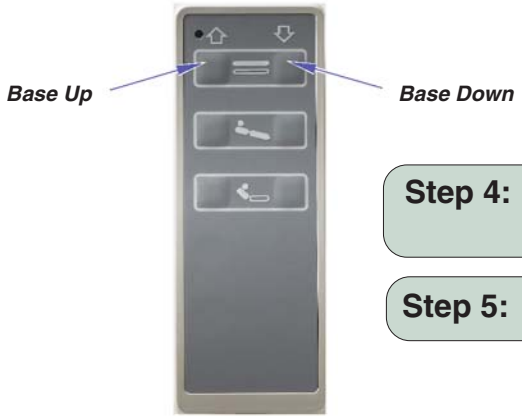
Step 2: Unplug two lower acutator wires (1 & 2).
Connect back actuator wire (3) to control box wire (2).

Caution
Keep the area around the table clear!
The table may move when performing this step.

Step 3: Press the BASE UP button briefly, then release.
Press the BASE DOWN button breifly, then release.

If back actuator moves...
Go to Step 4.

If back actuator does not move...
Perform *Wire Harness Extension Test.*



Step 4: Reconnect actuator wires *(1, 2, & 3)* to corresponding control box wires.

Step 5: Perform *Signal Voltage Test: Back Function.*

Models: ***All***
Serial Numbers:

Operation & Troubleshooting

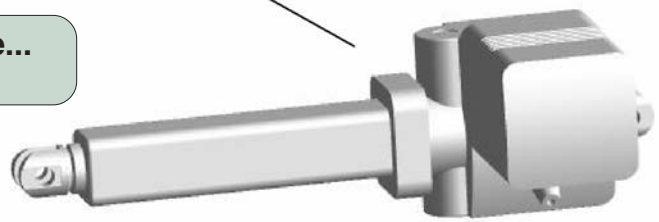
Back Up / Down - continued

Problem: *Back section drifts down.*
-or -
Noisy actuator.

Refer To: **Go To Page:**

If back section drifts down...
Replace back actuator.

If back actuator makes loud grinding noise...
Replace back actuator.



MA689000i

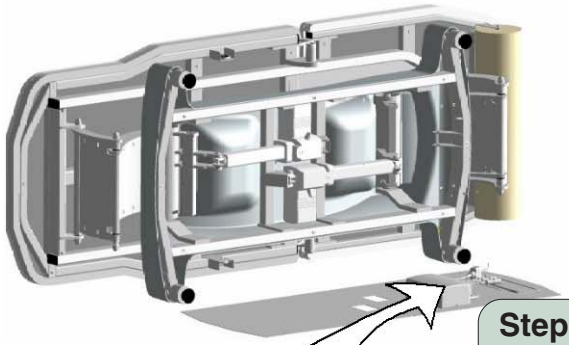
Back Up / Down - continued

Signal Voltage Test: Back Function

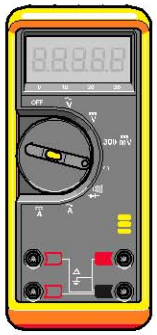
Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

Refer To: **Go To Page:**
Control Box Replacement B-7
Bottom Cover Removal C-3
Exploded Views / Parts Lists E-1

Step 1: Remove bottom cover.
Remove power inlet housing cover.



Step 2: Set meter to read DC voltage.

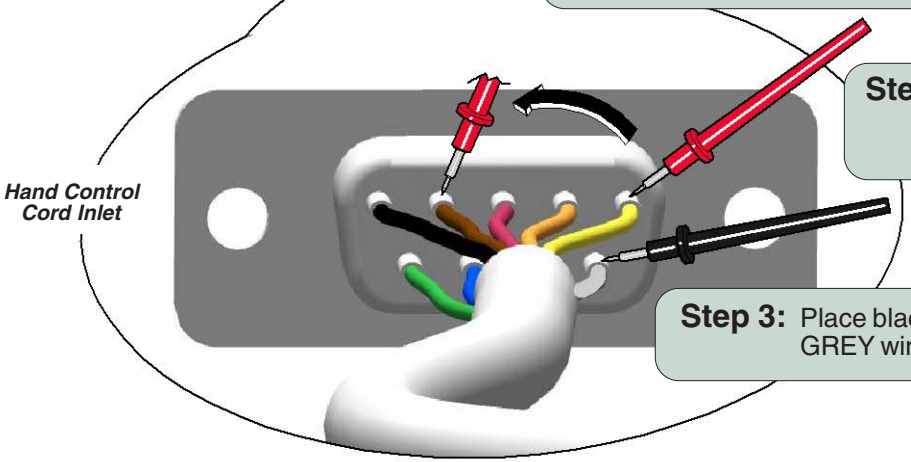


[Meter should indicate approx. 5 VDC, when hand control button is released. If not, refer to Limit Switch Circuit Test]

Step 5: Move red probe to BROWN wire.
Press Back Up button on hand control.
Check meter as button is pressed & released.

When specified hand control button is pressed, does voltage drop to approx. 0.7 VDC?
If YES, replace control box.
If NO, replace hand control.

Step 4: Place red probe on YELLOW wire.
Press Back Down button on hand control.
Check meter as button is pressed & released.



Step 3: Place black probe on GREY wire *(common)*.

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Models: ***All***
Serial Numbers:

Back Up / Down

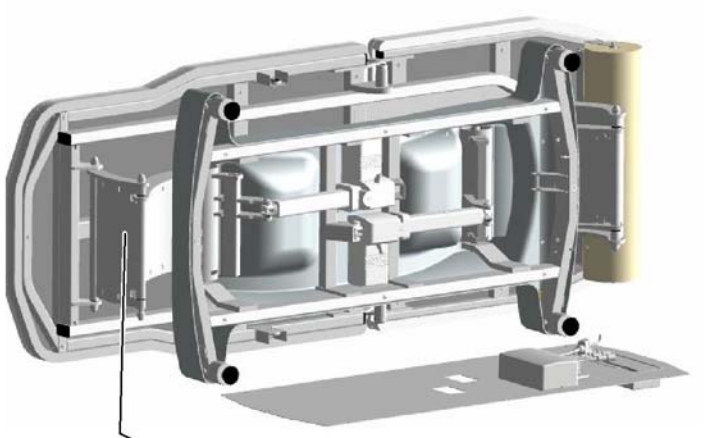
Operation & Troubleshooting

Back Up / Down - continued

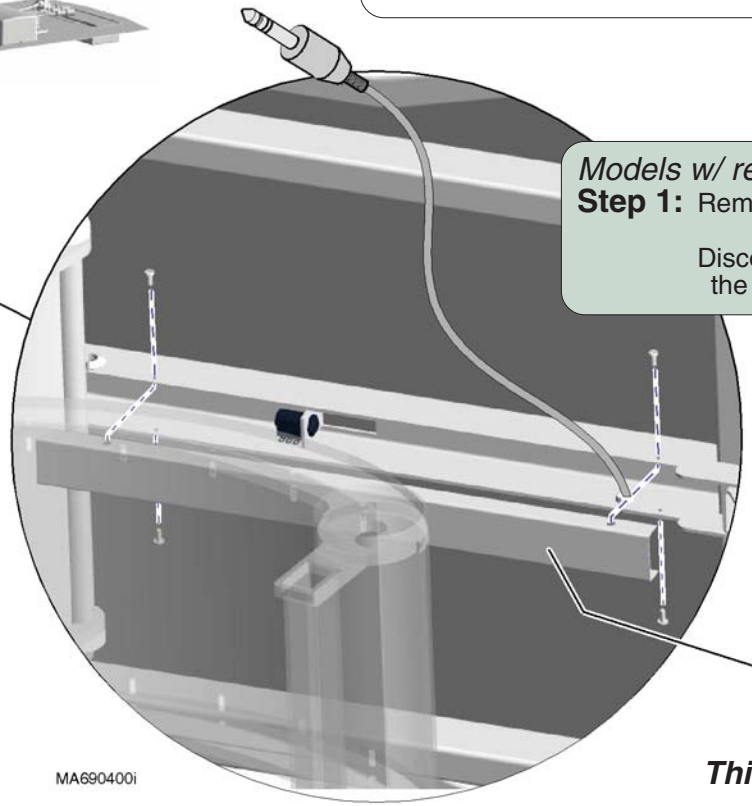
Wire Harness Extension Test

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

Refer To: | **Go To Page:**
Seat Section Cover Removal C-9



Attention:
Early models do not have a removeable channel cover.
To access the electrical connector, remove the seat section cover.
Refer to: *Section C - Seat Section Cover.*



Models w/ removable channel cover:
Step 1: Remove four screws & channel cover.

Disconnect back actuator wire from the electrical connector.

This test is continued on the following page...

Back Up / Down - *continued*

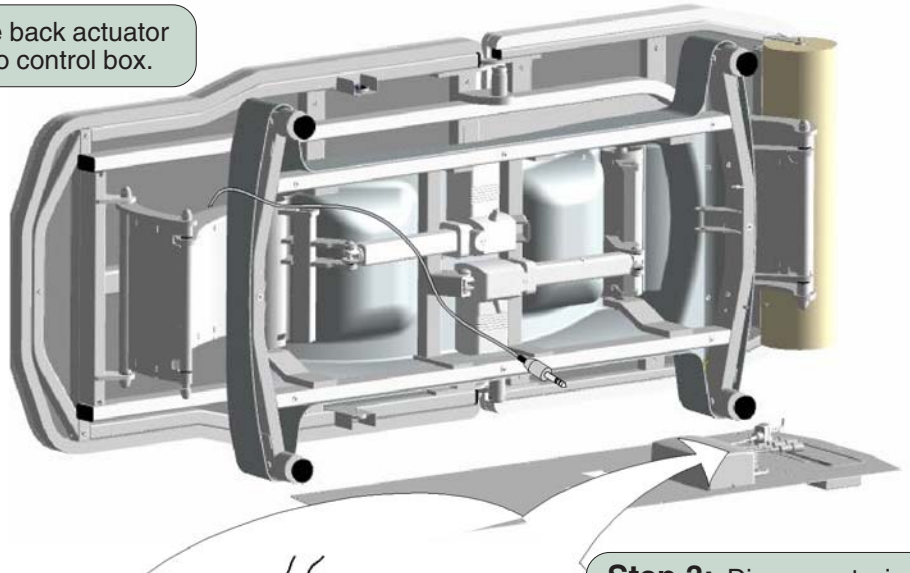
Wire Harness Extension Test - *continued*

Caution
The power cord must be plugged in, and the power switch must be ON (I) during this test.

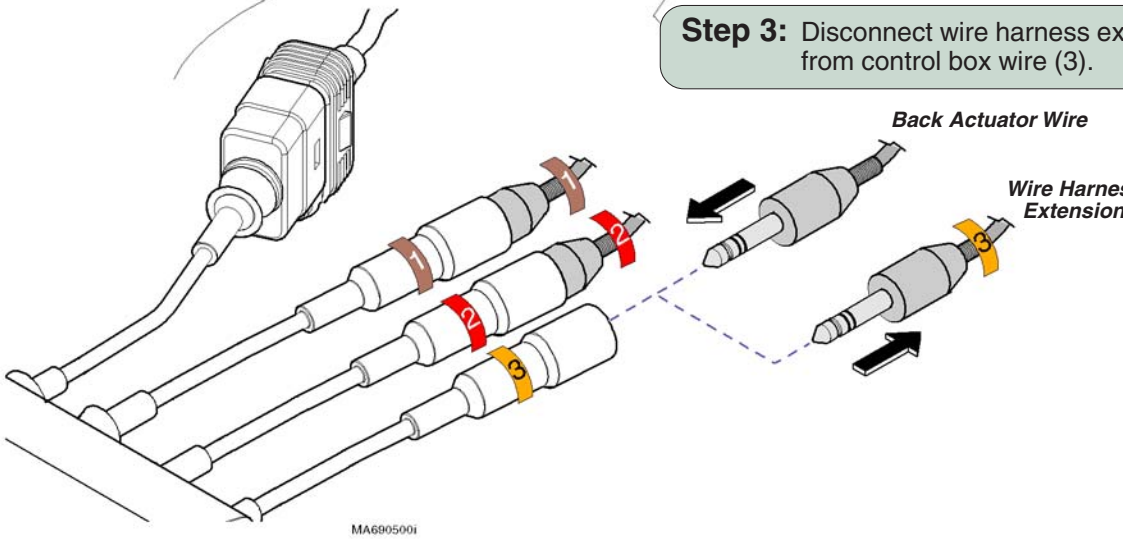
Refer To: **Go To Page:**

Back Actuator Replacement B-11
Wire Harness Ext. Replacement B-12
Exploded Views / Parts List E-5

Step 2: Route back actuator wire to control box.



Step 3: Disconnect wire harness extension (3) from control box wire (3).



Step 4: Connect back actuator wire to control box wire (3).

Step 5: Press BACK UP / DOWN button.

If actuator works...
Replace the wire harness extension.

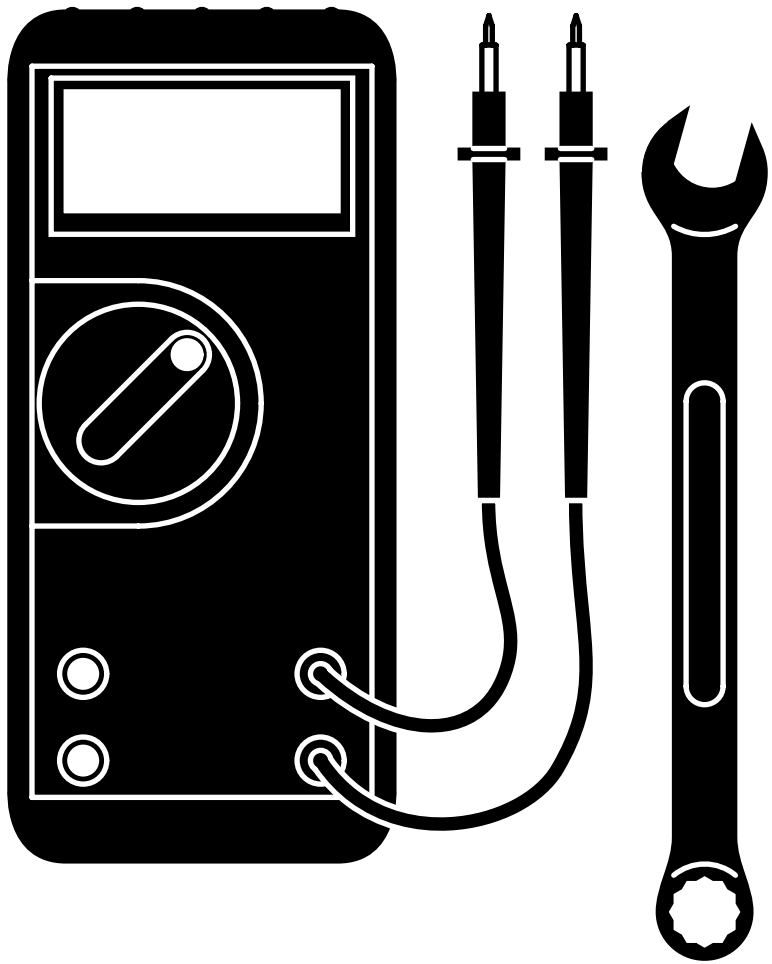
If actuator does not work...
Replace the back actuator.

Models: ***All***
Serial Numbers:

Section B

Component Testing & Repair

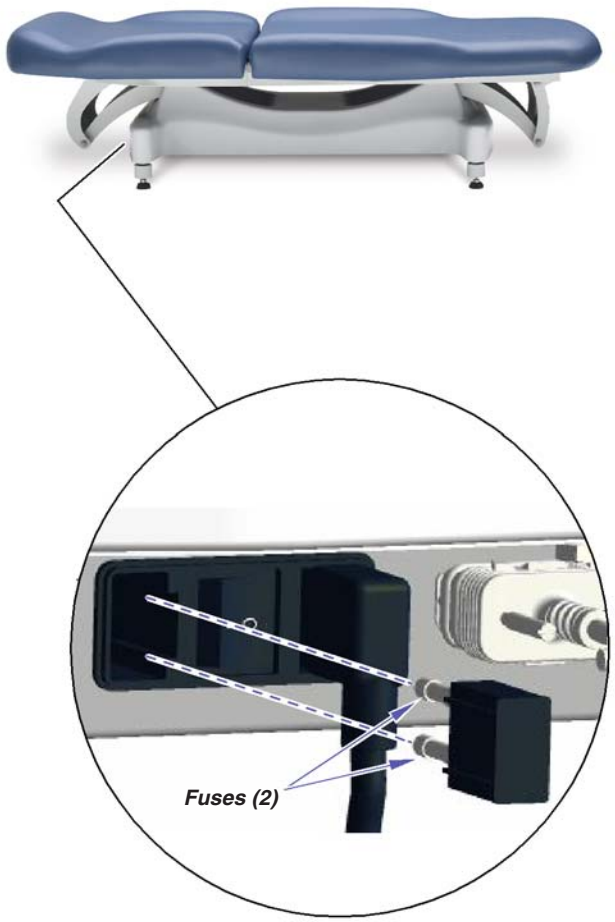
Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitve. ex. B-2)



Component Testing & Repair

Fuses

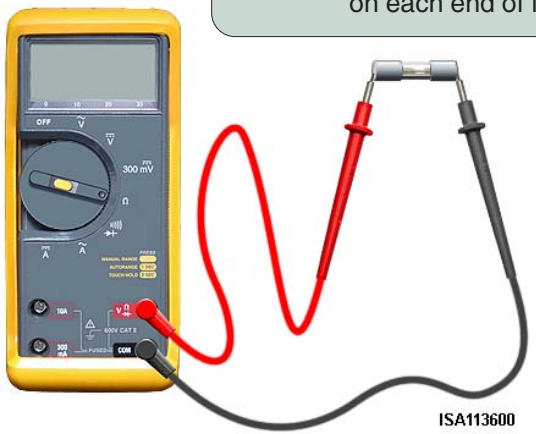
Location



Fuse Test

Step 1: Set meter to **200 Ω.**

Step 2: Place meter probes on each end of fuse.



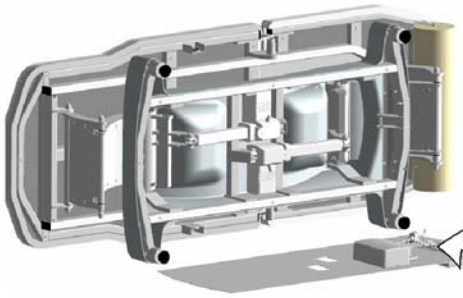
Meter Reading	*Status*	*Required Action*
OL		Replace **both** fuses.
less than 5 Ω		Fuse - OK

Component Testing & Repair

Power Inlet

Replacement

NOTE: If a problem is suspected, refer to *Section A: Power To The Table* for troubleshooting steps.



Installation
Step 4: Install bottom cover.

Removal
Step 2: Remove housing cover.

Installation
Step 3: Install housing cover.

Removal
Caution
Line voltage (120 VAC) is present at the power inlet

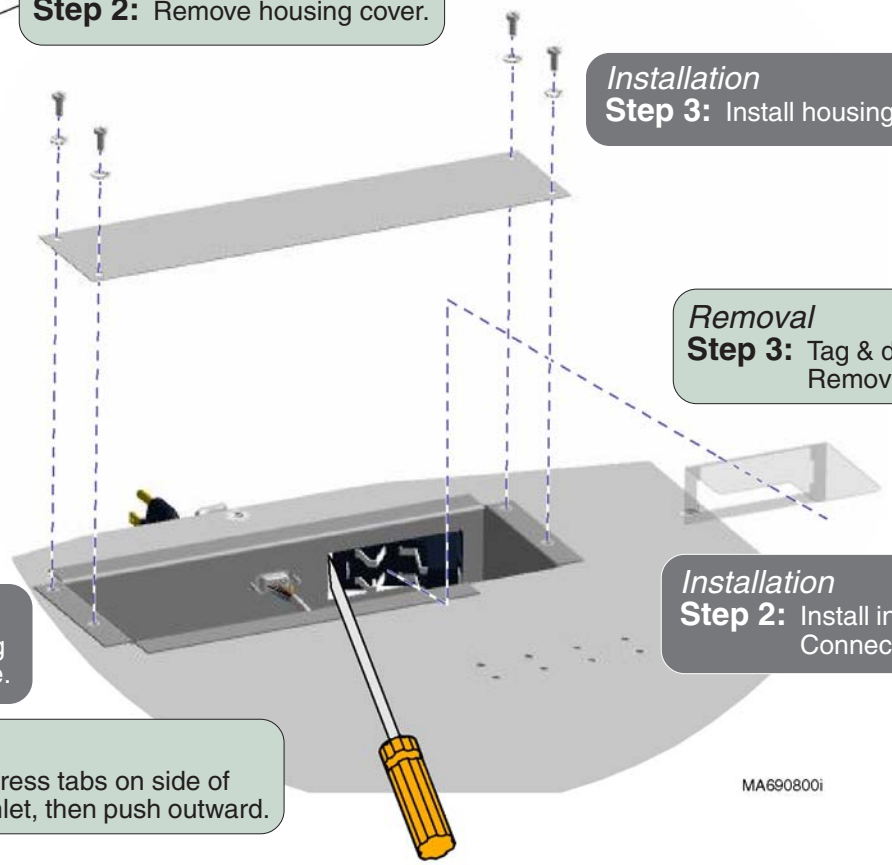
Step 1: Disconnect power to table. Remove bottom cover.

Removal
Step 3: Tag & disconnect wiring from inlet. Remove inlet shield.

Installation
Step 1: Push inlet thru housing until it snaps into place.

Installation
Step 2: Install inlet shield. Connect wiring to proper terminals.

Removal
Step 4: Press tabs on side of inlet, then push outward.



Component Testing & Repair

Base Cover Limit Switches

Function / Location / Access

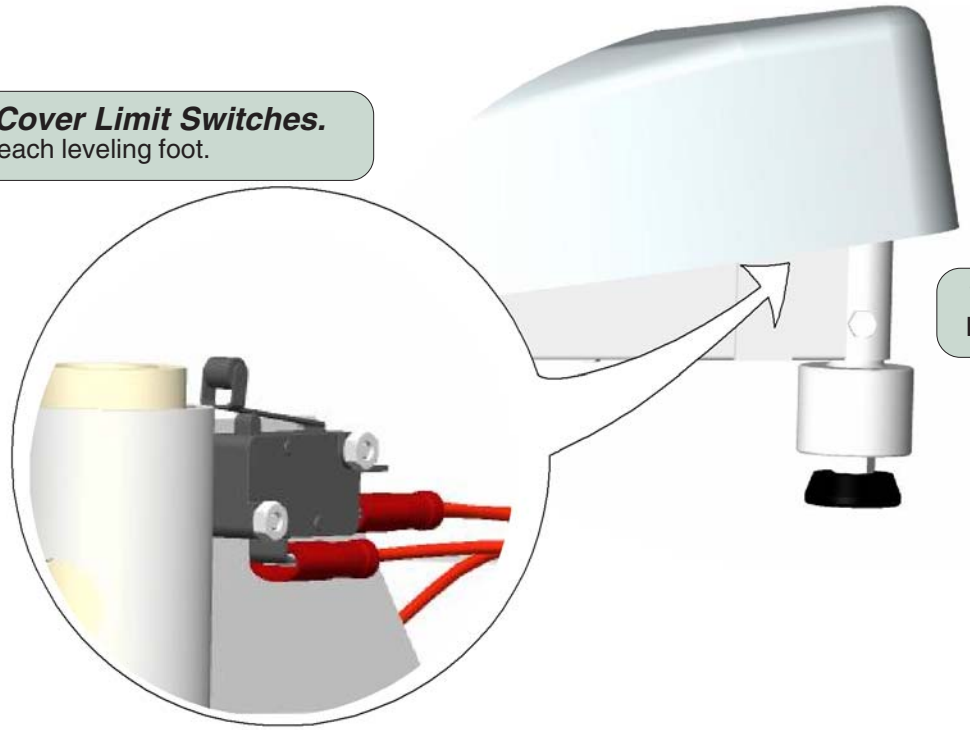
> *NOTE: The base cover limit switches prevent injury and/or equipment damage by disabling all table functions if any pressure is applied to the base cover.*

The control box supplies approximately 5 VDC to the four base cover limit switches. During normal operating conditions, current flows thru all four normally-closed switches, then to the hand control inlet.

If pressure is applied to the spring-loaded base cover, one or more of the limit switches will be tripped. When any of the limit switches are tripped, there is no current supplied to the hand control, and no table functions will operate.

If a problem is suspected, refer to *Section A: Power To The Table* for troubleshooting steps.

There are four Base Cover Limit Switches.
One limit switch located at each leveling foot.



To access a limit switch...
Lift the base cover at the leveling foot.

MA686100i

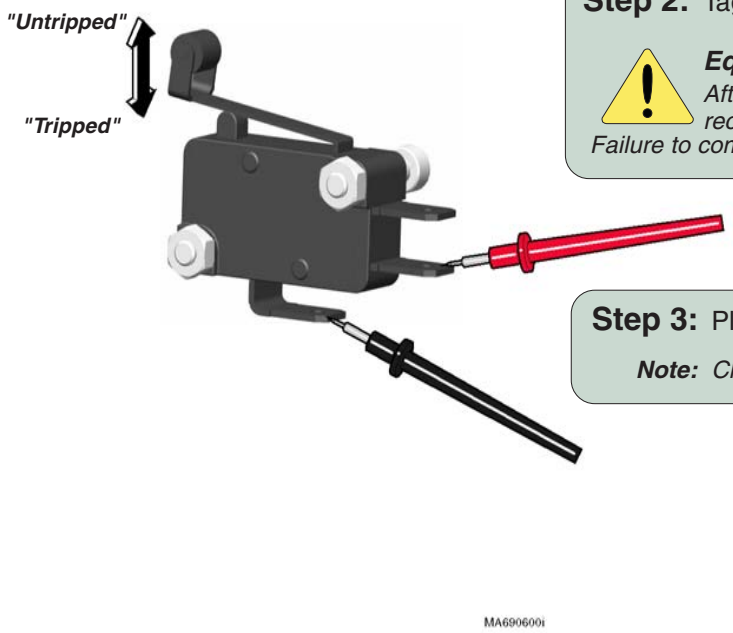
Component Testing & Repair

Base Cover Limit Switches - continued

Limit Switch Test

NOTE: It is possible to perform this test without removing the switch.

Step 1: Set meter to **200 Ω.**



Step 2: Tag & disconnect wires from switch terminals.

Equipment Alert
After testing the switch, the wires must be reconnected to the same switch terminals. Failure to comply will result in table malfunction.

Step 3: Place meter probes on switch terminals as shown.

Note: *Check switch 'tripped' and 'untripped'.*

With switch 'tripped'...

Meter Reading	*Status*	*Required Action*
OL		Limit switch - OK
less than 5 Ω		Replace switch

With switch 'untripped'...

Meter Reading	*Status*	*Required Action*
OL		Replace switch
less than 5 Ω		Limit switch - OK

Models: ***All***
Serial Numbers:

Base Cover Limit Switches

Component Testing & Repair

Control Box

Function / Location

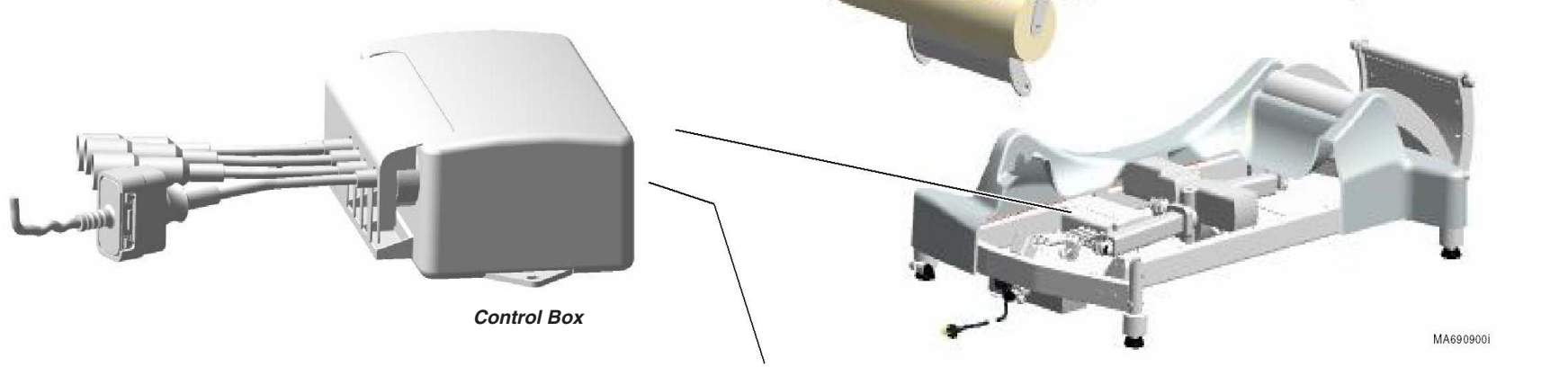
NOTE: If a problem is suspected, refer to Section A for troubleshooting steps.

Line voltage *(115 VAC)* is supplied to the control box thru the two fuses in the power inlet. *(An indicator light on the control box illuminates when power is present).* The control box reduces the voltage and supplies approximately 5 VDC to the base cover limit switch circuit.

During normal operating conditions, current flows thru all four normally-closed switches, then to the hand control.

With the hand control cord properly connected, current continuously flows back to the control box thru seperate wires for each table function. When a function is selected from the hand control, this "signal voltage" is removed from the wire corresponding to the selected function.

When the signal voltage is removed, the control box activates the selected function and supplies 24 VDC to the appropriate actuator(s).



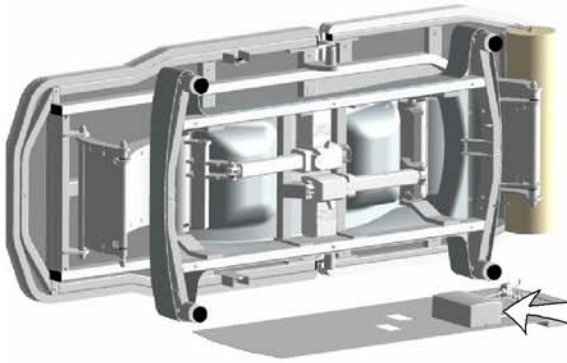
Component Testing & Repair

Control Box - *continued*

Replacement

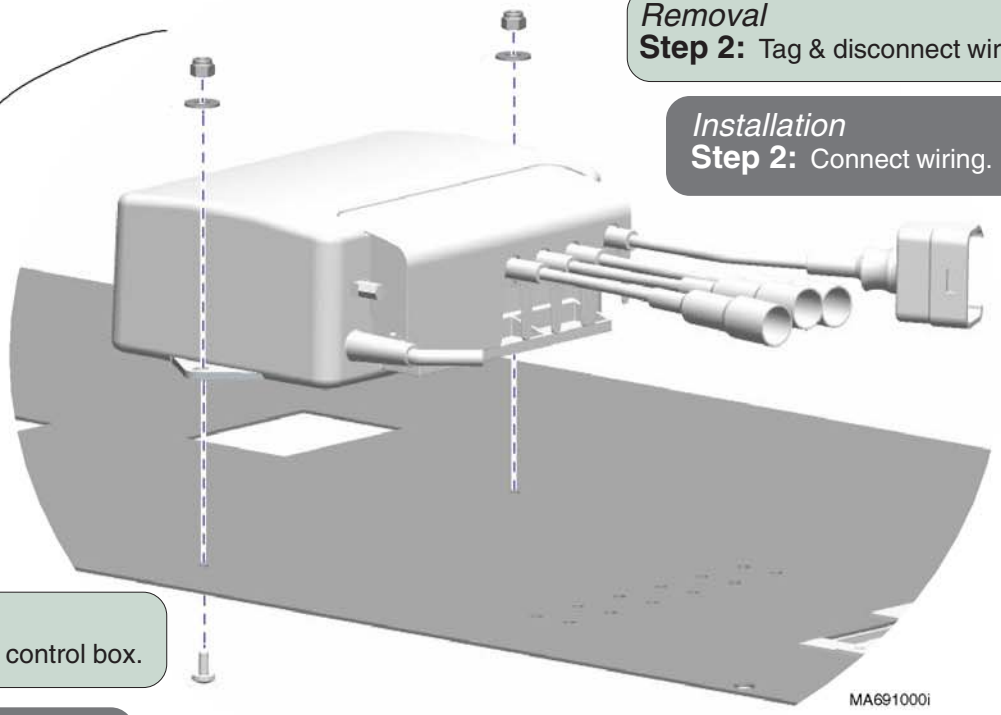
Refer to: Go To Page:
Bottom Cover Removal C-3

Removal
Step 1: Disconnet power to table.
Remove bottom cover.



Removal
Step 2: Tag & disconnect wiring.

Installation
Step 2: Connect wiring.



Removal
Step 3: Remove control box.

Installation
Step 1: Install control box.

Models: All
Serial Numbers:

Control Box

Component Testing & Repair

Lower Actuators

Function / Location

NOTE: If a problem is suspected, refer to Section A for troubleshooting steps.

Under normal operating conditions, the hand control continuously supplies 5 VDC to the control box thru seperate wires for each table function. When a function is selected from the hand control, this "signal voltage" is removed from the wire corresponding to the selected function.

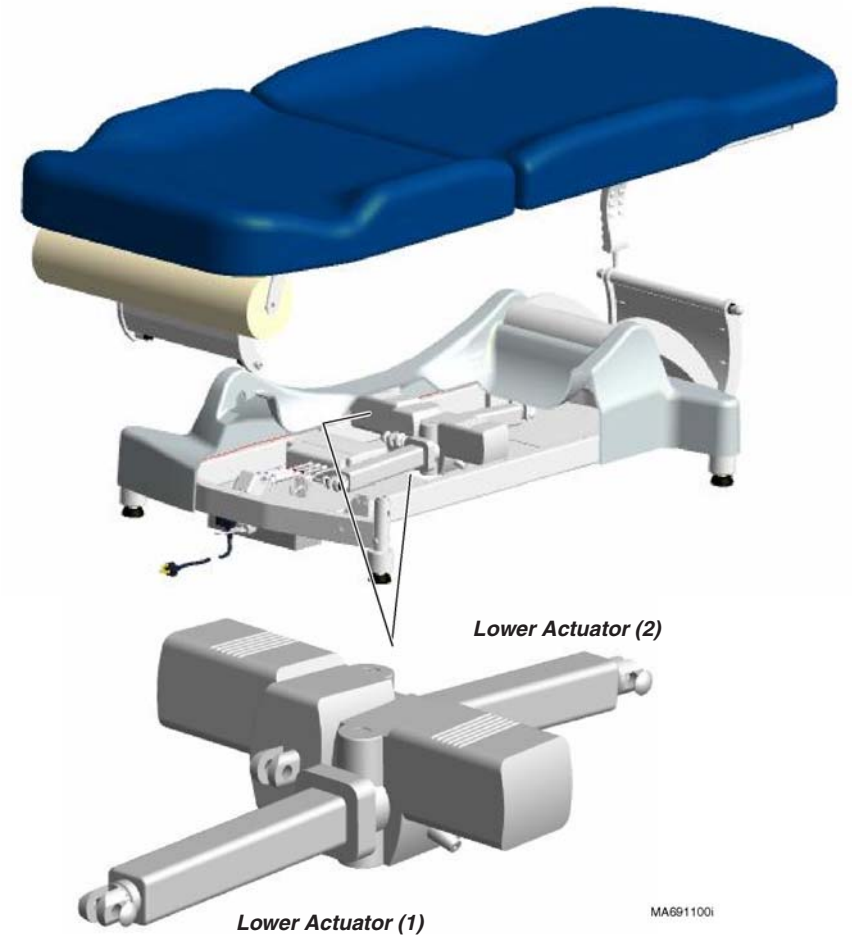
When the signal voltage is removed, the control box activates the selected function and supplies 24 VDC to the appropriate actuator(s).

Both actuator motors run until:

1. Hand control button is released.
2. Actuators reach their max. / min. limits
   (internal limit switches - not serviceable)

The lower actuators work in conjunction with each other to achieve the selected function. *(See below)*

Function	**Action**
Base UP:	Both lower actuators extend
Base Down:	Both lower actuators retract
Tilt Up:	Lower actuator (1) retracts Lower actuator (2) extends
Tilt Down:	Lower actuator (1) extends Lower actuator (2) retracts



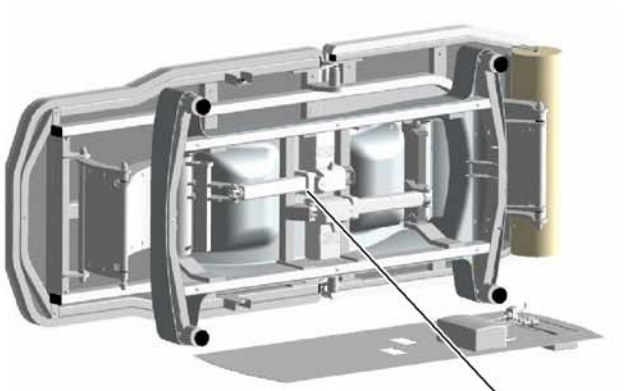
Component Testing & Repair

Lower Actuators - *continued*

Replacement

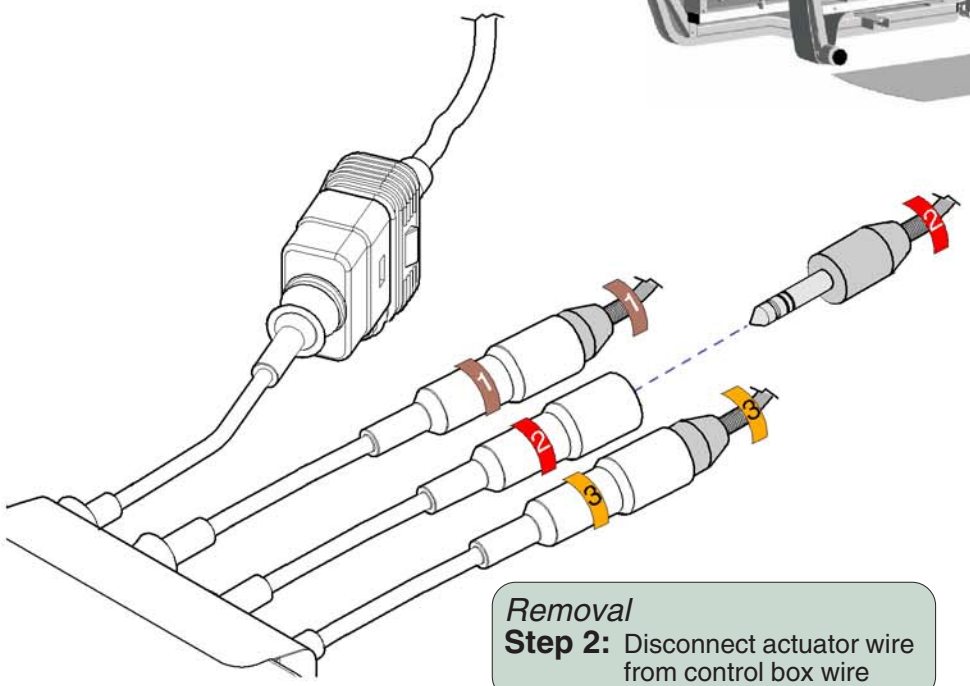
Refer to: Go To Page:
Bottom Cover Removal C-3

Removal
Step 1: Disconnet power to table.
Remove bottom cover.



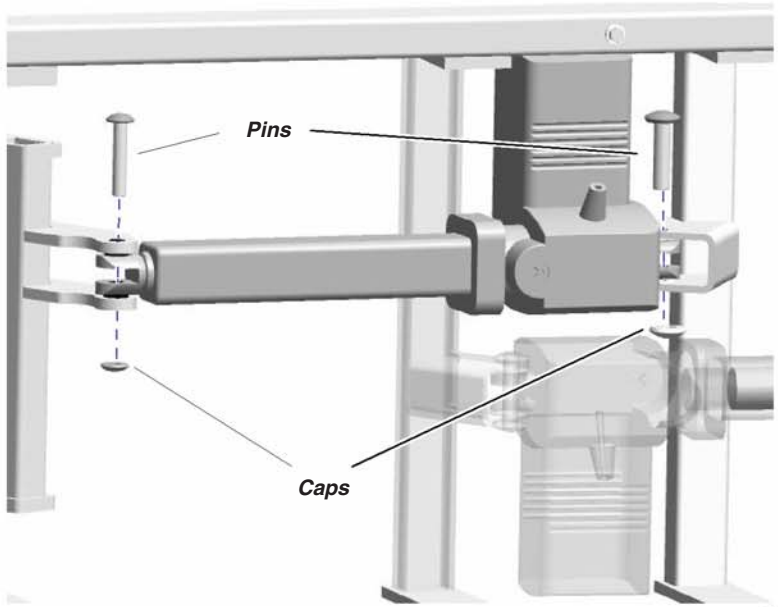
Installation
Step 1: Position actuator.
Install two pins and caps.

Removal
Step 3: Pry off two caps.
Remove two pins and actuator.



Removal
Step 2: Disconnect actuator wire from control box wire

Installation
Step 2: Connect actuator wire to control box wire.



MA691200i

Models: All
Serial Numbers:

Component Testing & Repair

Back Actuator

Function / Location

NOTE: If a problem is suspected, refer to Section A for troubleshooting steps.

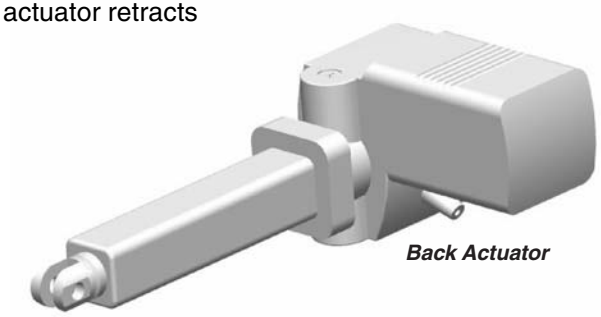
Under normal operating conditions, the hand control continuously supplies 5 VDC to the control box thru seperate wires for each table function. When a function is selected from the hand control, this "signal voltage" is removed from the wire corresponding to the selected function.

When the signal voltage is removed, the control box activates the selected function and supplies 24 VDC to the actuator.

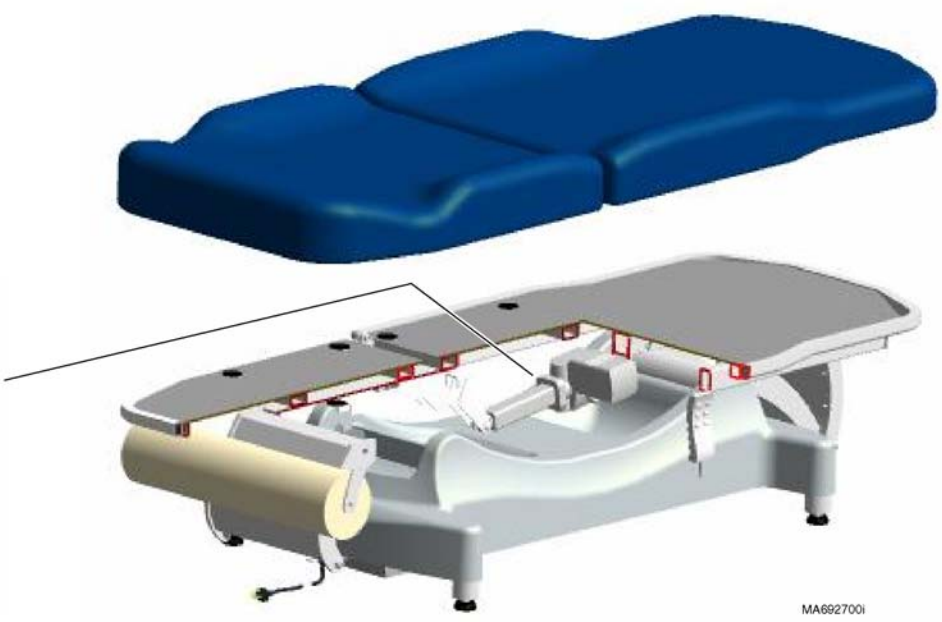
Back actuator motor runs until:

1. Hand control button is released.
2. Actuator reaches its max. / min. limits
   (internal limit switches - not serviceable)

Function	**Action**
Back UP:	Back actuator extends
Back Down:	Back actuator retracts



Back Actuator



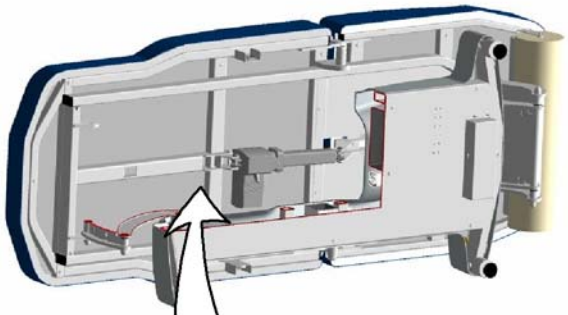
Back Actuator - *continued*

Refer to: Go To Page:
Bottom Cover Removal C-3

Actuator Replacement

NOTE: This procedure may be performed with the table upright.

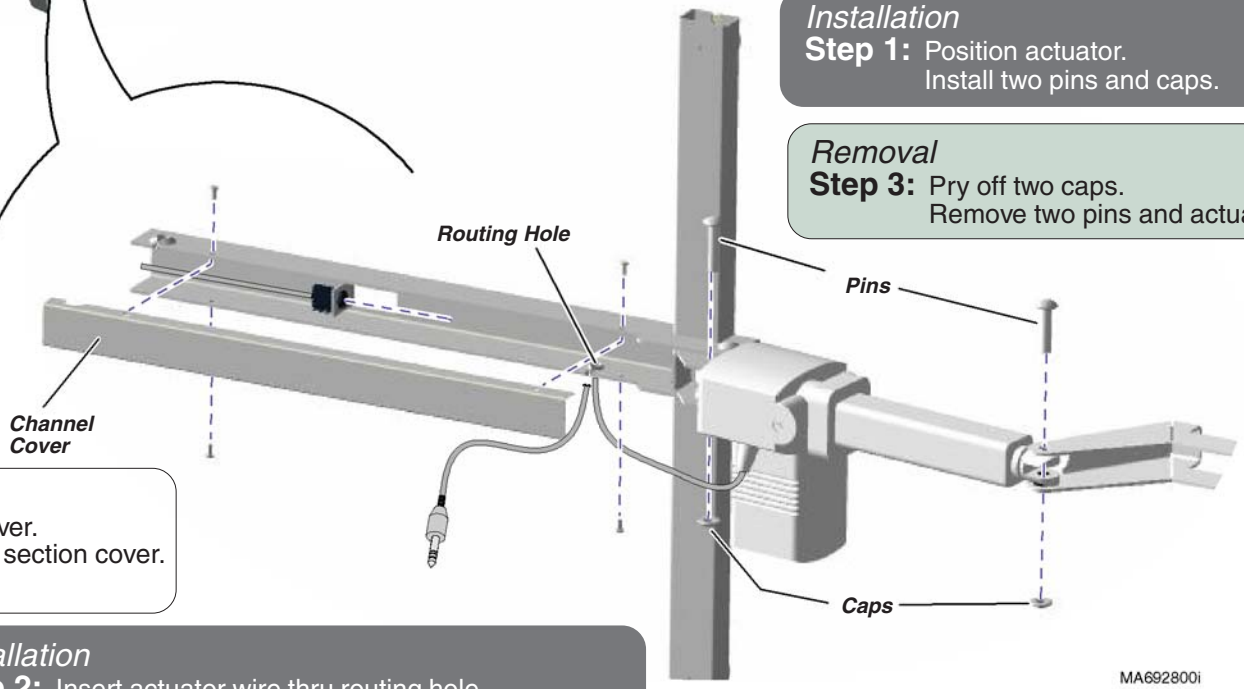
Removal
Step 1: Disconnet power to table.



Models w/ removable channel cover:
Step 2: Remove four screws & channel cover.

Disconnect back actuator wire from the electrical connector.

Pull actuator wire out thru routing hole.



Installation
Step 1: Position actuator.
Install two pins and caps.

Removal
Step 3: Pry off two caps.
Remove two pins and actuator.

Attention:
Early models do not have a removeable channel cover.
To access the electrical connector, remove the seat section cover.
Refer to: *Section C - Seat Section Cover.*

Installation
Step 2: Insert actuator wire thru routing hole.
Connect actuator wire to electrical connector.
Replace channel cover & secure w/ four screws.

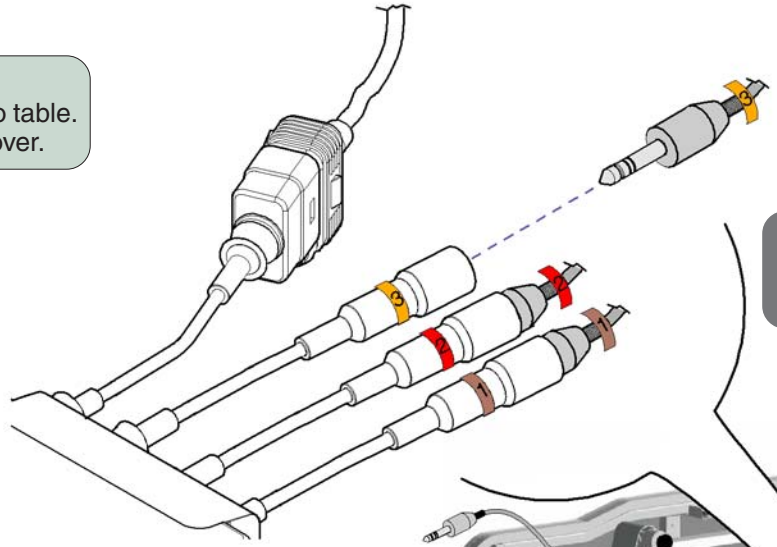
Component Testing & Repair

Back Actuator - *continued*

Wire Harness Extension Replacement

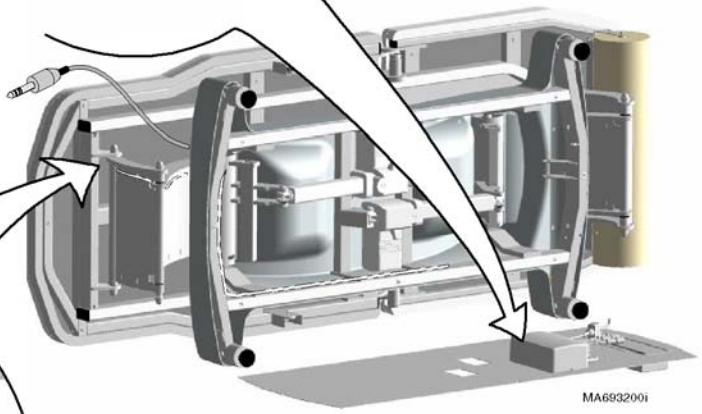
Refer to: **Go To Page:**
Bottom Cover Removal C-3

Removal
Step 1: Disconnet power to table. Remove bottom cover.

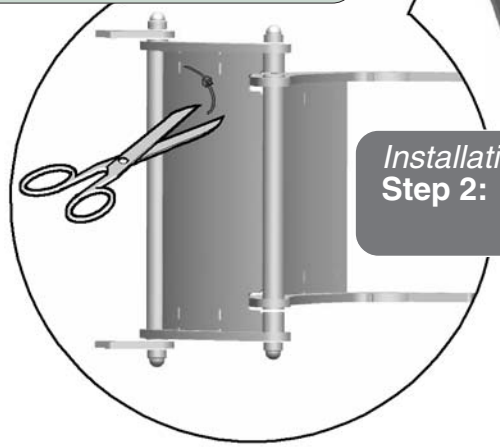


Removal
Step 2: Disconnect wire harness extension (3) from control box wire (3).

Installation
Step 1: Connect wire harness extension (3) to control box wire (3).



Removal
Step 3: Cut all wire ties securing the wire harness extension. Pull harness extension thru up thru base cover.



Installation
Step 2: Route wire harness extension up to the electrical connector channel. Replace all wire ties cut during *Removal* procedure.

Installation
Step 3: Go to page B-14 for Step 3.

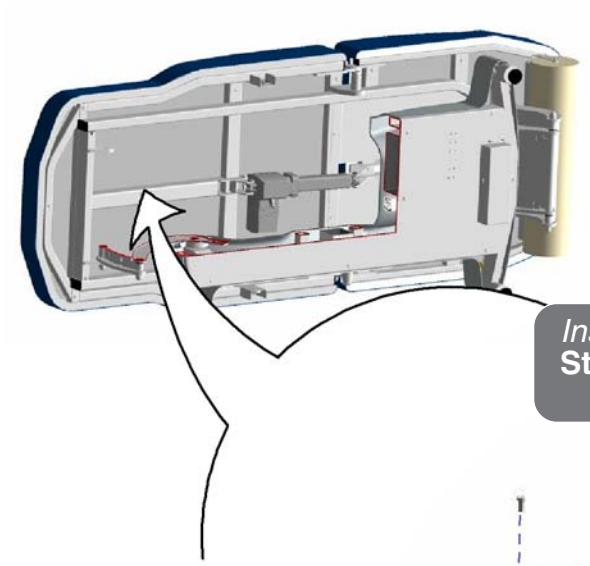
Procedure continued on the following page...

Component Testing & Repair

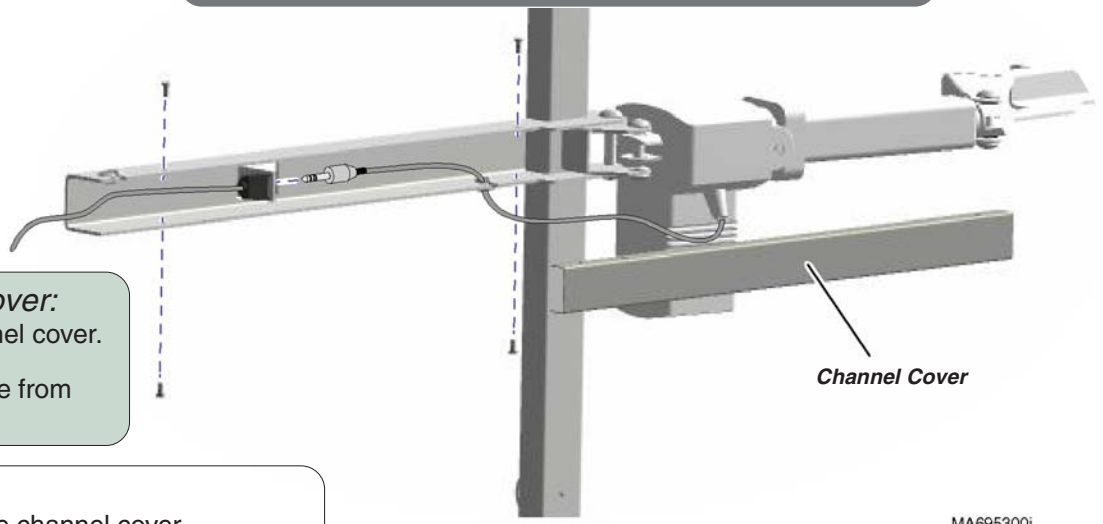
Back Actuator - continued

Wire Harness Extension Replacement - continued

Refer to: Go To Page:
Seat Section Cover Removal C-9



Installation
Step 5: Connect back actuator wire to electrical connector.
Install channel cover.



Models w/ removable channel cover:
Step 4: Remove four screws & channel cover.

Disconnect back actuator wire from the electrical connector.

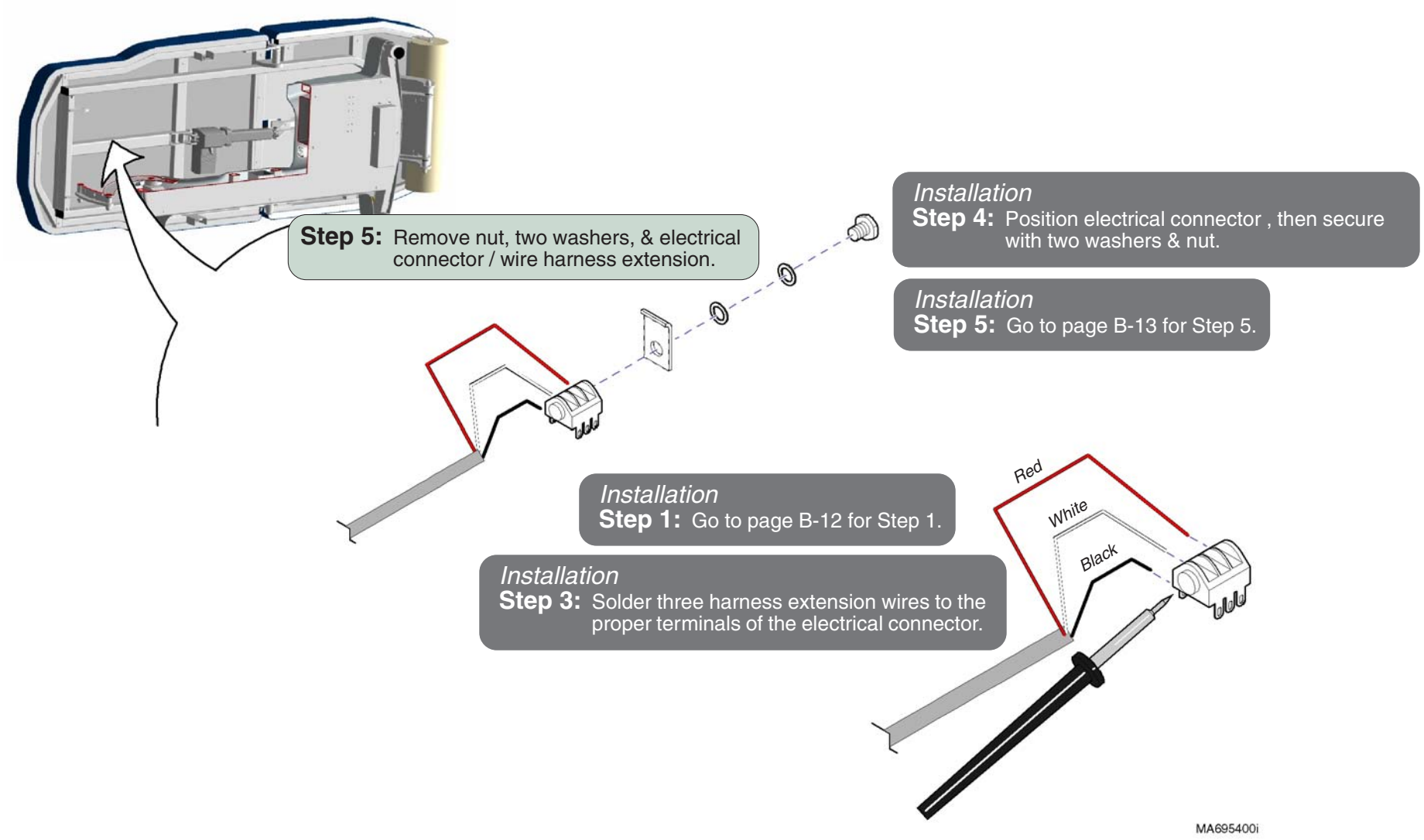
Attention:
Early models do not have a removeable channel cover.
To access the electrical connector, remove the seat section cover.
Refer to: *Section C - Seat Section Cover.*

Procedure continued on the following page...

Component Testing & Repair

Back Actuator - *continued*

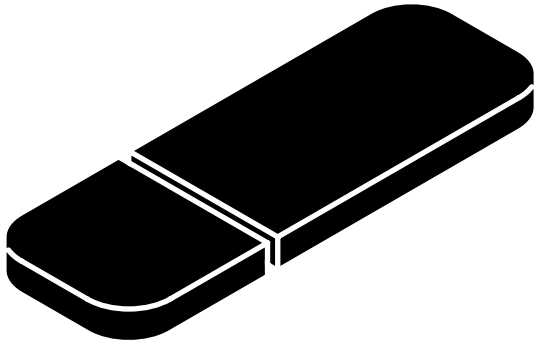
Wire Harness Extension Replacement - *continued*

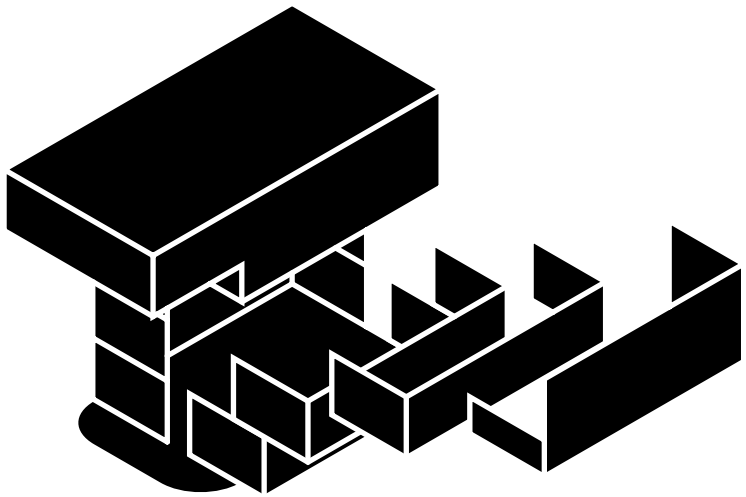


Section C

Access Procedures

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitve. ex. C-2)





Access Procedures

Upholstery

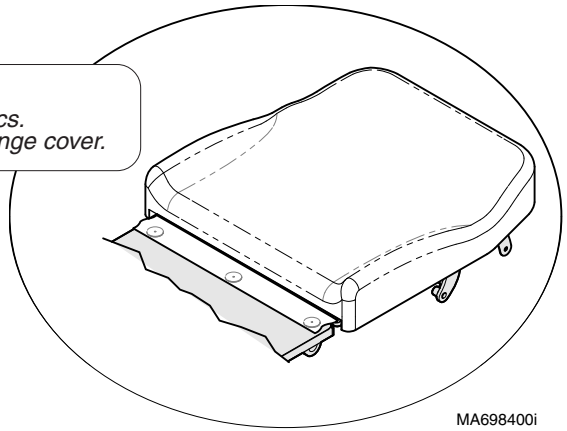
Removal / Installation

Refer To: Go To Page:
Exploded Views / Part Numbers E-3

Back Section Removal
Step 1: Pull back section up to release velcro.

Back Section Installation
Step 1: Position head-end of back section against mounting board. Lay upholstery flat, then press down firmly to engage velcro.

Attention
Hinge cover lays flat over first row of velcro discs.
Seat section upholstery is installed on top of hinge cover.



MA698400i

Seat Section Removal
Step 1: Pull seat section up to release velcro.

MA691300i

Seat Section Installation
Step 1: Position foot-end of seat section against mounting board. Lay upholstery flat, then press down firmly to engage velcro.

Access Procedures

Bottom Cover

Removal / Installation

Refer To: Go To Page:
Upholstery Removal / Installation C-2
Exploded Views / Part Numbers E-3

Removal

Step 1: Remove seat & back upholstery.
Disconnect table power cord.

Removal

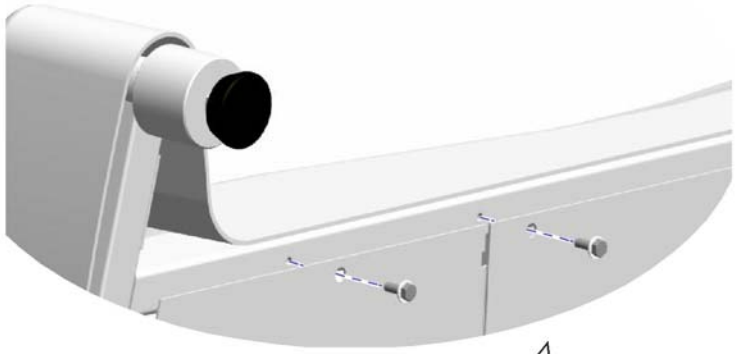
Caution

The table weighs 340 lbs (154 kg).
Use an assistant to perform Step 2.

Step 2: Carefully lay the table onto its side.

Installation

Step 2: WIth the help of an assistant, stand table upright.

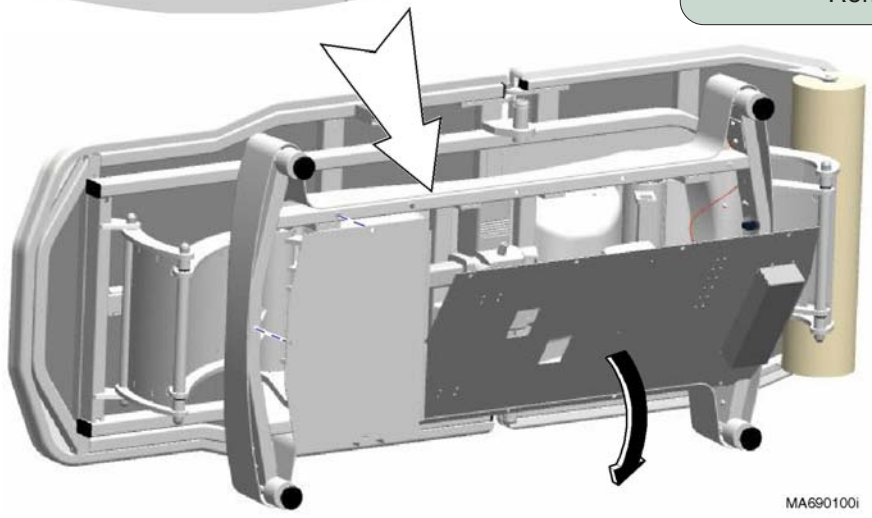


Removal

Note: Be careful not to damage wire connections when laying large cover down. Cut cable ties as necessary.

Step 3: ***To remove large cover:***
Remove screws.
Carefully lay large cover down.

To remove small cover:
Remove screws & small cover.



Installation

Note: Replace any cable ties cut during cover removal.

Step 1: Hold cover(s) in position.
Secure with screws.

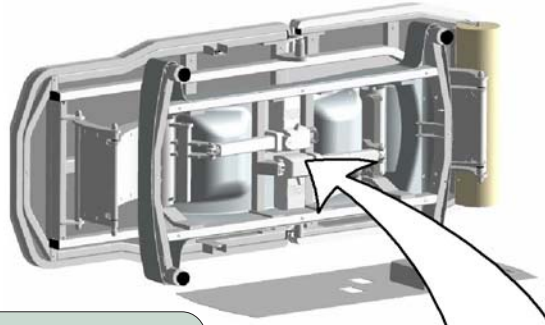
Access Procedures

Base Cover

Removal / Installation

ATTENTION: This procedureshould only be performed when replacing the base cover. All components can be accessed by simply removing the bottom cover.

Refer To: **Go To Page:**

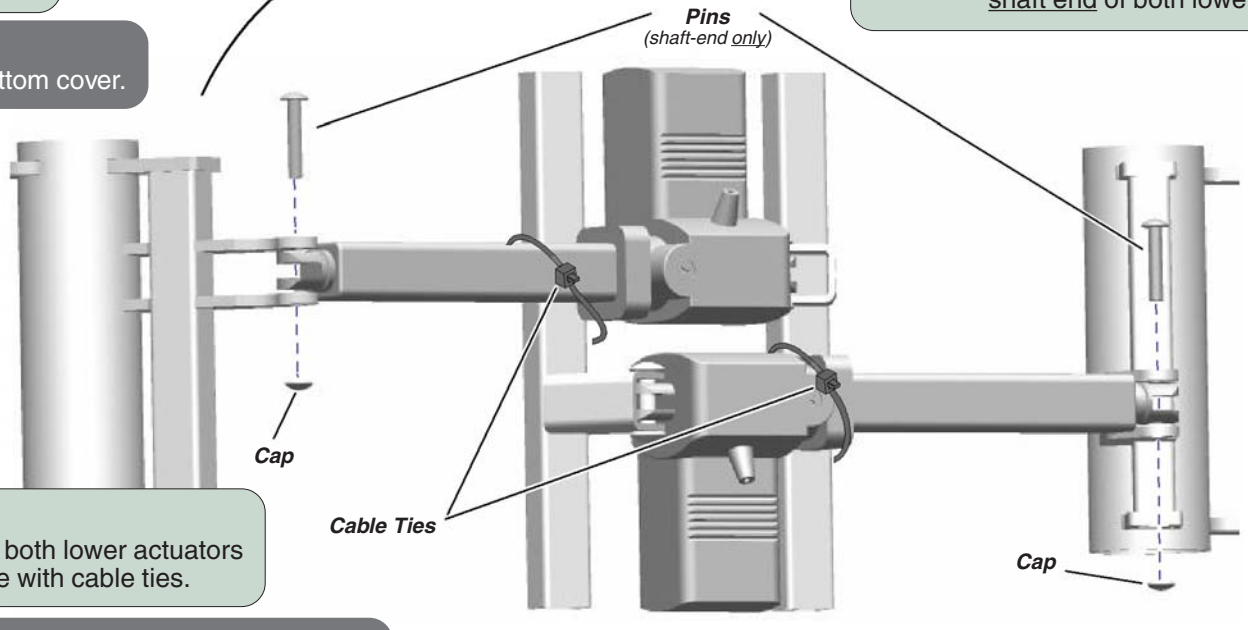


Removal
Step 1: Remove bottom cover.

Installation
Step 13: Replace bottom cover.

Installation
Step 12: Secure both lower actuators with pins & caps.

Removal
Step 3: Remove caps & pins from shaft end of both lower actuators.



Removal
Step 2: Secure both lower actuators to frame with cable ties.

Installation
Step 11: Cut cable ties securing lower actuators.

Procedure continued on the following page...

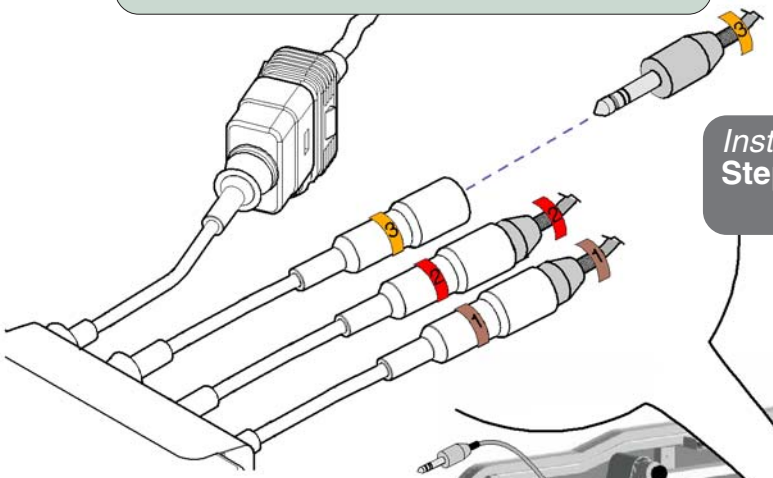
Access Procedures

Base Cover - *continued*

Removal / Installation - *continued*

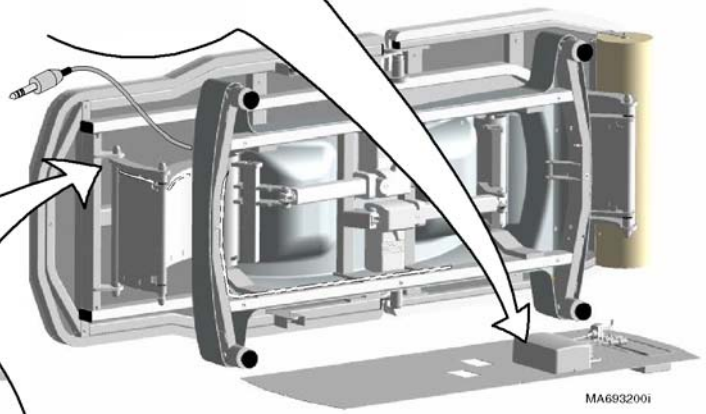
Refer To: **Go To Page:**

Removal
Step 4: Disconnect wire harness extension (3) from control box wire (3).

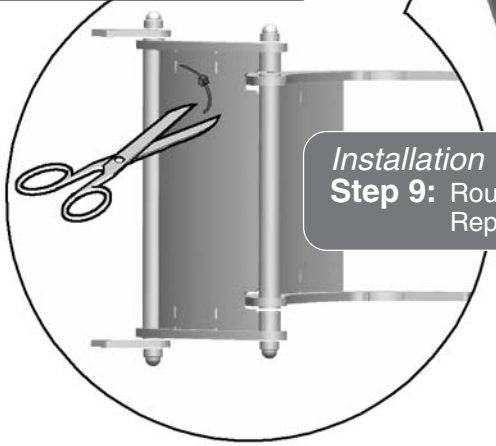


Installation
Step 10: Connect wire harness extension (3) to control box wire (3).

Installation
Step 8: CAREFULLY, lay table onto its side.



Removal
Step 5: Cut <u>all</u> wire ties securing the wire harness extension. Pull harness extension thru up thru base cover.



Installation
Step 9: Route wire harness extension to the control box. Replace <u>all</u> wire ties cut during *Removal* procedure.

Procedure continued on the following page...

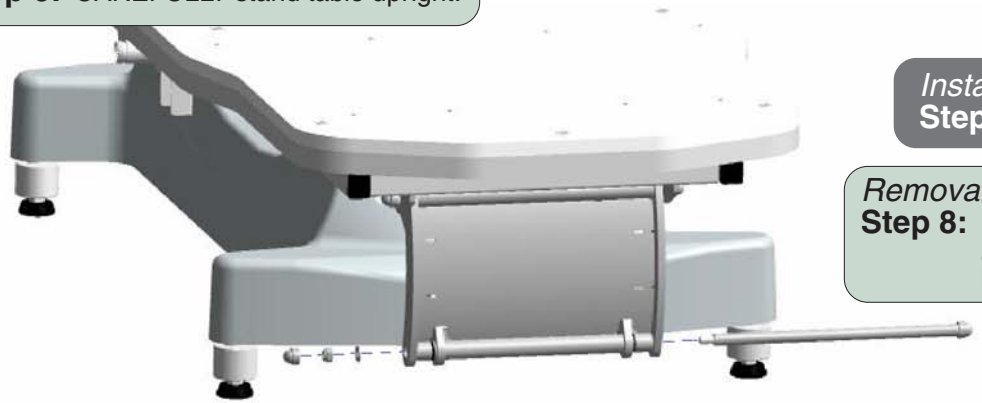
Access Procedures

Base Cover - *continued*

Removal / Installation - *continued*

Refer To: **Go To Page:**
Exploded Views / Part Numbers E-1

Removal
Step 6: CAREFULLY stand table upright.



Installation
Step 6: Install pivot bar.

Removal
Step 8: Using a rubber mallet and/or a wooden dowel, drive pivot bar out of weldment.

Removal
Step 7: Remove cap, nut, & washer.

Installation
Step 7: Install washer, nut, & cap.

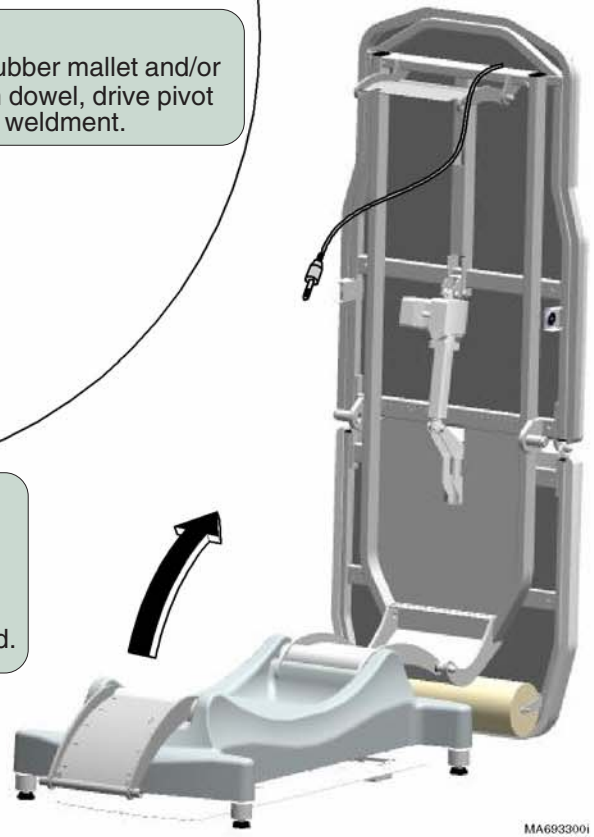
Removal

Caution

Use an assistant to help secure table top when performing Steps 9 thru 12.

Step 9: CAREFULLY, pivot table top toward head-end.

Installation
Step 5: CAREFULLY, lay table top down. Align frame with holes in pivot weldment.



Access Procedures

Base Cover - *continued*

Removal / Installation - *continued*

Refer To: **Go To Page:**
Exploded Views / Part Numbers E-1

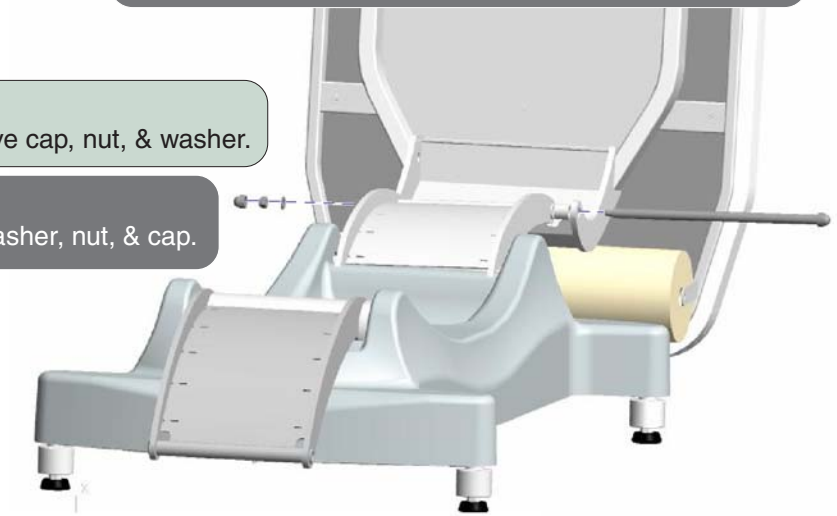
Installation

Caution
Use an assistant when performing Steps 2 thru x.

Step 2: CAREFULLY stand table top upright. Align frame with holes in pivot weldment.

Removal
Step 10: Remove cap, nut, & washer.

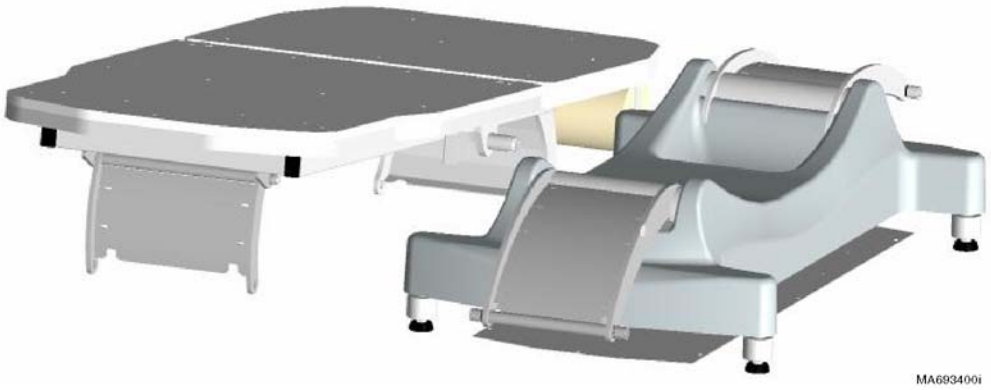
Installation
Step 4: Install washer, nut, & cap.



Removal
Step 11: Using a rubber mallet and/or a wooden dowel, drive pivot bar out of weldment.

Installation
Step 3: Install pivot bar.

Removal
Step 12: CAREFULLY set table top aside.



Procedure continued on the following page...

Access Procedures

Base Cover - *continued*

Removal / Installation - *continued*

Refer To: Go To Page:
Exploded Views / Part Numbers E-1

Removal
Step 13: Lift cover over pivot weldments, one side at a time.

Installation
Step 1: Install cover over pivot weldments,one side at a time.

Base Cover

Models: ***All***
Serial Numbers:

Access Procedures

Seat Section Cover *(early models only)*

Removal / Installation

Refer To: Go To Page:
Exploded Views / Part Numbers E-1

Removal
Step 1: Remove seven screws.
Remove seat section cover.

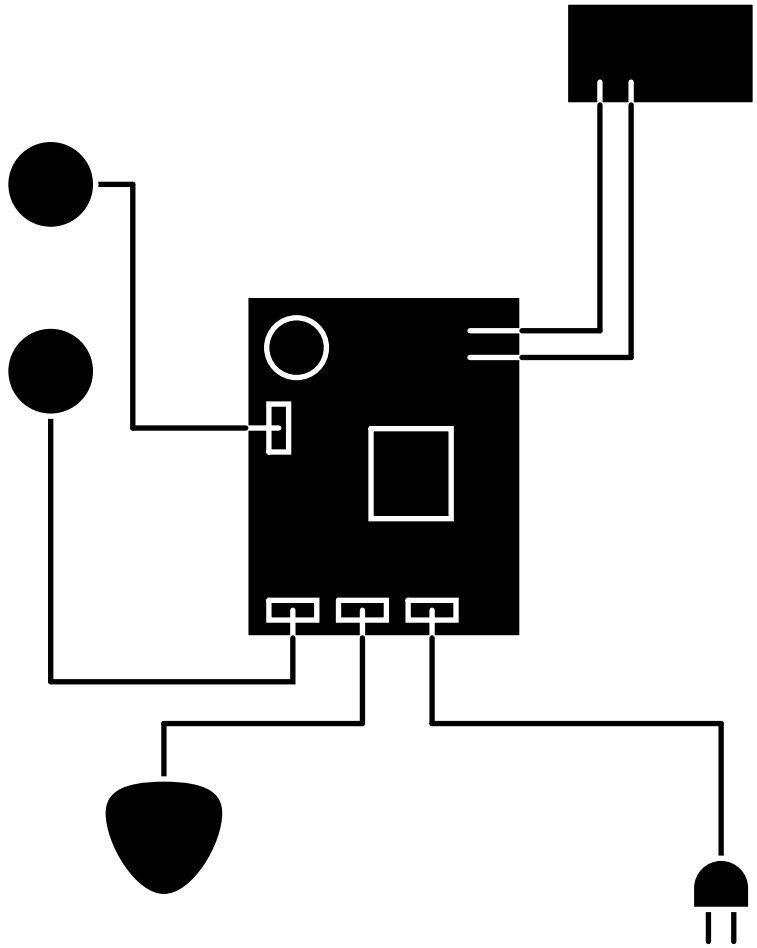
Installation
Step 1: Position seat section cover.
Install seven screws.

Section D

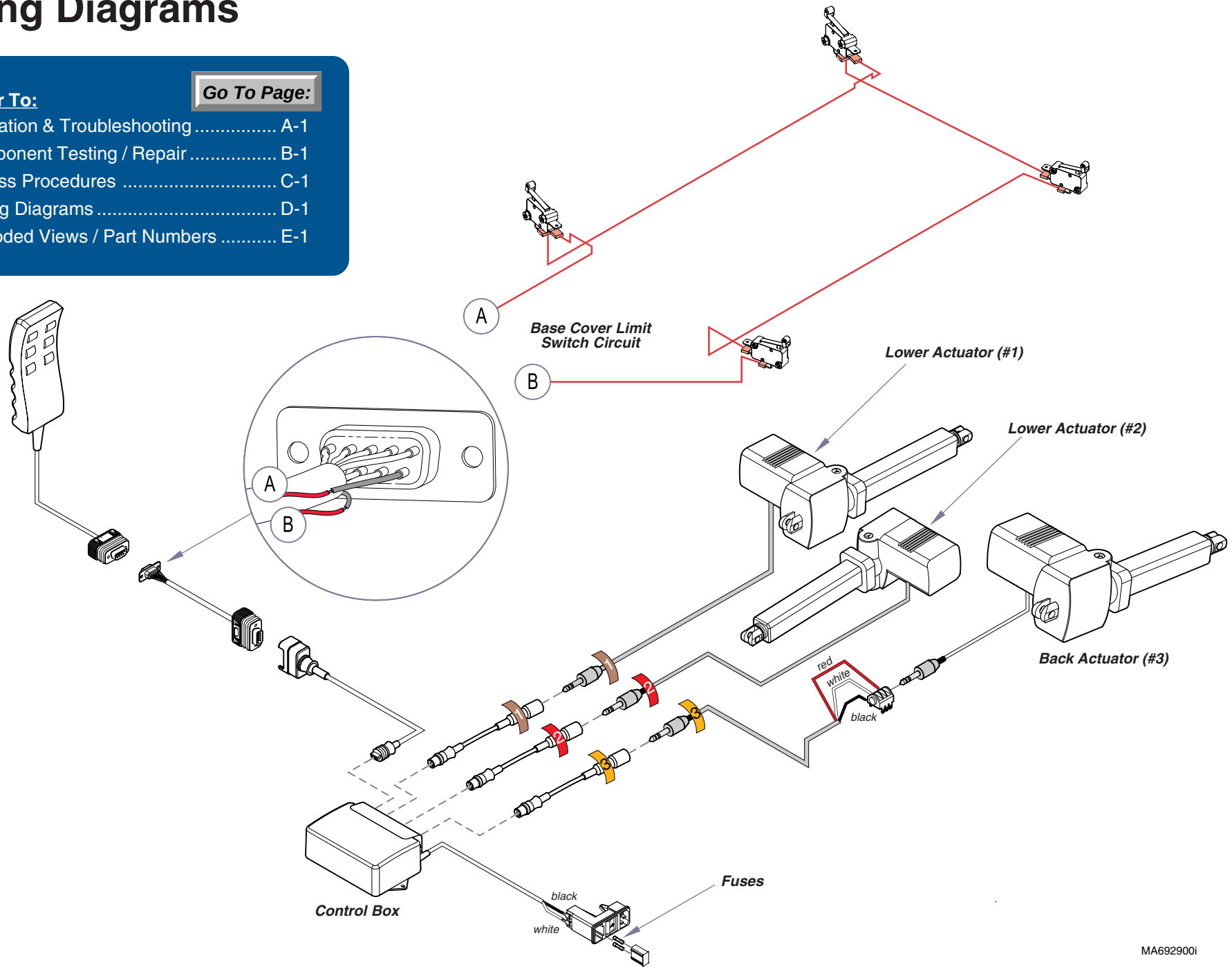
Wiring Diagrams

Go To Page:

Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitve. ex. D-2)



Wiring Diagrams



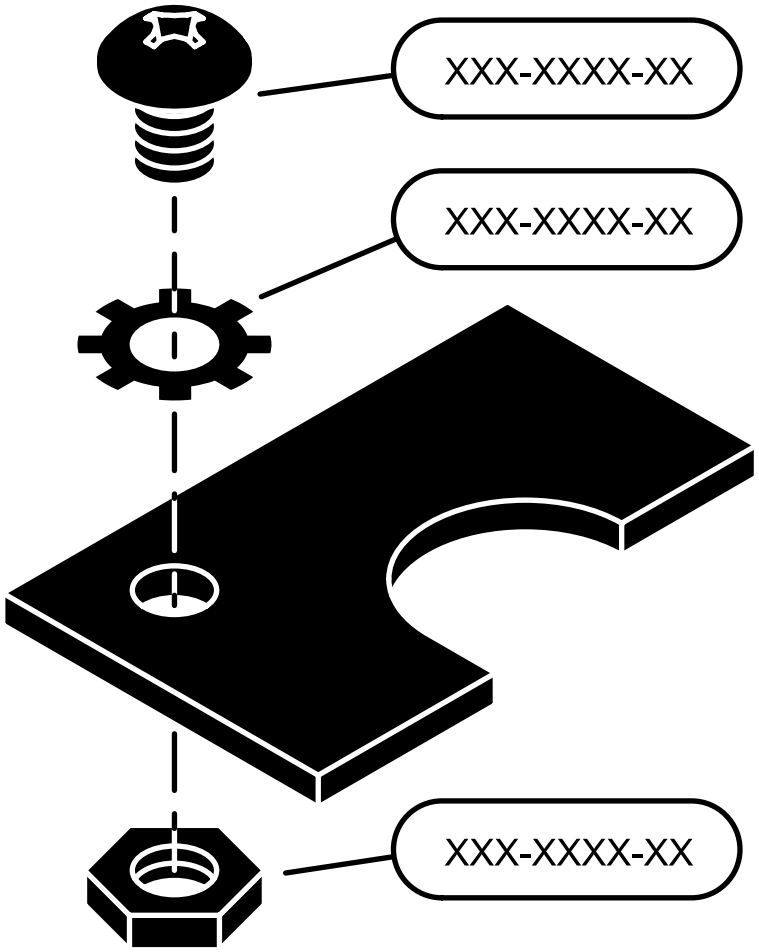
Wiring Diagrams

Models: All
Serial Numbers:

Section E

Exploded Views & Parts Lists

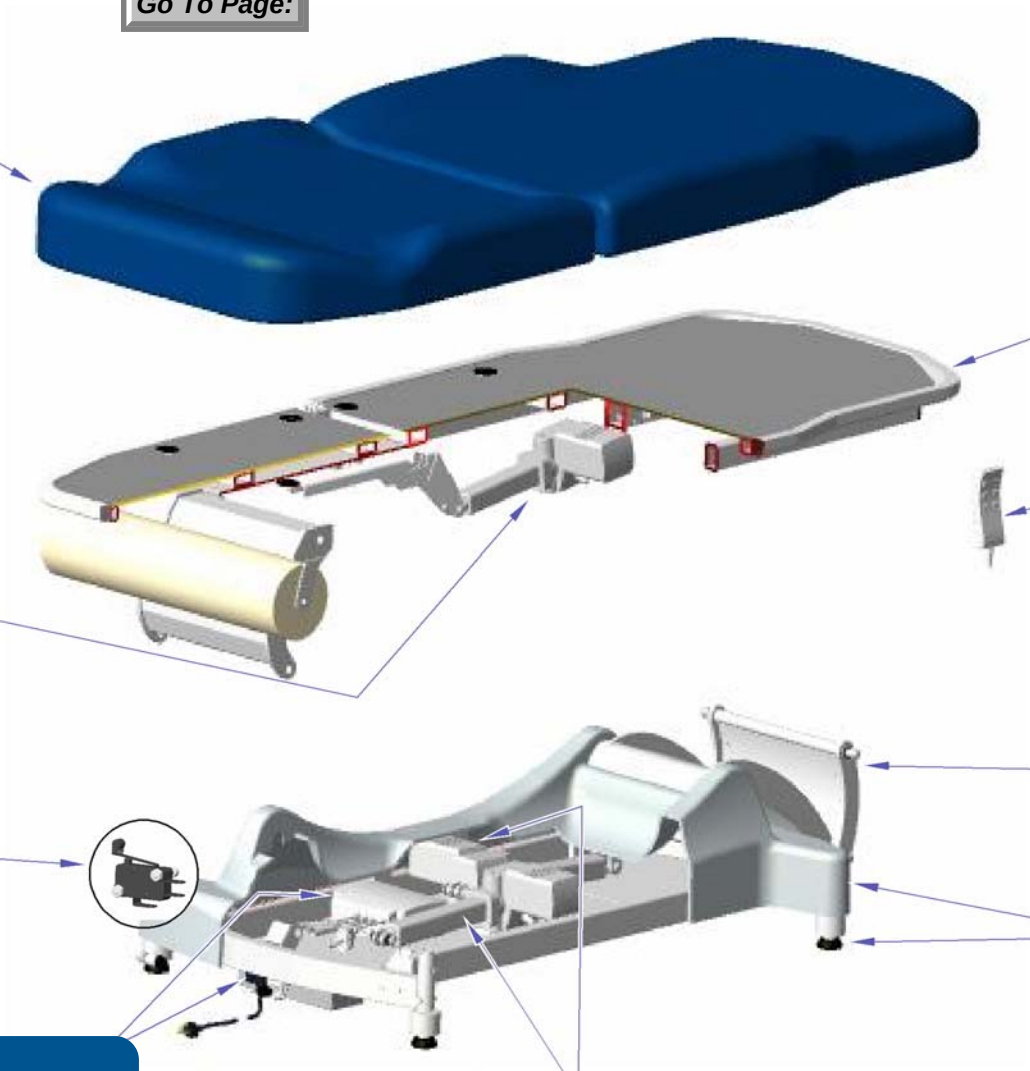
Click on the Go To Page button and enter the desired page number. (Note: Letters are case sensitve. ex. E-2)



244 *(all)*

The blue boxes on this page are "linked".
Point and click on the text in the desired box to go to that page, or use the Go To Page button.

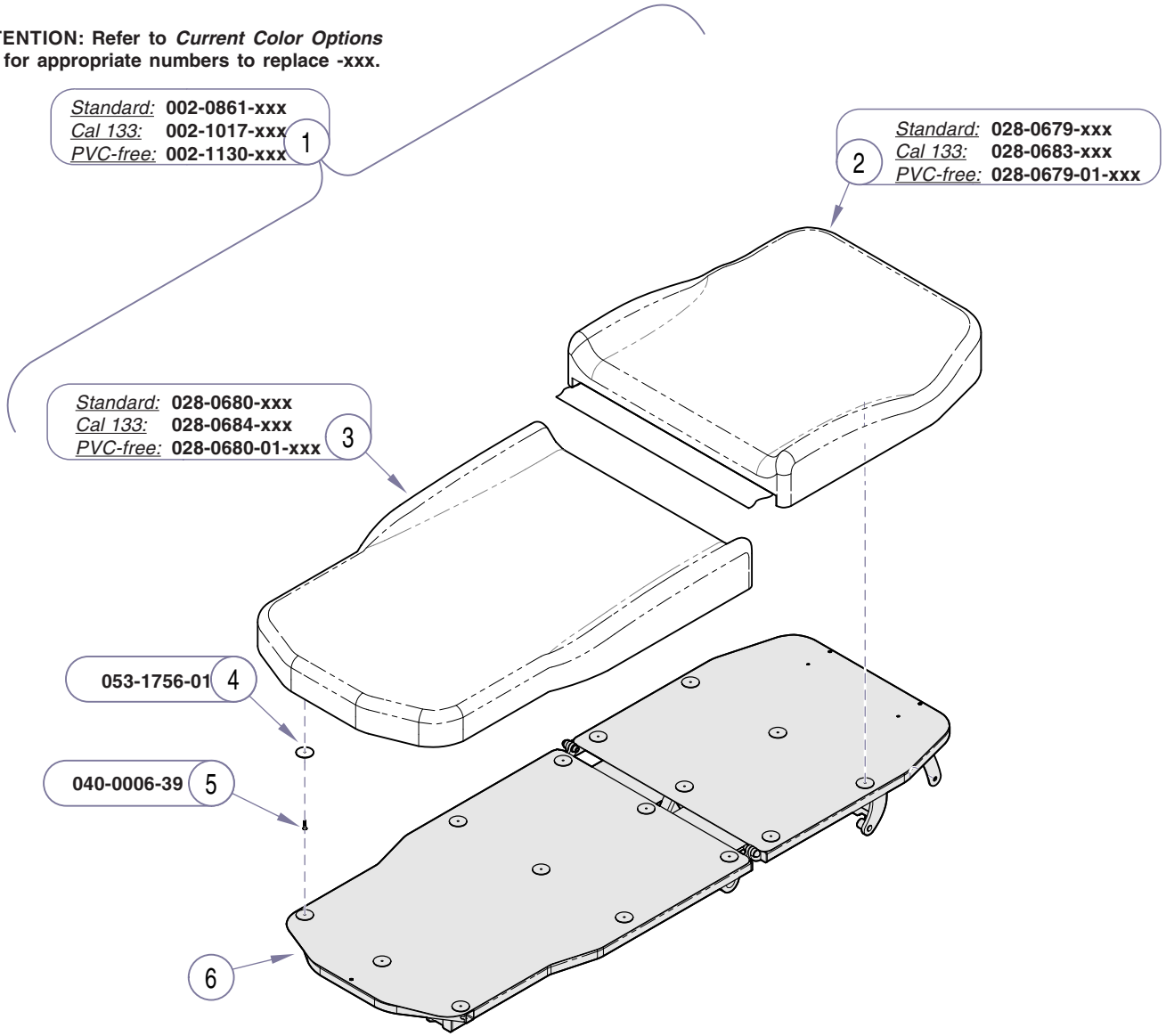
Go To Page:



**** Indicates multiple pages due to a serial number break for the parts illustration***

www.Documark.com:
Current Color Options 004-0546-00
Go To Page:

ATTENTION: Refer to *Current Color Options* link for appropriate numbers to replace -xxx.



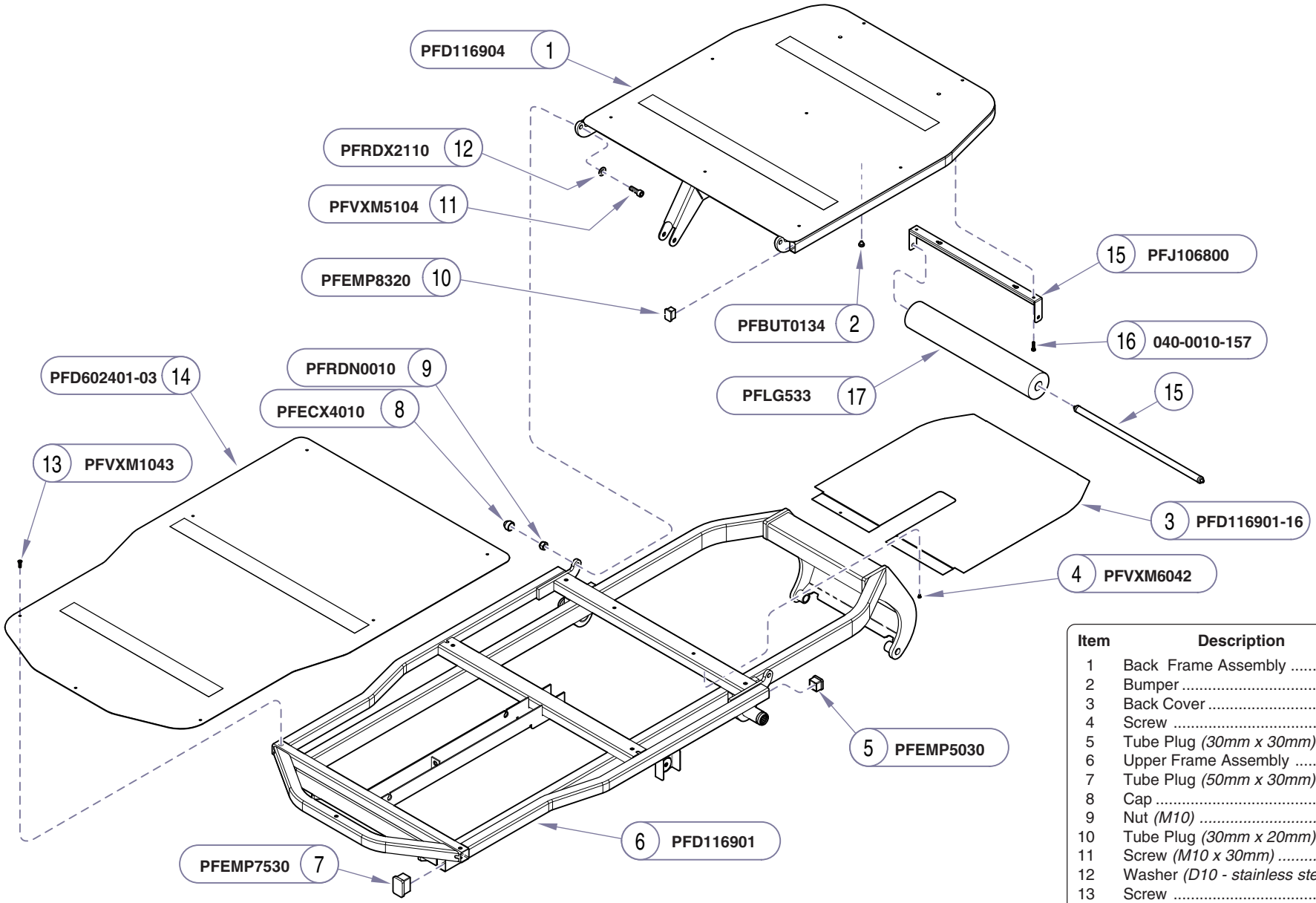
MA689702i

Item	Description	Qty.
1	Upholstery Set *(includes items 2 thru 5)*	1
2	• Back Upholstery *(specify color)*	1
3	• Seat Upholstery *(specify color)*	1
4	• Velcro	15
5	• Screw	4
6	Refer to: *Upper Frame*	Ref

Always Specify Model & Serial Number

Models: ***All***
Serial Numbers:

Upholstery

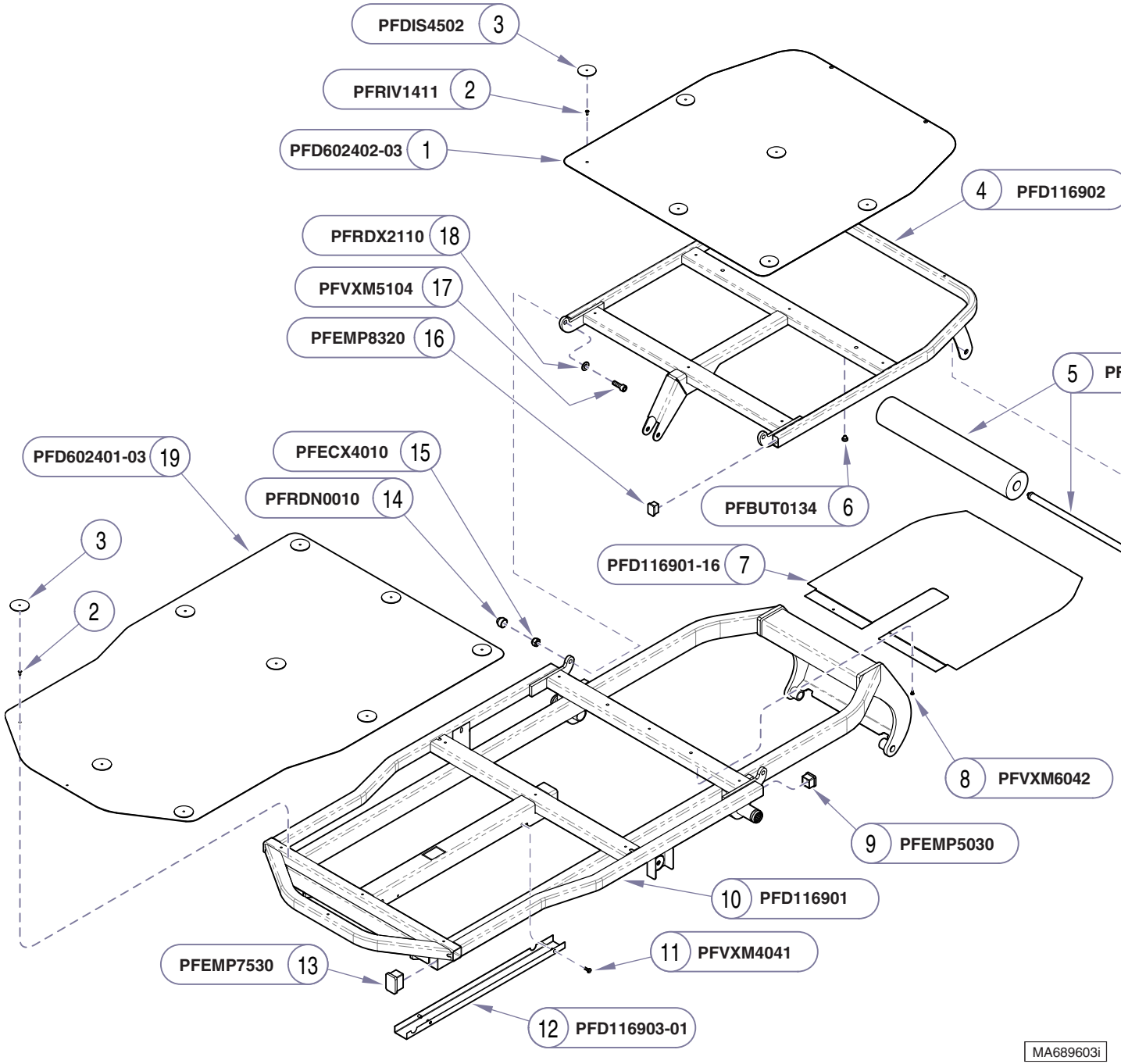


Item	Description	Qty.
1	Back Frame Assembly	1
2	Bumper	2
3	Back Cover	1
4	Screw	6
5	Tube Plug *(30mm x 30mm)*	2
6	Upper Frame Assembly	1
7	Tube Plug *(50mm x 30mm)*	2
8	Cap	2
9	Nut *(M10)*	2
10	Tube Plug *(30mm x 20mm)*	10
11	Screw *(M10 x 30mm)*	2
12	Washer *(D10 - stainless steel)*	2
13	Screw	15
14	Seat Section Cover	1
15	Paper Roll Holder Assy. *(incl. item 16)*	1
16	• Screw *(M6 x 25mm)*	2
17	Paper Roll	1

Always Specify Model & Serial Number

Upper Frame

Models: ***244***
Serial Numbers: 045102845 *thru* 045102866



Item	Description	Qty.
1	Back Frame Top Cover	1
2	Pop Rivet	17
3	Velcro	15
4	Back Frame	1
5	Paper Roll Rod *(w/ one paper roll)*	1
6	Bumper	2
7	Back Cover	1
8	Screw	6
9	Tube Plug *(30mm x 30mm)*	2
10	Upper Frame Assembly	1
11	Screw *(M4 x 10mm)*	2
12	Channel Cover	1
13	Tube Plug *(50mm x 30mm)*	2
14	Cap	2
15	Nut (M10)	2
16	Tube Plug *(30mm x 20mm)*	2
17	Screw *(M10 x 30mm)*	2
18	Washer *(D10)*	2
19	Seat Frame Top Cover	1

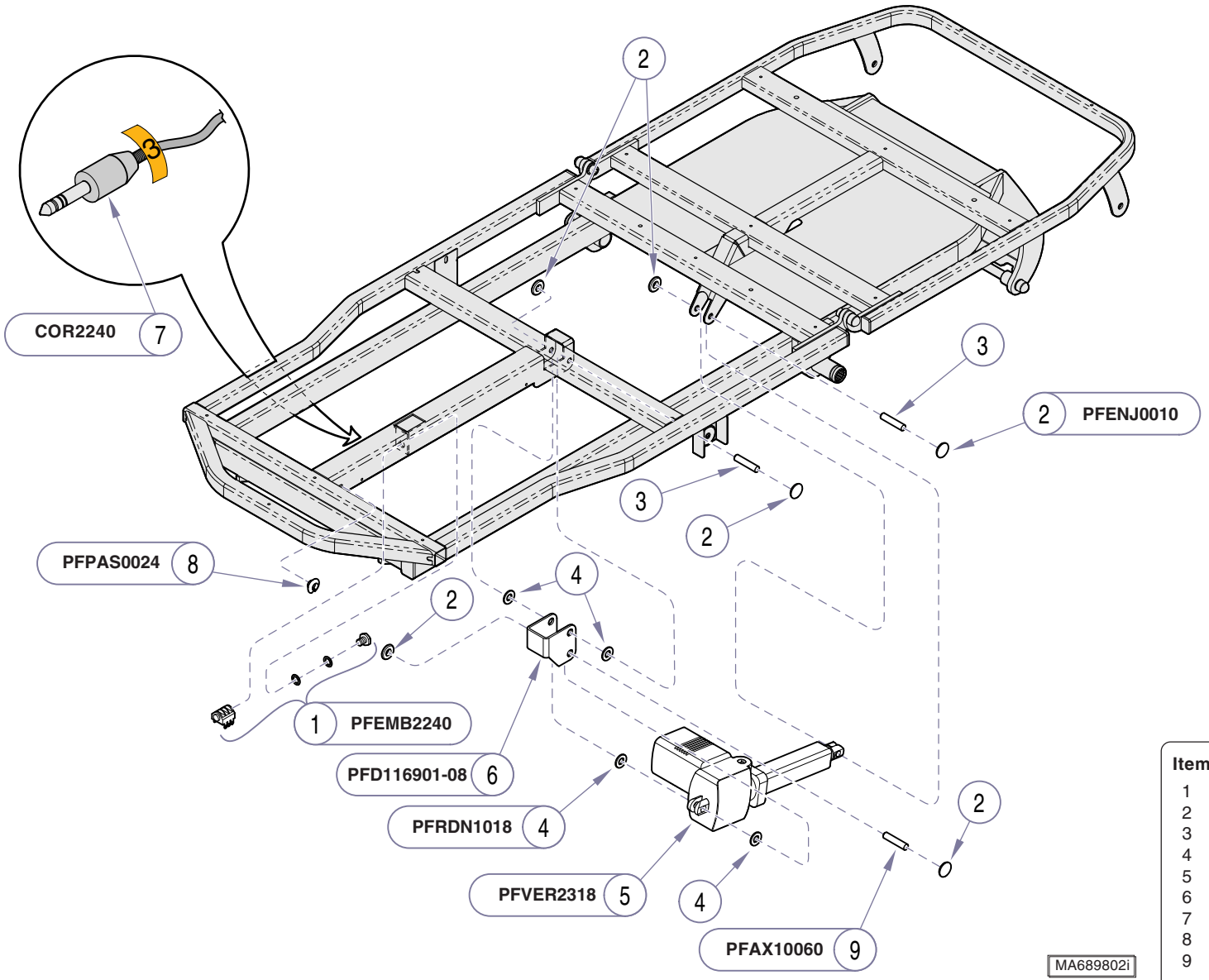
Always Specify Model & Serial Number

Models: ***244***
Serial Numbers: 045102867 *thru present*

Upper Frame

E-4.1

On early models, the electrical connector (item #1) is accessed from the top of the upper frame.



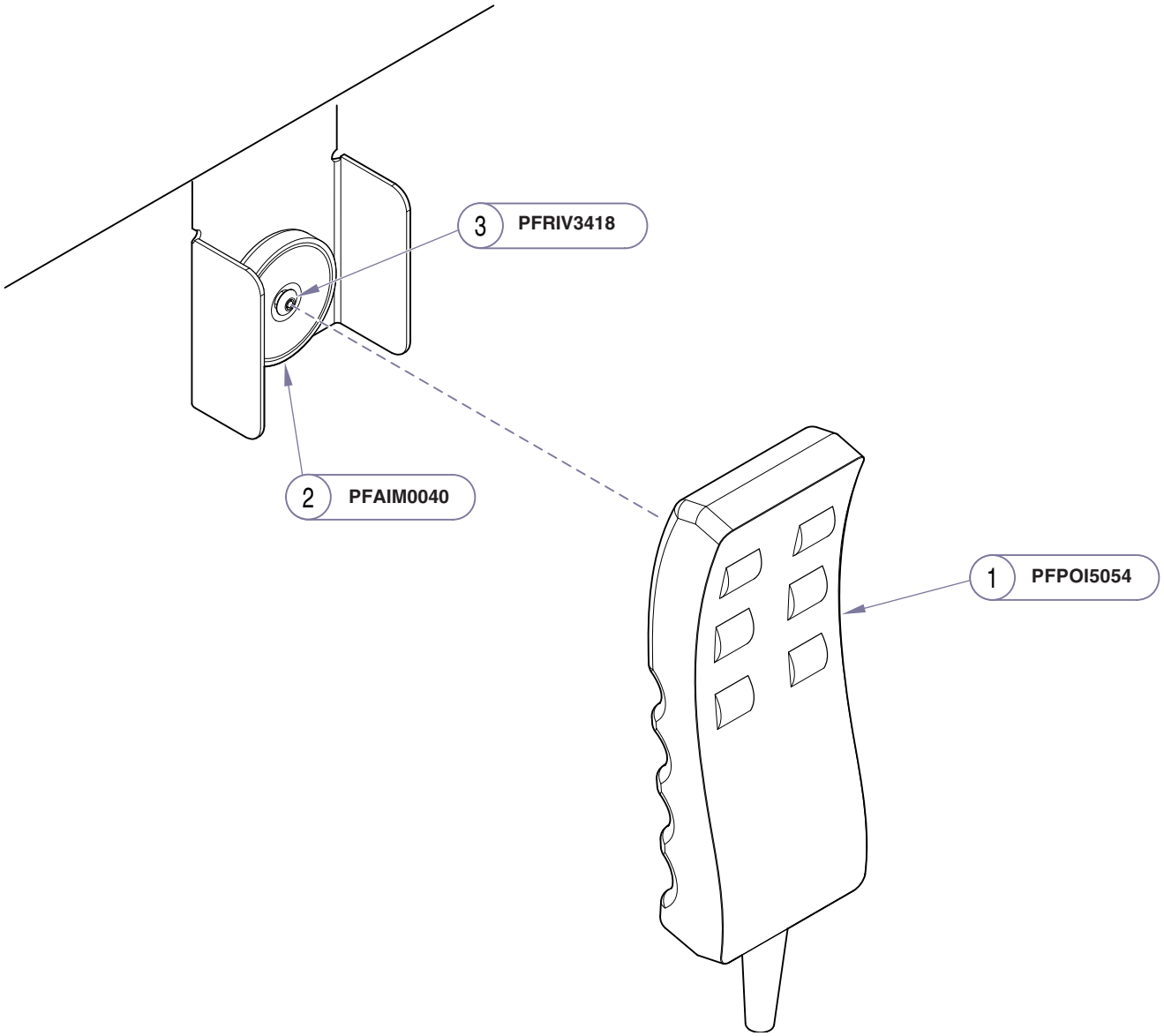
Item	Description	Qty.
1	Electrical Connector	1
2	Cap *(D10)*	6
3	Pin *(D10 x 50mm - stainless steel)*	2
4	Nylon Washer *(D10)*	4
5	Back Actuator	1
6	Actuator Mounting Bracket	1
7	Wire Harness Extension	1
8	Plastic Loop D. 8/24 for Cable	1
9	Pin *(D10 x 60mm - stainless steel)*	1

Always Specify Model & Serial Number

Back Actuator

Models: ***All***

Serial Numbers:



MA690700i

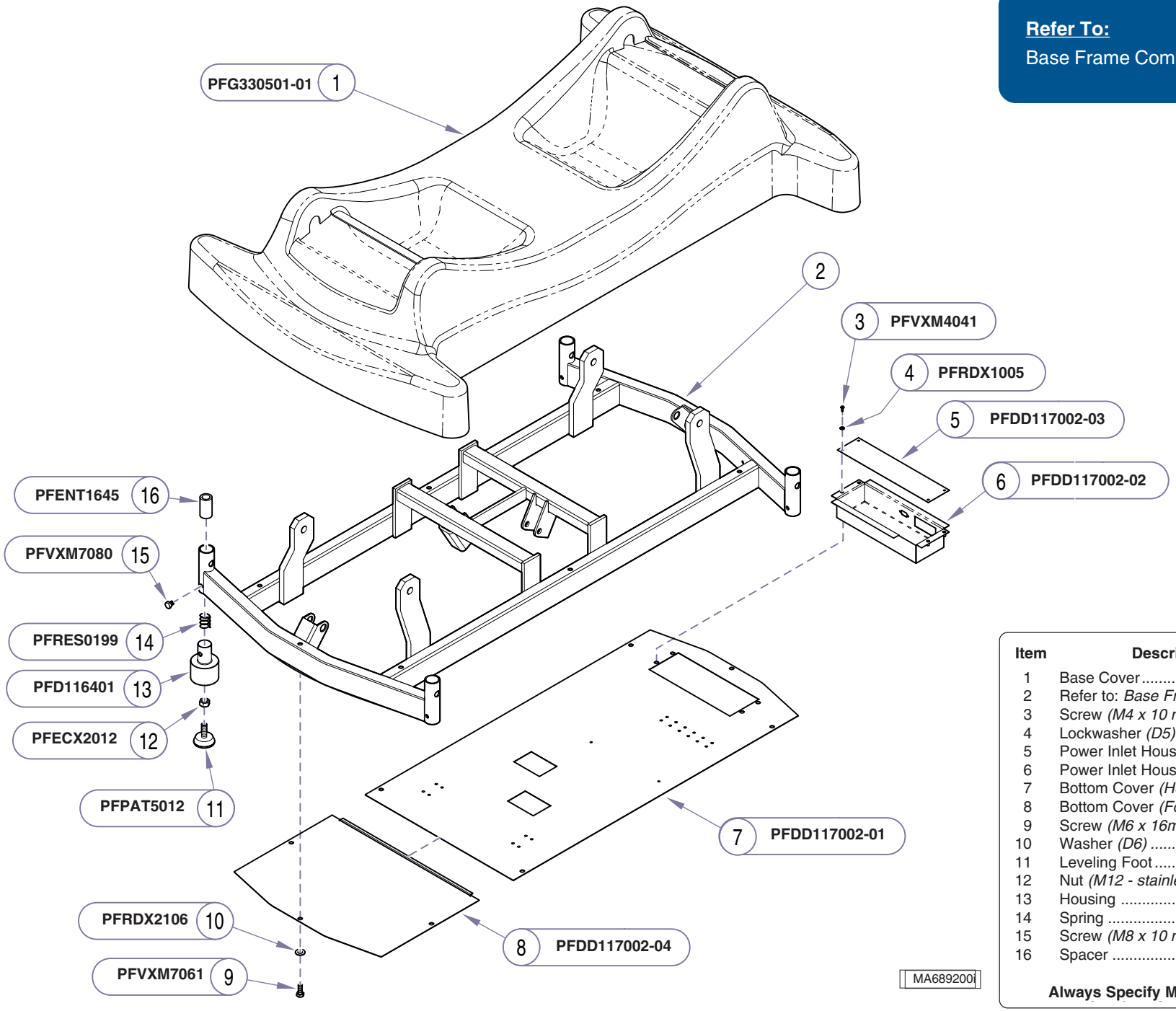
Item	Description	Qty.
1	Hand Control Bracket Kit *(includes bracket & magnet)*	2
2	Magnet	2
3	Rivet	2

Always Specify Model & Serial Number

Models: ***All***
Serial Numbers:

Hand Control

Refer To: Go To Page:
Base Frame Components E-11

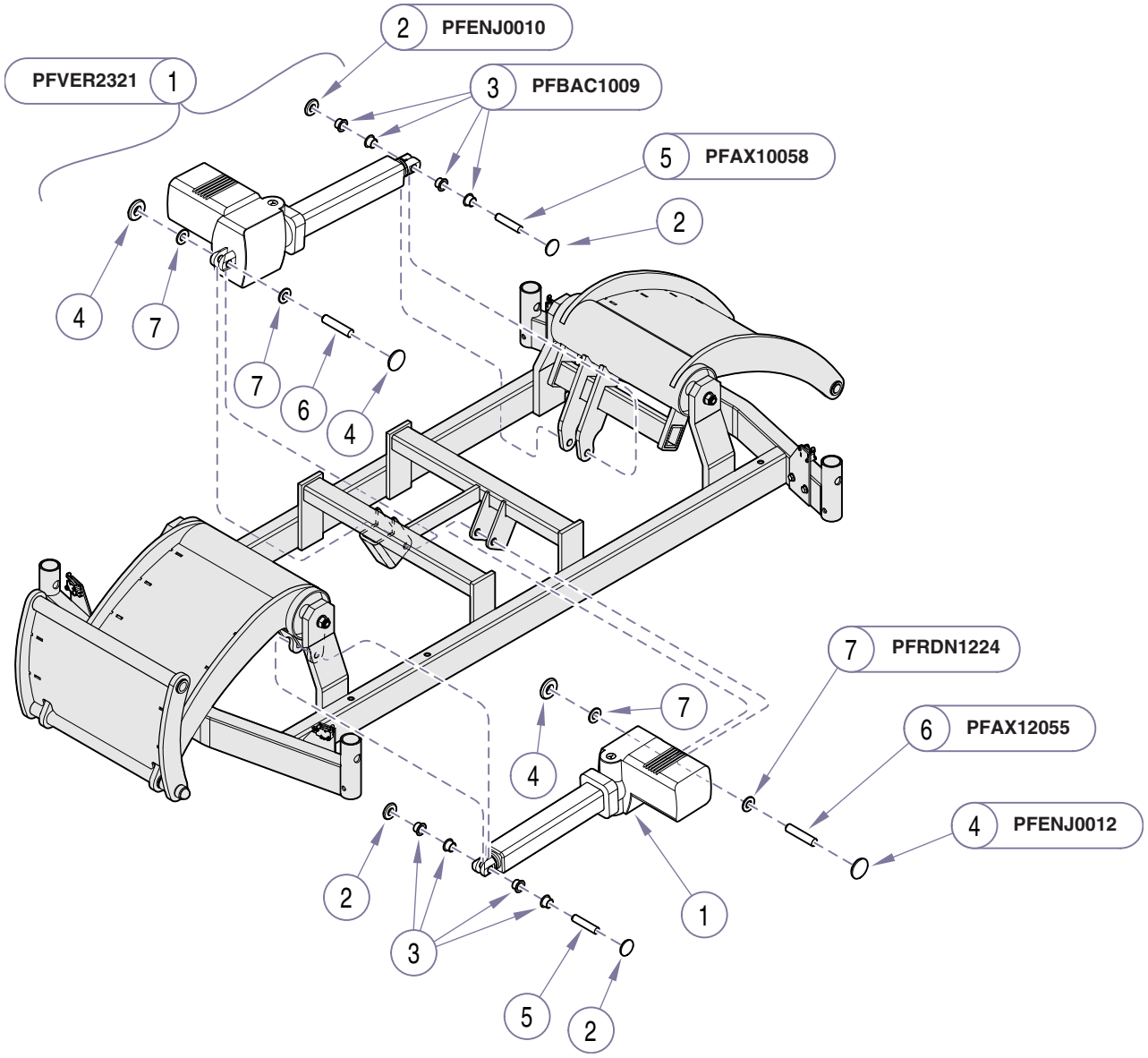


Item	Description	Qty.
1	Base Cover	1
2	Refer to: *Base Frame Components*	Ref
3	Screw *(M4 x 10 mm)*	4
4	Lockwasher *(D5)*	4
5	Power Inlet Housing Cover	1
6	Power Inlet Housing	1
7	Bottom Cover *(Head-end)*	1
8	Bottom Cover *(Foot-end)*	1
9	Screw *(M6 x 16mm)*	10
10	Washer *(D6)*	10
11	Leveling Foot	1
12	Nut *(M12 - stainless steel)*	1
13	Housing	1
14	Spring	1
15	Screw *(M8 x 10 mm)*	1
16	Spacer	1

Always Specify Model & Serial Number

Base Covers & Leveling Feet

Models: ***All***
Serial Numbers:



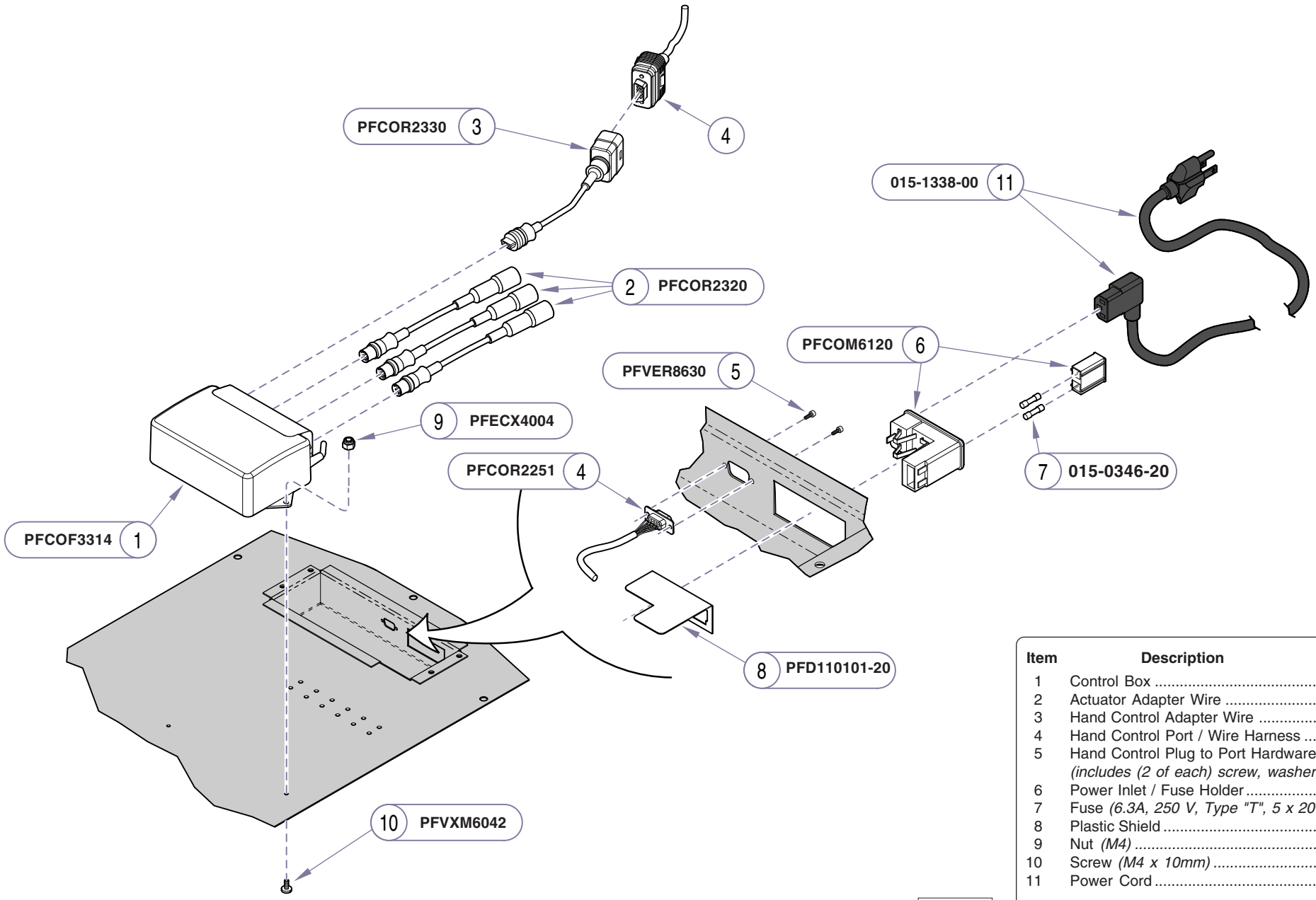
MA689300i

Item	Description	Qty.
1	Lower Actuator Kit *(includes items 2 thru 6)*	2
2	• Cap *(D10)*	2
3	• Bushing	4
4	• Cap *(D12)*	2
5	• Pin *(D10 x 58mm)*	1
6	• Pin *(D12 x 55mm)*	1
7	Nylon Washer	1

Always Specify Model & Serial Number

Models: ***All***
Serial Numbers:

Lower Actuators

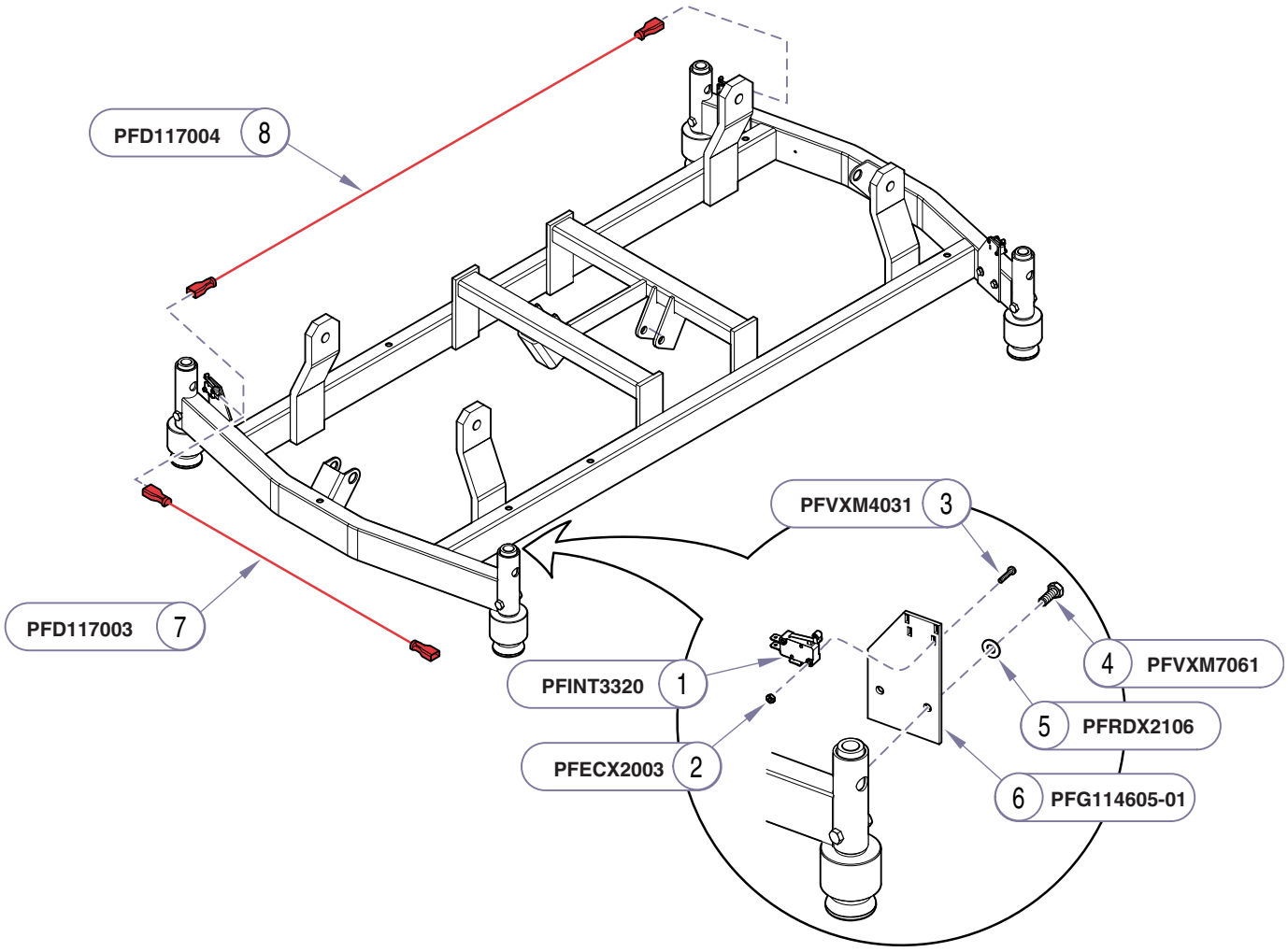


Item	Description	Qty.
1	Control Box	1
2	Actuator Adapter Wire	3
3	Hand Control Adapter Wire	1
4	Hand Control Port / Wire Harness	1
5	Hand Control Plug to Port Hardware Pkg. *(includes (2 of each) screw, washer & nut)*	1
6	Power Inlet / Fuse Holder	1
7	Fuse *(6.3A, 250 V, Type "T", 5 x 20 mm)*	1
8	Plastic Shield	1
9	Nut *(M4)*	2
10	Screw *(M4 x 10mm)*	2
11	Power Cord	1

Always Specify Model & Serial Number

Control Box & Power Inlet

Models: ***All***
Serial Numbers:



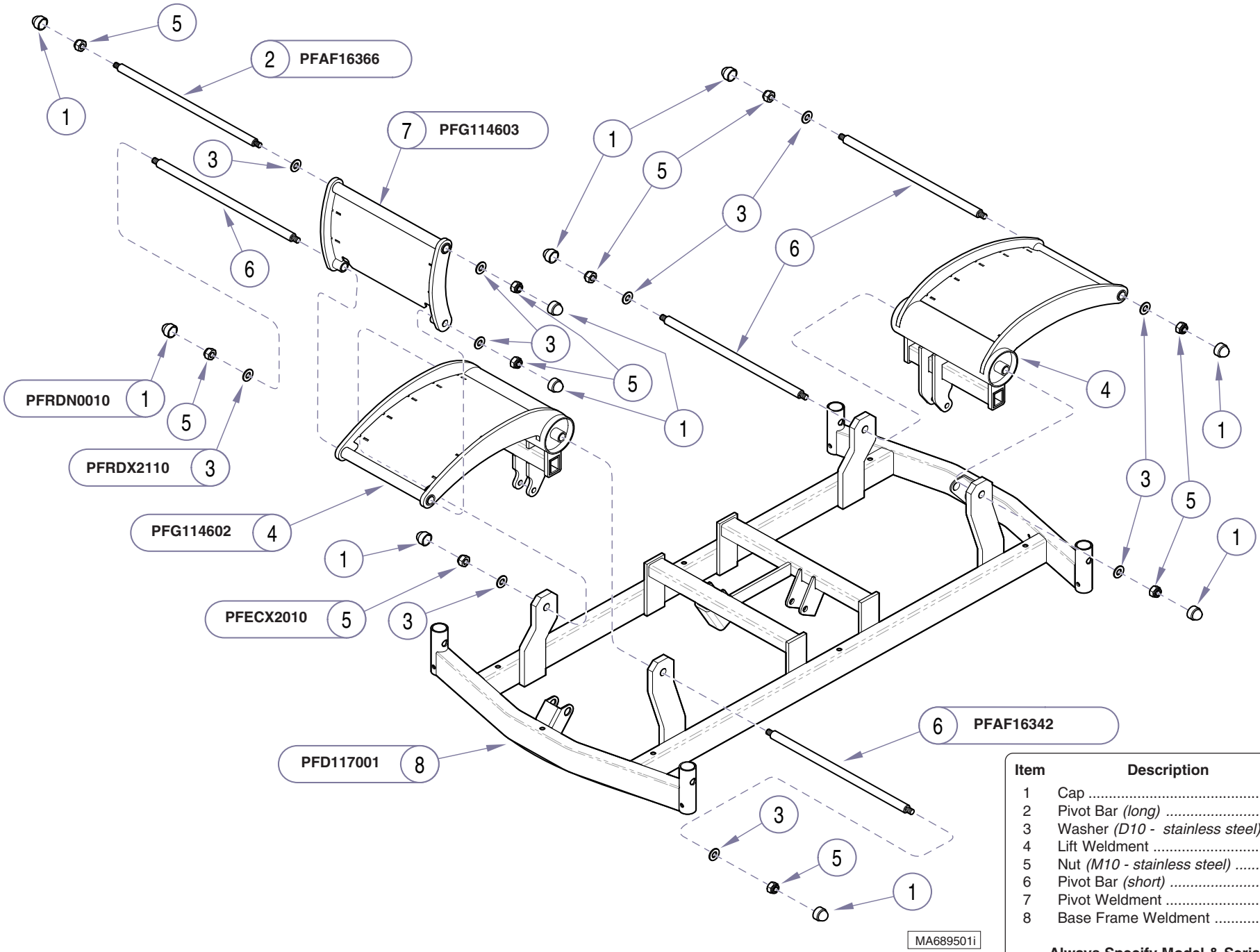
MA689400i

Item	Description	Qty.
1	Limit Switch Kit *(includes one switch and items 2 & 3)*	4
2	• Nut *(M3 - stainless steel)*	2
3	• Screw *(M3 x 15mm)*	2
4	Screw *(M6 x 16mm)*	8
5	Washer *(D6 - stainless steel)*	8
6	Mounting Plate	4
7	Limit Switch Wire *(short)*	1
8	Limit Switch Wire *(long)*	2

Always Specify Model & Serial Number

Models: ***All***
Serial Numbers:

Base Cover Limit Switches

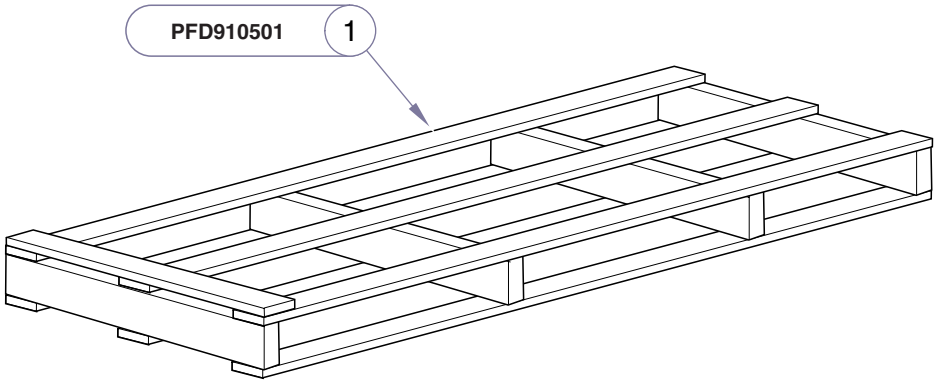


Item	Description	Qty.
1	Cap	8
2	Pivot Bar *(long)*	1
3	Washer *(D10 - stainless steel)*	6
4	Lift Weldment	2
5	Nut *(M10 - stainless steel)*	3
6	Pivot Bar *(short)*	4
7	Pivot Weldment	1
8	Base Frame Weldment	1

Always Specify Model & Serial Number

Base Frame

Models: ***All***
Serial Numbers:



MA743000i

Item	Description	Qty.
1	Shipping Skid	1

Always Specify Model & Serial Number

Models: ***All***
Serial Numbers:

Shipping Skid

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