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405

-001 thru -018

Medical Examination Table

MIDMARK®

Service and Parts Manual

Serial Number Prefixes:
BG, BH, DK, DV, LE, LF
LG & V

NO LONGER IN PRODUCTION

Some service parts may not be available for this product!

405 -001 thru -018

FOR USE BY MIDMARK TRAINED TECHNICIANS ONLY

SF-1497

Part No. 004-0007-00 Rev. M (1/10/13)

Style B

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IMPORTANT INSTRUCTIONS

General Safety Instructions

Safety First: The primary concern of Midmark Corporation is that this table is maintained with the safety of the patient and staff in mind. To assure that services and repairs are completed safely and correctly, proceed as follows:

(1) Read this entire manual before performing any services or repairs on this table.

(2) Be sure you understand the instructions contained in this manual before attempting to service or repair this table.

Safety Alert Symbols

Throughout this manual are safety alert symbols that call attention to particular procedures. These items are used as follows:

DANGER

A DANGER is used for an imminently hazardous operating procedure, practice, or condition which, if not correctly followed, will result in loss of life or serious personal injury.

WARNING

A WARNING is used for a potentially hazardous operating procedure, practice, or condition which, if not correctly followed, could result in loss of life or serious personal injury.

CAUTION

A CAUTION is used for a potentially hazardous operating procedure, practice, or condition which, if not correctly followed, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

EQUIPMENT ALERT

An EQUIPMENT ALERT is used for an imminently or potentially hazardous operating procedure, practice, or condition which, if not correctly followed, will or could result in serious, moderate, or minor damage to unit.

NOTE

A NOTE is used to amplify an operating procedure, practice or condition.

Warranty Instructions

Refer to the Midmark “Limited Warranty” printed in the Installation and Operation Manual for warranty information. Failure to follow the guidelines listed below will void the warranty and/or render the 405 Medical Examination Table unsafe for operation.

- In the event of a malfunction, do not attempt to operate the table until necessary repairs have been made.
- Do not attempt to disassemble table, replace malfunctioning or damaged components, or perform adjustments unless you are one of Midmark’s authorized service technicians.
- Do not substitute parts of another manufacturer when replacing inoperative or damaged components. Use only Midmark replacement parts.

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SECTION I
GENERAL INFORMATION

1.1 Scope of Manual

This manual contains detailed troubleshooting, scheduled maintenance, maintenance, and service instructions for the 405 Medical Examination Table. This manual is intended to be used by Midmark's authorized service technicians.

1.2 How to Use Manual

A. Manual Use When Performing Scheduled Maintenance.

(1) Perform inspections and services listed in Scheduled Maintenance Chart (Refer to para 3.1).

(2) If a component is discovered to be faulty or out of adjustment, replace or adjust component in accordance with maintenance/service instructions (Refer to para 4.1).

B. Manual Use When Table Is Malfunctioning And Cause Is Unknown.

(1) Perform an operational test on table (Refer to para 2.1).

(2) Perform troubleshooting procedures listed in Troubleshooting Guide (Refer to para 2.2).

(3) If a component is discovered to be faulty or out of adjustment, replace or adjust component in accordance with maintenance/service instructions (Refer to para 4.1).

C. Manual Use When Damaged Component Is Known.

(1) Replace or adjust component in accordance with maintenance/service instructions (Refer to para 4.1).

1.3 Description of 405 Medical Examination Table

A. General Description (See Figure 1-1).

The 405 Medical Examination Table is an examination table designed specifically for performing general medical examinations and procedures.

The major serviceable components of the table are the back capacitor, back actuator, base capacitor, base actuator, base down limit switch, PC control board, control disable switch, heater plate (optional), heater on/off switch (optional), hand control assembly which includes: hand control panel and hand control interface board, a foot control (optional) which includes: four footswitches (old style), six footswitches and PC board (new style), and two stirrup assemblies. The following components apply *only* to the serial numbers listed: transformer (DV1000 thru present), two hand control inlet boards and two foot control inlet boards (LE1000, LF1000 & LG100 thru present).

B. Theory of Operation (See Figures 5-1 thru 5-3 for wiring diagrams / electrical schematics)

Electrical Power:

Line voltage (for 115 VAC units and 230 VAC units) is supplied directly to the table's PC control board. There is a transformer and associated follow-on circuitry on the PC control board which reduces the line voltage to 12 VDC. The 12 VDC provides power to operate the circuitry on the PC control board, hand control, and foot control (optional). The 100 VAC unit has an additional transformer that steps up the voltage to 115 VAC before it is supplied to the table's PC control board.

Line voltage is continuously supplied to the electrical receptacle of 115 VAC and 230 VAC units. 100 VAC units do not have electrical receptacles.

There is a normally closed (N.C.) control disable switch, located on the side of the table. Placing the switch in the OFF / STANDBY position disables the table functions. However, power is still present at the electrical receptacles.

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SECTION I
GENERAL INFORMATION

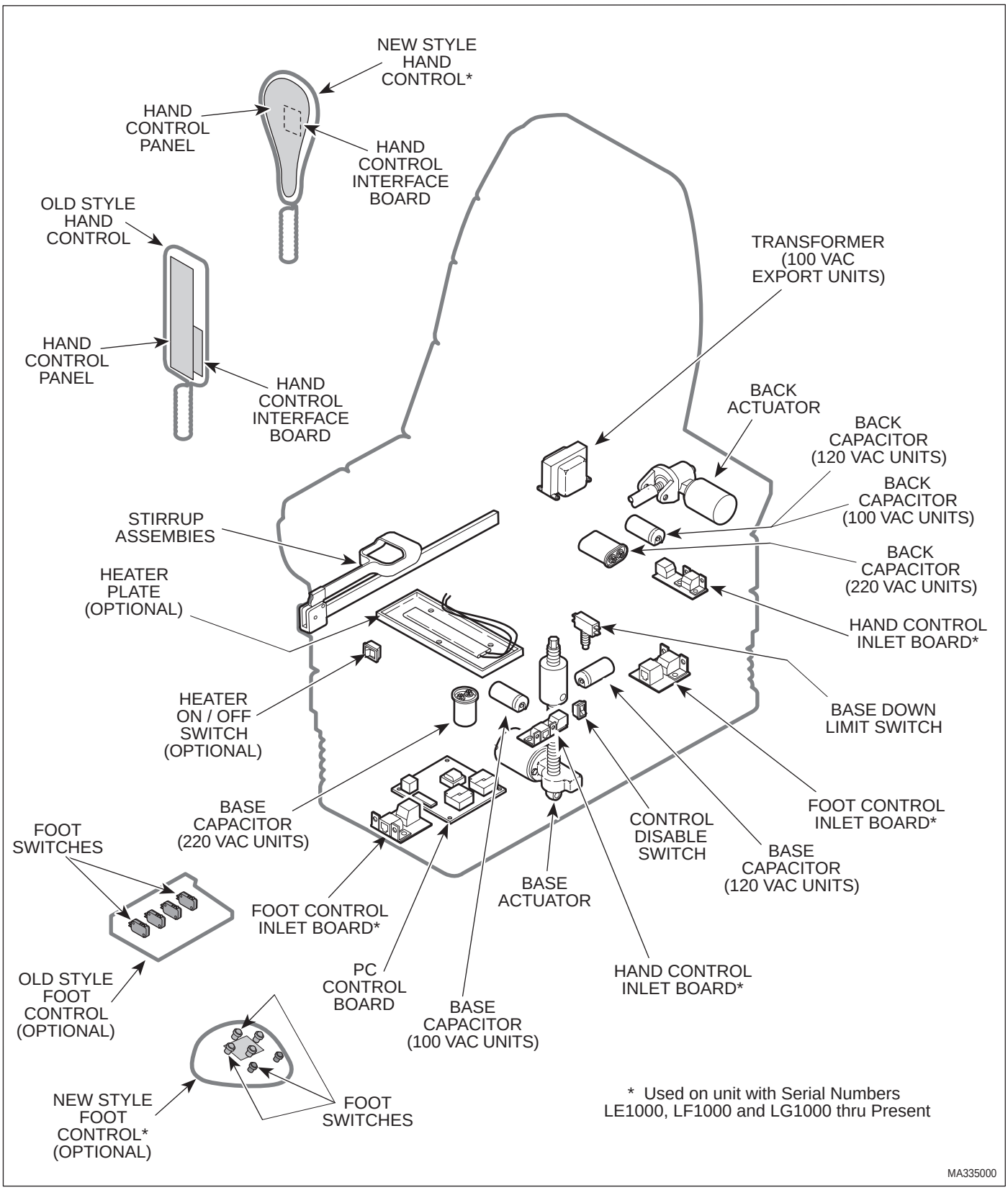

Figure 1-1. Major Components

Table Operation using Hand Control:

When a hand control button is pressed, the hand control sends serial digital signals to the PC control board using two data lines. (Early units sent *analog* signals to the PC board using *three* data lines). The PC control board determines which function was selected by analyzing which data lines contained a signal and then the PC control board energizes the relay for the selected function.

There is always line voltage potential at the output of the relays; there is a relay for each up and down function: BASE UP, BASE DOWN, BACK UP, and BACK DOWN. So, when a relay is energized closing the circuit, line voltage is applied across the relay and then across the motor coil of the selected function, causing it to run. When the hand control button is released, the function's relay is de-energized, removing line voltage from the motor coil which causes it to stop running. The BASE DOWN function has an additional control circuit (the base down limit switch) to prevent the base actuator from freewheeling at the end of its down travel. The base down limit switch is adjusted to trip just before the base actuator is completely lowered. When the N.O. base down limit switch is tripped closing the circuit, the PC control board de-energizes the base down relay causing the base actuator to stop running (even if the hand control button is still being depressed by the operator). This prevents the base actuator from free-wheeling when it reaches the end of its down travel. Otherwise, under heavy loads, excessive wear or damage to base actuator could result.

When the AUTO RETURN button is depressed, the PC control board energizes the BASE DOWN relay; the BASE DOWN function will continue to run even if the operator releases the button. The PC control board also monitors the status of the normally closed (N.C.) base down limit switch. The N.C. base down limit switch is not tripped, resulting in a closed circuit, when the actuator is in all positions but its auto return home position (base down completely lowered). When the base actuator reaches its auto return home position, the base down limit switch is tripped, opening the circuit. The PC control board senses this and de-energizes the relay for the base down function causing the base actuator to stop. When the base down limit switch has tripped, stopping the base down actuator, the auto return function is complete. The PC control board has a backup timing circuit in case the base down limit switch malfunctions during the auto return function. If the PC control board does not see the status of the base down limit switch change within approximately 17 seconds of actuator run time, the backup circuit shuts down the auto return function.
The STOP button may be pressed at any time during the AUTO RETURN function. When the STOP button is pressed, the PC control board stops the auto return function. This de-energizes the base down relay, stopping the base actuator.

Actuator Operation:

The base and back actuators are ball screw driven. The actuator assemblies contain a pivot point on the end of the ball screw. If an actuator assembly is run to the end of its stroke, the ball screw shaft spins inside the nut, which allows the actuator assembly to run without damaging or advancing the nut (called freewheeling).

The base and back actuators have internal braking mechanisms which disengage when the motor starts running and engage when the motor stops running.

Foot Control Operation
The foot control used on later units sends serial digital signals to the PC board using two data lines. The PC board determines which function was selected by analyzing which data lines contained a signal and then energizes the relay for the selected function. The foot control used on early units sends a signal from a footswitch in the foot control to the PC board thru a line which does not require any decoding.

Optional Heater Plate
Some units are equipped with the optional heater plate. When the operator turns the (N.O.) HEATER ON / OFF switch to ON, closing the circuit, power is supplied to the heater plate, heating the unit. This provides heat in the top, foot end drawer to warm instruments.

SECTION I
GENERAL INFORMATION

Diagnostic L.E.D. Information

Units with serial numbers LE1000, LF1000 and LG1000 thru Present have *four* L.E.D.'s on the PC logic board which can be used for troubleshooting aids. Earlier units with serial numbers BG1000, BH1000, DK1000 and DV1000 thru Present have *thirteen* diagnostic L.E.D.'s on the PC logic board. Tables 5-1 and 5-2 list all functions for this table and which L.E.D.'s should illuminate when a button or footswitch is depressed. Refer to Figure 5-7 or 5-8 for location of L.E.D.'s.

NOTE
The back up, back down, base up and base down relay L.E.D.'s are present on *all* units.

- The **back up relay L.E.D.** illuminates to indicate that the PC control board is energizing the back up relay.
- The **back down relay L.E.D.** illuminates to indicate that the PC control board is energizing the back down relay.
- The **base up relay L.E.D.** illuminates to indicate that the PC control board is energizing the base up relay.
- The **base down relay L.E.D.** illuminates to indicate that the PC control board is energizing the base down relay.

NOTE
The following diagnostic L.E.D.'s are present on early units with S/N: BG1000, BH1000, DK1000 and DV1000 thru Present *only.*

- The **foot control back up L.E.D.** illuminates to indicate that the PC control board is receiving a good signal from the back up foot switch.
- The **foot control back down L.E.D.** illuminates to indicate that the PC control board is receiving a good signal from the back down foot switch.
- The **foot control base up L.E.D.** illuminates to indicate that the PC control board is receiving a good signal from the base up foot switch.
- The **foot control base down L.E.D.** illuminates to indicate that the PC control board is receiving a good signal from the base down foot switch.
- The **auto return back function L.E.D.** is not used on this table.
- The **auto return base function L.E.D.** illuminates to indicate that the auto return circuit for the base function is activated. The L.E.D. stays illuminated until the base function has completed its portion of the auto return cycle.
- There are three Data Line L.E.D.'s; **data line #1 L.E.D., data line #2 L.E.D., and data line #3 L.E.D.**. Different combinations of these L.E.D's illuminate to indicate if the proper input signal is being sent to the PC control board from the membrane panels or hand control.

General Information:

All actuator motors have a thermal overload switch which will activate if the actuator assembly is run continuously, causing its motor to overheat. The actuator motors are not designed for continuous operation. The normal cool off period for the thermal overload switches is 10 - 20 minutes.

Each actuator motor has a capacitor which provides start up power and motor run power.

There are two 0.10 amp fuses (one 0.25 amp fuse on early units) , located on the PC control board, which provide over-current protection to the control circuitry of the PC control board.

There are two 5 amp slow blow fuses, located on the PC control board, which provide over-current protection for each function's motor (i.e, Base fuse protects base actuator motor).

On early units, there is ***either*** a switch on the PC control board labeled SW1 (this switch must be in the IN position to bypass the back up limit switch which is not used on this unit) ***or*** a jumper connector across both SW1 pins (this jumper connector must be installed on both SW1 pins to bypass the back up limit switch which is not used on this unit). This prevents the back function from moving when the auto return function is selected. Later units with Serial Numbers LE1000, LF1000 and LG1000 thru Present use a new style PC board and do have the SW1 switch.

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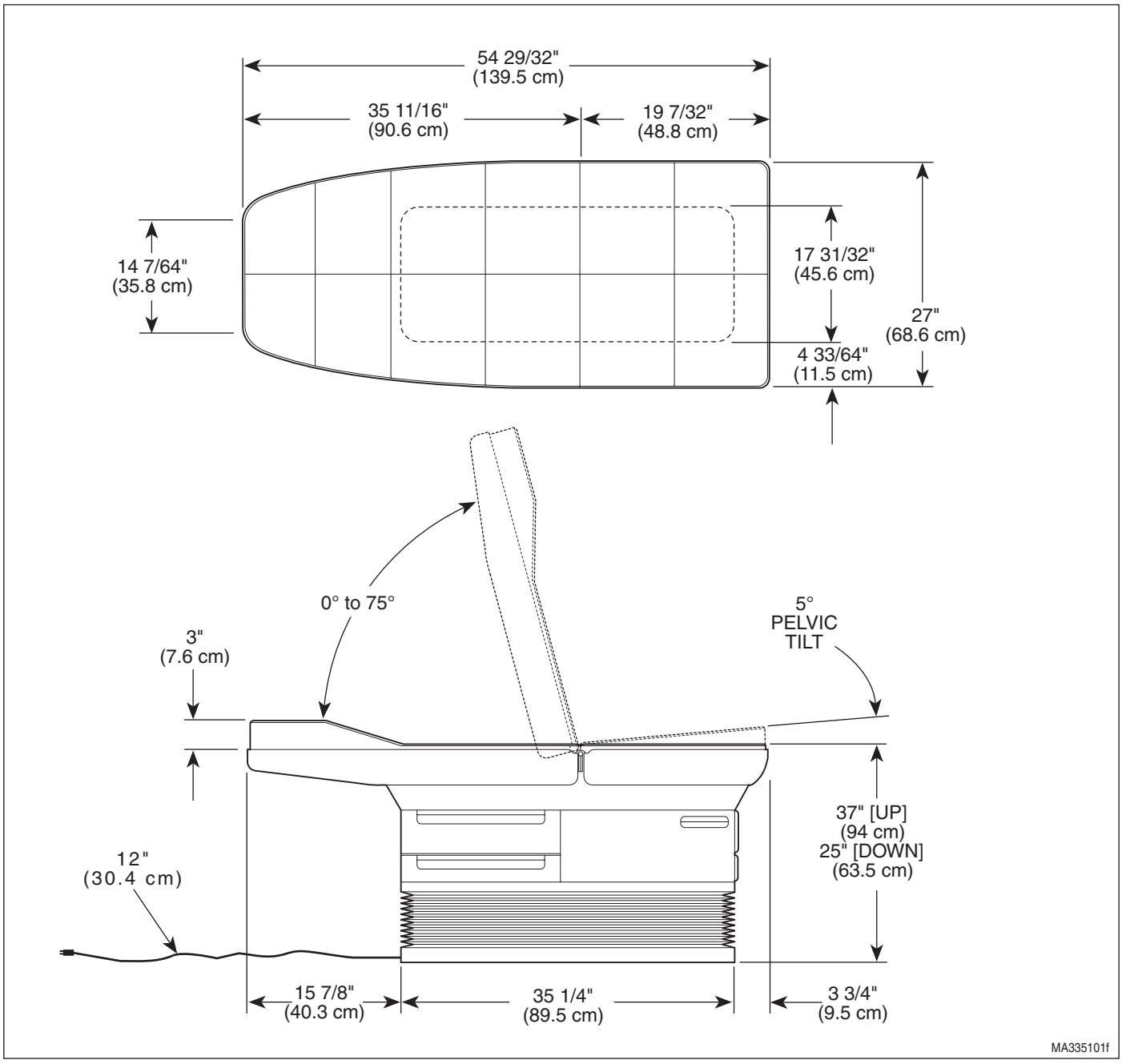

Figure 1-2. Table Dimensions

SECTION I
GENERAL INFORMATION

1.4 Specifications

Factual data for the 405 Medical Examination Table is provided in Table 1-1. Also, see Figure 1-2.

Table 1-1. Specifications

Description	Data
Weight:	
Without Shipping Carton	434 lb (196.8 kg)
With Shipping Carton	500 lb (226.8 kg)
Shipping Carton	58 in. "L" x 31 in. "W" x 42 in. "H" (147.3 cm x 78.7 cm x 106.7 cm)
Dimensions (See Figure 1-2):	
Table Top Length	54-29/32 in. (139.5 cm)
Table Top Length (w/footrest extended)	72-7/8 in. (185.1 cm)
Table Top Width	27 in. (68.6 cm)
Overall Width	27 in. (68.6 cm)
Table Positioning	
Table Top Height (Adjustable):	25 +0.5/-0.0 in. to 37 +0.5/-0.0 in. (63.5 cm to 94.0 cm)
Back Section	0 to +75°
Pelvic Lift (Seat Section)	+5°
Table Speeds (@ 60 Hz.):	
Base Up	17 ±1 seconds
Back Up	12 ±1 seconds
Weight Capacity (Maximum)	300 lb. (136.0 kg)
Electrical Requirements:	
115 VAC Unit	110 - 120 VAC, 60 HZ, 12 amp, single phase
230 VAC Unit	220 - 240 VAC, 50/60 HZ, 10 amp, single phase
100 VAC Unit	100 VAC, 50/60 HZ, 6 amp, single phase
Power Consumption:	
115 VAC Unit	1440 WATTS, 12 amps @ 120 VAC
230 VAC Unit	1920 WATTS, 8 amps @ 240 VAC
100 VAC Unit	600 WATTS, 6 amps @ 100 VAC

Recommended Circuit:

A separate (dedicated) circuit is recommended for this table. The table *should not* be connected to an electrical circuit with other appliances or equipment unless the circuit is rated for the additional load.

1.5 Parts Replacement Ordering

If a part replacement is required, order the part directly from the factory as follows:

(1) Refer to Figure 1-3 to determine the location of the model number and serial number of the table and record this data.

(2) Refer to the Parts List to determine the item numbers of the parts, part numbers of the parts, descriptions of the parts, and quantities of parts needed and record this data (Refer to para 6.1).

NOTE

Ask the Purchasing Department of the company that owns the table for this information. Otherwise, this information may be obtained from the dealer that sold the table.

(3) Determine the installation date of the table and record this data.

(4) Call Midmark with the recorded information and ask for the Medical Products Technical Services Department. See back cover of this manual for the phone number or use the Fax Order Form (See page 7-2 for Fax Order Form).

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1.6 Special Tools

Table 1-2 lists all of the special tools needed to repair the table, how to obtain the special tools, and the purpose of each special tool.

Table 1-2. Special Tool List

Description of Special Tool	Manufacturer's Name / Address / Phone	Manufacturer's Part Number	Purpose of Special Tool
Multimeter	Commercially Available	Any Type	Used to perform continuity and voltage checks.
Torque Wrench	Commercially Available	Any Type	Used to tighten nuts or screws to specified values.

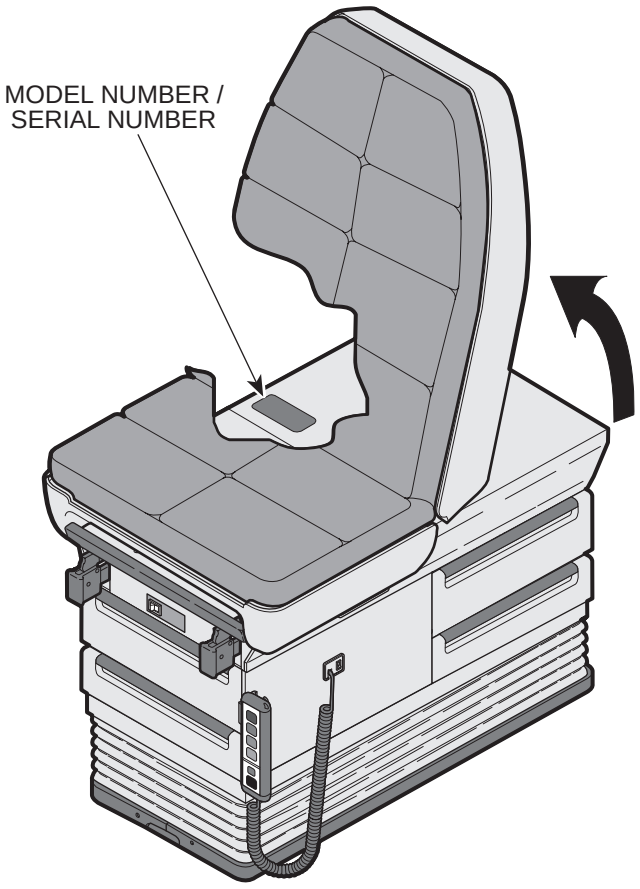

Figure 1-3. Model Number / Serial Number Location

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GENERAL INFORMATION

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SECTION II
TESTING AND TROUBLESHOOTING

2.1 Operational Test

In order to effectively diagnose the malfunction of the table, it may be necessary to perform an operational test as follows:

WARNING
Refer to the Operator Manual for complete instructions on operating the table. Failure to do so could result in personal injury.

NOTE
The Operational Test, for the most part, only describes what should happen when the table is operated. If the table does something other than described, a problem has been discovered. Refer to the Troubleshooting Guide to determine the cause of the problem and its correction.

(1) Plug the table into a grounded, non-isolated, correctly polarized outlet, that has the proper voltage output for the table.

(2) Turn the CONTROLS OFF/STANDBY / ON switch to ON.

(3) Press BACK UP, BACK DOWN, TABLE UP, and TABLE DOWN buttons on the hand control.

Observe. The table top should move in the direction corresponding to the button which is being depressed. No section of the table top should drift on its own after its membrane switch panel button is released. No actuator assembly should make excessive noises. Movement should be steady and should match the speeds and positions listed below:

Table Speeds (@ 60 Hz.):
Back Up (Down to Up) ..... 12 +/- 1 seconds
Table Up (Down to Up) ..... 17 +/-1 seconds

Table Positioning
Back Section ..... 0 to 75°
Table Top Height (Adjustable): ..... 25.0 in. to 37.0 in. (63.5 cm to 94.0 cm) (+0.5°/-0.0°)

(4) If the table has a foot control, repeat step 3 for the foot control also.

(5) Raise TABLE UP function all the way up and BACK DOWN function all the way down.

(6) Press the AUTO RETURN "START" button, wait one second, and then press the AUTO RETURN "STOP" button.

Observe. The TABLE DOWN function should begin to run. When the AUTO RETURN "STOP" button is pressed, the base function should stop running.

(7) Press the AUTO RETURN "START" button again.

Observe. The base actuator should lower the table top all the way down. The base actuator should not continue to run after table top is completely lowered.

(8) Turn the CONTROLS OFF/STANDBY / ON switch to OFF.

(9) Press all buttons on hand control and foot control (if available).

Observe. The table should not move or respond to any button or footswitch being depressed.

(10) Pull footrest assembly out all the way.

Observe. The footrest assembly should extend easily; not requiring more than 8 lbs (3.6 kgs) initial pull out force.

Note
Step 11 applies only to units with new style stirrups; S/N BG-2278, BH-1272, DK-1000, DV1000, LE1000, LF1000 and LG1000 thru Present.

(11) Extend the stirrups; then lift up on end of stirrups and move them laterally from the left to the right. Let the stirrups lock into each of the four positions. While applying downward pressure, attempt to move a stirrup laterally to the left or right.

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SECTION II
TESTING AND TROUBLESHOOTING

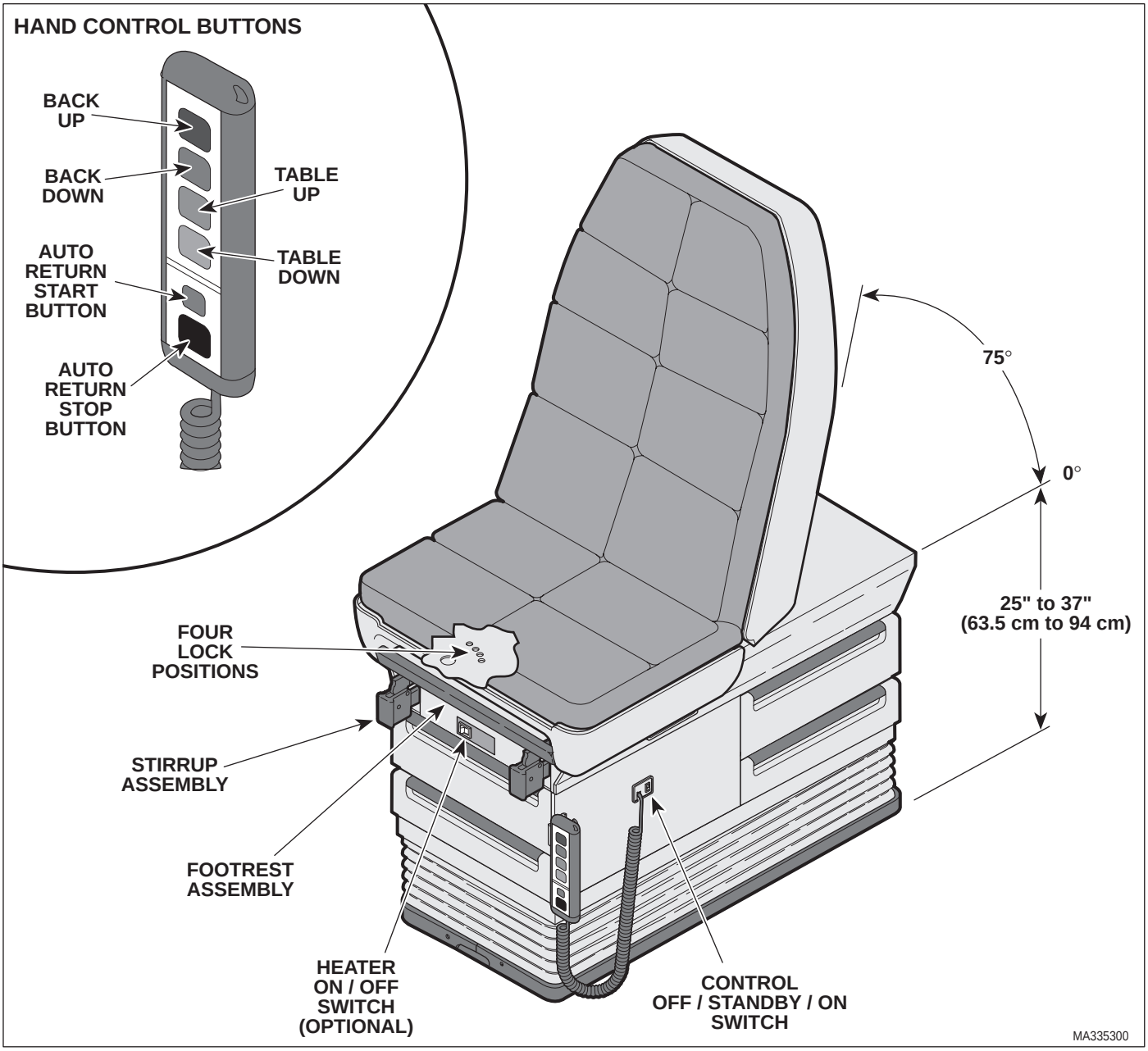

Figure 2-1. Operational Test

Observe. The stirrups should be able to be extended and moved laterally easily. The stirrups should lock into each of the four positions and should not be able to be moved laterally as long as downward pressure is applied on the stirrup.

(12) If the unit has a heater, turn the heater ON / OFF switch to ON.

Observe. The heater ON / OFF switch should illuminate and after a short wait, the heater plate should warm the warming drawer.

2.2 Troubleshooting Procedures

Table 2-1 is a Troubleshooting Guide which is used to determine the cause of the malfunction.

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Table 2-1. Troubleshooting Guide

Problem	Symptom	Probable Cause	Check	Correction
Chair will not operate when any of the four up or down or auto return functions are selected from the hand control.	When any button is pressed, nothing happens (actuator motor(s) does not run or hum).	Power cord is not plugged into facility wall outlet.	Check to see if power cord is plugged in.	Plug power cord into facility wall outlet.
		Facility circuit breaker providing power to table is tripped / blown.	Check to see if facility circuit breaker is tripped / blown. One way of checking this is to plug a lamp into wall outlet that table was plugged into.	If circuit breaker is tripped, determine what caused circuit breaker to trip, correct the problem, and then reset / replace circuit breaker.
		Wire connections are loose.	Check all wiring connections from power cord to PC control board. Perform continuity check on wires. Use multimeter to check for proper voltage levels.	Clean any dirty connections. Tighten any loose connections. Replace any damaged connections.
		Transformer is blown or malfunctioning (applies to 100 VAC units only).	Replace suspect transformer with known working transformer.	Replace transformer. Refer to para 4.9.
		Primary fuse(s) on PC control board is blown.	Refer to para 5-1 for this check. Perform continuity check on primary fuse(s).	Replace blown primary fuse(s). Refer to para 5-1.
		PC control board is malfunctioning.	Replace suspect PC control board with known working PC control board or use diagnostic L.E.D. chart (Table 5-1 or 5-2) to determine location of malfunction.	Replace PC control board. Refer to para 4.10 ***or*** 4.11. If PC board is not receiving proper inputs per diagnostic L.E.D. chart (Table 5-1 or 5-2), replace hand control interface board. Refer to para 4.16 ***or*** 4.17.
	Nothing happens when a hand control button is pressed, but table runs when a foot control foot switch is depressed.	Hand control interface board is malfunctioning.	Replace suspect interface board with known working interface board.	Replacehand control interface board. Refer to para 4.16 ***or*** 4.17.
		PC control board is malfunctioning.	Replace suspect PC control board with known working PC control board or use diagnostic L.E.D. chart (Table 5-1 or 5-2) to determine location of malfunction.	Replace PC control board. Refer to para 4.10 ***or*** 4.11. If PC control board is not receiving proper inputs per diagnostic L.E.D. chart (Table 5-1 or 5-2), replace hand control interface board Refer to para 4.16 ***or*** 4.17.
		Hand control inlet board is malfunctioning (applies to units with serial numbers: LE1000, LF1000 and LG1000 thru Present)	Plug hand control cord into foot control inlet in base and check operation.	Replace hand control inlet board. Refer to para 4.28.

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SECTION II
TESTING AND TROUBLESHOOTING

Table 2-1. Troubleshooting Guide - Continued

Problem	Symptom	Probable Cause	Check	Correction
One or more functions cannot be initiated from the hand control.	Some functions may be initiated from the hand control, but at least one may not.	One of the buttons on the hand control is malfunctioning.	Refer to Table 5-1 or 5-2 for this check. Press each membrane button to verify that each button causes the appropriate L.E.D.'s on PC control board to illuminate.	If appropriate L.E.D's illuminate for each button, replace PC control board. Refer to para 4.10 ***or*** 4.11. If not, replace membrane switch panel. Refer to para 4.16 ***or*** 4.17.
		Hand control interface board is malfunctioning.	Replace suspect interface board with known working interface board.	Replace hand control interface board. Refer to para 4.16 ***or*** 4.17.
One or more functions cannot be initiated from the foot control (optional).	Some functions may be initiated from the foot control, but at least one may not. All functions can be initiated from the hand control.	Footswitch for non-operable function is malfunctioning.	Perform a continuity check on suspect footswitch.	Replace footswitch. Refer to para 4.19 ***or*** 4.20A-B.
		PC control board is malfunctioning.	Refer to Table 5-1 or 5-2 for this check. Depress each footswitch on foot control to verify that each footswitch causes the appropriate L.E.D.'s on PC control board to illuminate.	If appropriate L.E.D's illuminate for each footswitch, replace PC control board. Refer to para 4.10 ***or*** 4.11. If not, replace malfunctioning footswitch. Refer to para 4.19 ***or*** 4.20A-B.
		Wire connections are loose.	Check all wiring connections from foot control to PC control board. Perform continuity check on wires. Use multimeter to check for proper voltage levels.	Clean any dirty connections. Tighten any loose connections. Replace any damaged connections.
		Foot control PC board is malfunctioning (applies to units with serial numbers: LE1000, LF1000 and LG1000 thru Present only)	Replace suspect foot control PC board with known working foot control PC board.	Replace foot control PC board. Refer to para 4.21.
BACK UP and BACK DOWN functions do not work. All other functions work.	When BACK UP and BACK DOWN buttons are pressed, the table will not move (all other functions work).	Back capacitor is weak or blown.	Replace suspect back capacitor with known working back capacitor.	Replace back capacitor. Refer to para 4.8.
		Thermal overload switch in back actuator is activated.	-	Wait 10 to 20 minutes to allow back actuator motor to cool.
		5 amp BACK fuse for BACK UP and BACK DOWN functions is blown (located on PC control board).	Refer to para 5-1 for this check. Perform a continuity check on 5 amp BACK fuse.	Replace blown BACK fuse.

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Table 2-1. Troubleshooting Guide - Continued

Problem	Symptom	Probable Cause	Check	Correction
BACK UP and BACK DOWN functions do not work. All other functions work. -Continued	When BACK UP and BACK DOWN buttons are pressed, the table will not move (all other functions work). -Continued	Back actuator assembly is malfunctioning.	Replace suspect back actuator assembly with known working back actuator assembly.	Replace actuator motor or back actuator assembly. Refer to para 4.18 ***or*** 4.7.
		Wire connections are loose.	Check all wiring connections to back actuator assembly.	Clean any dirty connections. Tighten any loose connections. Replace any damaged connections.
		PC control board is malfunctioning.	Replace suspect PC control board with known working PC control board.	Replace PC control board. Refer to para 4.10 ***or*** 4.11.
BASE UP and BASE DOWN functions do not work. All other functions work.	When BASE UP and BASE DOWN buttons are pressed, the table will not move (all other functions work).	Base capacitor is weak or blown.	Replace suspect base capacitor with known working base capacitor.	Replace base capacitor. Refer to para 4.5 or 4.6.
		Thermal overload switch in base actuator is activated.	-	Wait 10 to 20 minutes to allow tilt actuator motor to cool.
		5 amp BASE fuse for BASE UP and BASE DOWN functions is blown (located on PC control board).	Refer to para 5-1 for this check. Perform a continuity check on 5 amp BASE fuse.	Replace blown BASE fuse.
		Base actuator assembly is malfunctioning.	Replace suspect base actuator assembly with known working base actuator assembly.	Replace actuator motor (refer to para 4.18) or base actuator assembly (refer to para 4.3 or 4.4).
		Wire connections are loose.	Check all wiring connections to base actuator assembly.	Clean any dirty connections. Tighten any loose connections. Replace any damaged connections.
		PC control board is malfunctioning.	Replace suspect PC control board with known working PC control board.	Replace PC control board. Refer to para 4.10 ***or*** 4.11.
BACK UP function works, but BACK DOWN function does not or BACK DOWN function works, but BACK UP function does not. All other functions work.	One function operates properly, but the other does not.	Wire connections are loose.	Check all wiring connections to back actuator assembly.	Clean any dirty connections. Tighten any loose connections. Replace any damaged connections.
		Back actuator assembly is malfunctioning.	Replace suspect back actuator assembly with known working back actuator assembly.	Replace actuator motor or back actuator assembly. Refer to para 4.18 or 4.7

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Table 2-1. Troubleshooting Guide - Continued

Problem	Symptom	Probable Cause	Check	Correction
BACK UP function works, but BACK DOWN function does not or BACK DOWN function works, but BACK UP function does not. All other functions work. -Continued	One function operates properly, but the other does not. -Continued	PC control board is malfunctioning (relay for up or down function is malfunctioning).	Refer to para 5-2 for this check. Press BACK UP and then BACK DOWN button while observing the PC control board. The BACK UP RELAY L.E.D. should illuminate when the BACK UP button is pressed and the BACK DOWN RELAY L.E.D. should illuminate when the BACK DOWN button is pressed. If not, PC control board is malfunctioning.	Replace PC control board. Refer to para 4.10 ***or*** 4.11.
		Foot control footswitch for non-operable function is malfunctioning.	Perform a continuity check on suspect footswitch.	Replace footswitch. Refer to para 4.19 ***or*** 4.20A-B.
BASE UP function works, but BASE DOWN function does not or BASE DOWN function works, but BASE UP function does not. All other functions work.	One function operates properly, but the other does not.	Wire connections are loose.	Check all wiring connections to base actuator assembly.	Clean any dirty connections. Tighten any loose connections. Replace any damaged connections.
		Base actuator assembly is malfunctioning.	Replace suspect base actuator assembly with known working base actuator assembly.	Replace actuator motor (refer to para 4.18) or base actuator assembly (refer to para 4.3 ***or*** 4.4).
		PC control board is malfunctioning (relay for up or down function is malfunctioning).	Refer to para 5-2 for this check. Press BASE UP and then BASE DOWN button while observing the PC control board. The BASE UP RELAY L.E.D. should illuminate when the BASE UP button is pressed and the BASE DOWN RELAY L.E.D. should illuminate when the BASE DOWN button is pressed. If not, PC control board is malfunctioning.	Replace PC control board. Refer to para 4.10 ***or*** 4.11.
		Foot control footswitch for non-operable function is malfunctioning.	Perform a continuity check on suspect footswitch.	Replace footswitch. Refer to para 4.19 ***or*** 4.20A-B.
AUTO RETURN function does not work.	When AUTO RETURN button is pressed, nothing happens.	AUTO RETURN membrane on hand control panel is malfunctioning.	Refer to Table 5-1 or 5-2 for this check. Press AUTO RETURN button on hand control and verify that the button causes the appropriate L.E.D.'s on PC control board to illuminate.	If appropriate L.E.D's illuminate for each button, replace PC control board. Refer to para 4.10 ***or*** 4.11. If not, replace hand control panel. Refer to para 4.16 ***or*** 4.17.
		Hand control interface board is malfunctioning.	Replace suspect interface board with known working interface board.	Replace hand control interface board. Refer to para 4.16 ***or*** 4.17.

Table 2-1. Troubleshooting Guide - Continued

Problem	Symptom	Probable Cause	Check	Correction
AUTO RETURN function does not work. -Continued	When AUTO RETURN button is pressed, nothing happens. -Continued	The STOP button on hand control panel is malfunctioning (stuck closed).	Refer to Figure 5-4 for this check. If data line #1, #2 and #3 L.E.D.'s are all illuminated even though STOP button is not being pressed, hand control panel is malfunctioning.	Replace hand control panel. Refer to para 4.16 ***or*** 4.17.
	When AUTO RETURN button is pressed, BACK UP function runs even though it shouldn't.	Back bypass switch (SW1), located on PC control board, is pulled out, or jumper connector is not on both SW1 pins on PC control board (applies to early units only).	Refer to para 5-1 for this check. For units with bypass switch (SW1), check position of the SW1; it should be in the ""in"" position. For units using jumper connector, check the jumper connector; it should be installed on both SW1 pins.	For units with bypass switch, push the bypass switch (SW1) to the ""in"" position. For units using jumper connector, make sure the jumper connector is installed on both SW1 pins. Refer to para 5-1.
	When AUTO RETURN button is pressed, BASE DOWN function does not run.	Base down limit switch is malfunctioning (stuck open).	Perform continuity check on base down limit switch. Limit switch tripped = continuity between COM. and N.O. terminals.	Replace base down limit switch. Refer to para 4.12.
		PC control board is malfunctioning.	Refer to Figure 5-4 for this check. After AUTO RETURN button is pressed, the auto return base function L.E.D. should illuminate and stay illuminated until the table top is all the way down.	If not, replace PC control board. Refer to para 4.10 ***or*** 4.11. If L.E.D. does illuminate, replace interface board. Refer to para 4.16 ***or*** 4.17.
	When AUTO RETURN button is pressed, the BASE DOWN function continues to run for an additional 7 to 15 seconds after it reaches its end of travel.	Base down limit switch is malfunctioning (stuck open).	Perform continuity check on base down limit switch. Limit switch tripped = continuity between COM. and N.O. terminals.	Replace base down limit switch. Refer to para 4.12.
		PC control board is malfunctioning.	Replace suspect PC control board with known working PC control board.	Replace PC control board. Refer to para 4.10 ***or*** 4.11.
	When AUTO RETURN button is pressed, BASE DOWN function stops at its end of travel, but BACK UP function continues to run for an additional 7 to 15 seconds.	Back bypass switch (SW1), located on PC control board, is pulled out, or jumper connector is not on both SW1 pins on PC control board (applies to early units only).	Refer to para 5-1 for this check. For units with bypass switch (SW1), check position of the SW1; it should be in the ""in"" position. For units using jumper connector, check the jumper connector; it should be installed on both SW1 pins.	For units with bypass switch, push the bypass switch (SW1) to the ""in"" position. For units using jumper connector, make sure the jumper connector is installed on both SW1 pins. Refer to para 5-1.
The base and back function drift by itself.	Function operates properly otherwise.	Motor actuator brake is malfunctioning.	Replace suspect actuator brake components with new components.	Replace actuator brake components. Refer to para 4.18.

SECTION II
TESTING AND TROUBLESHOOTING

Table 2-1. Troubleshooting Guide - Continued

Problem	Symptom	Probable Cause	Check	Correction
Chair moves fine for light patient, but will not move or moves slowly for very heavy patient.	Heavy patients cause chair to malfunction.	Low voltage is being supplied to chair.	Check voltage at wall receptacle - should be 100 VAC +/- 5 VAC for 100 V units, 115 +/- 5 VAC for 115 V units, and 230 +/- 10 VAC for 220 V units.	Correct low voltage situation at wall receptacle.
		Chair overloaded with a patient that exceeds weight limit.	Maximum weight capacity of chair is 300 lbs (136.0 kg).	Inform chair operator of weight limitation.
		Capacitor for suspect function is weak.	Replace suspect capacitor with known working capacitor.	Replace capacitor.
Noisy actuator	Whirling or squeaking noise is heard when an actuator assembly is being run.	Foreign matter on ball screw threads and / or lack of lubricant.	Check for foreign matter on ball screw threads. Check for lack of lubricant on ball screw threads.	Clean all foreign matter off of ball screw threads. Coat ball screw threads with STP treatment oil or equivalent. If actuator assembly is still excessively noisy, replace it.
Excessive sideways play of table top.	Table top is not stable and can be moved from side to side.	Bearings in the scissors frame are cracked or worn.	Check the bearings for wear or damage.	Replace any worn or malfunctioning bearings.
Heater plate is not working correctly (optional)	Heater plate does not warm up when heater ON / OFF switch is turned ON.	Heater switch is malfunctioning.	Perform a continuity check on N.O. heater switch. Should be continuity when heater switch is turned to ON.	Replace malfunctioning heater switch. Refer to para 4.14.
		Heater plate is burned out.	Replace suspect heater plate with known working heater plate.	Replace malfunctioning heater plate. Refer to para 4.15.

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SECTION III
SCHEDULED MAINTENANCE

3.1 Scheduled Maintenance

Table 3-1 is a Scheduled Maintenance Chart which lists the inspections and services that should be performed periodically on the table. These inspections and services should be performed as often as indicated in the chart.

Table 3-1. Scheduled Maintenance Chart

Interval	Inspection or Service	What to Do
Semi-annually	Obvious damage	Visually check condition of table for obvious damage such as: cracks in components, missing components, dents in components, or any other visible damage which would cause table to be unsafe to operate or would compromise its performance. Repair table as necessary.
	Fasteners / hardware	Check table for missing or loose fasteners / hardware. Replace any missing hardware and tighten any loose hardware as necessary.
	Warning and instructional decals	Check for missing or illegible decals. Replace decals as necessary.
	Bellows	Check the bellows for rips, tears, or other damage. Replace bellows if necessary. Refer to para 4.2.
	Pivot points / moving parts / accessories	Lubricate all exposed pivot points, moving parts, and accessories with silicone based lubricant.
	Hand Control	Check that all membrane buttons on hand control work when pressed. If not, replace hand control panel. Refer to para 4.16 or 4.17.
	Foot control (optional)	Check that foot control works correctly. Make sure all footswitches operate properly. Replace any malfunctioning footswitches. Refer to para 4.19 or 4.20A-B.
	Auto return function	Check that auto return function works correctly. Ensure that the base actuator stops running when it reaches its end of travel and does not "freewheel". If necessary, adjust or replace base down limit switch. Refer to para 4.12.
	Ball screws of actuator assemblies	Extend each actuator assembly and wipe ball screw threads down with a rag to remove foreign matter. Coat as much of the ball screw threads as possible with STP treatment oil or equivalent. Run each actuator assembly to both ends of its travel a couple of times to spread the oil evenly over all of the ball screw threads and then remove excess oil. If oil does not correct an excessively noisy actuator assembly, replace actuator assembly.
	Drifting of actuator assemblies	Check each actuator assembly for drift. Replace actuator assembly brake components as necessary. Refer to para 4.18.
	Control OFF/STANDBY / ON switch	Check that table is operational when switch is turned to ON and is not operational when switch is turned to OFF / STANDBY. Replace control OFF/STANDBY / ON switch if necessary. Refer to para 4.13.
	Heater Plate (optional)	Check that the heater plate warms up properly when the heater switch is turned to ON. The heater switch should illuminate when in the ON position. If necessary, replace heater switch or heater plate. Refer to para 4.14 or 4.15.
	Stirrups	Check that the stirrups extend easily and lock positively in one of the three/four lateral positions. Replace stirrup components if necessary. Refer to para 4.23 or 4.24.
	Footrest	Check that the footrest pulls out smoothly and does not make noise. Lubricate all moving components with silicone based lubricant.
	Footrest Lift	Check that the spring loaded footrest lift is operating properly. Replace springs if necessary.
	Pelvic Tilt	Check that the spring loaded pelvic tilt is operating properly. Replace springs if necessary.
	Electrical receptacle (115 and 220 VAC units only)	Check that the electrical receptacle is functioning properly. Replace receptacle as necessary.
	Upholstery	Check all upholstery for rips, tears, or excessive wear. Replace cushions as necessary.
	Accessories	Check that all accessories have all of their components and that they function properly. If necessary, repair or replace the accessory.
	Operational Test	Perform an Operational Test to determine if the table is operating within its specifications (Refer to para 2.1). Replace or adjust any malfunctioning components.

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SECTION IV
MAINTENANCE / SERVICE INSTRUCTIONS

4.1 Introduction

WARNING
Refer to the Operator Manual for complete instructions on operating the table. Failure to do so could result in personal injury.

NOTE
Perform an operational test on the table after the repair is completed to confirm the repair was properly made and that *all* malfunctions were repaired.

The following paragraphs contain removal, installation, repair, and adjustment procedures for the table.

4.2 Bellows Assembly Removal / Installation

A. Removal

(1) Raise BACK UP function all the way up.

WARNING
Always disconnect the power cord from the wall outlet before removing any of the table's covers/shrouds or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(2) Unplug table power cord from wall outlet.

(3) Remove four screws (1, Figure 4-1) and two bellows retainer trim (2) from lower base weldment (3).

(4) Remove ten screws (4) securing retaining straps (5) to upper base (6). Lower retaining straps and bellows (7).

(5) Remove two screws (8) and separate two top retaining straps (5) from each other.

(6) Slide six clips (9) off of the top retaining straps (5) and remove retaining straps from table.

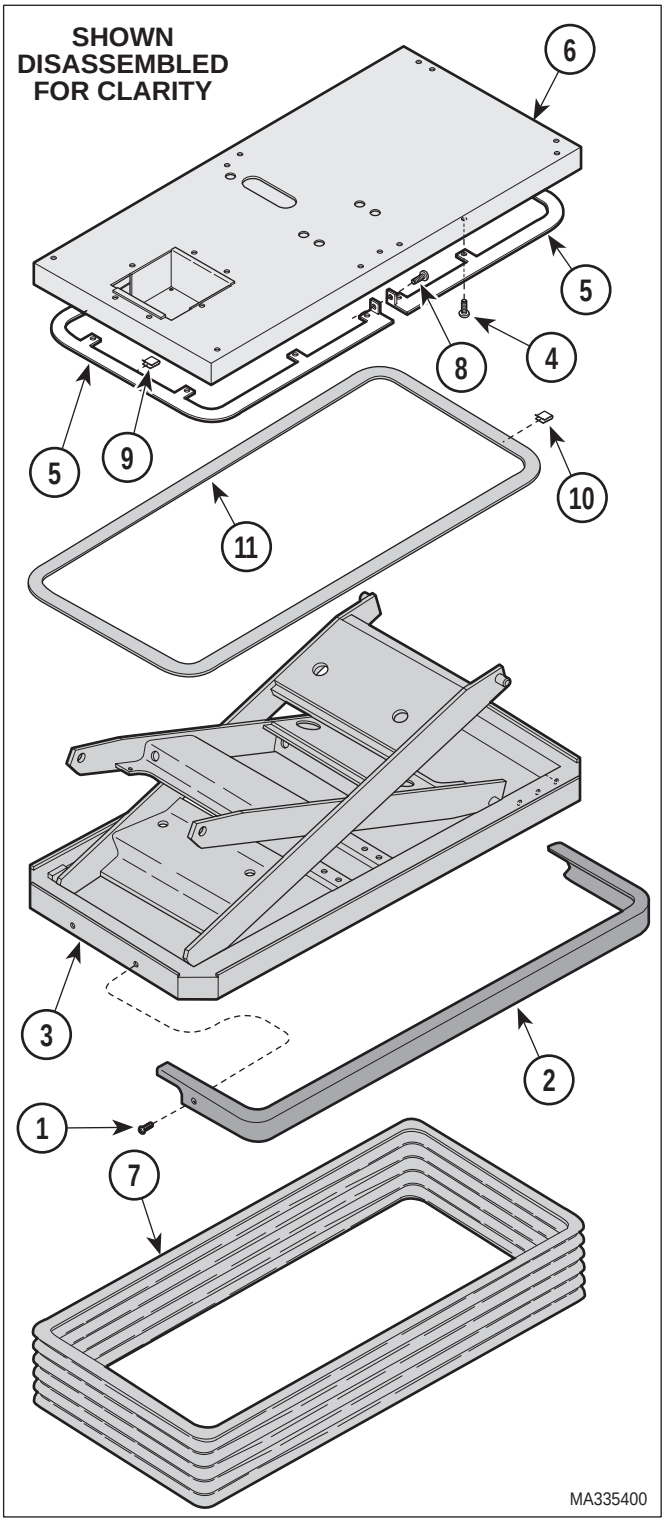

Figure 4-1. Bellows Assembly Removal / Installation

(7) Slide six clips (10) off of bottom retaining strip (11).

CAUTION
Lift table using proper lifting techniques. Block table as necessary to prevent it from tipping over. Failure to do so could result in back injury or falling table could cause injury.

(8) Tip the table onto its end (toward back section), making sure to support lower base (3) with blocks to prevent damage to power cord.

(9) Remove bellows (7) from table by sliding it over the lower base (3).

B. Installation

(1) Slide new bellows (7) over lower base (3).

CAUTION
Lift table using proper lifting techniques. Failure to do so could result in back injury.

(2) Lower the table back down onto its base.

(3) Install the bottom retaining strip (11) on bellows (7) and secure with six clips (10).

(4) Install top retaining straps (5) on bellows (7) and secure with six clips (9).

(5) Secure top retaining straps (5) together with two screws (8).

(6) Raise retaining straps (5) up against upper base (6) and secure with ten screws (4).

(7) Slide two bellows retainer trim (2) over bottom retaining strip (11). Secure bellows retainer trim (2) to lower base weldment (3) with four screws (1).

(8) Plug table power cord into wall outlet.

4.3 Base Actuator Removal / Installation (Applies to units with Serial Numbers: BG1000 thru BG3780, BH1000 thru BH1585 and DK1000 thru DK1068)

A. Removal

(1) If base function is operable, raise TABLE UP function all the way up; then lower TABLE DOWN function approximately 1 inch (2.54 cm).

If base function is inoperable because of base capacitor, bypass malfunctioning base capacitor (refer to para 4.29).

If base function is still inoperable, manually extend base actuator by performing steps a thru f.

a. Raise BACK UP function all the way up; then lower BACK DOWN function approximately 1 inch (2.54 cm).

WARNING
Always disconnect the power cord from the wall outlet before removing any of the table's covers/shrouds or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

b. Unplug table power cord from wall outlet.

c. While supporting back section, remove two e-rings (1, Figure 4-2), clevis pin (2), two bearing washers (3), and two link bars (4) from back pivot bracket (5).

d. Fold back section (6) toward front of table and prop up.

e. Remove four screws (7) and back cover (8) from upper wrap weldment (9).

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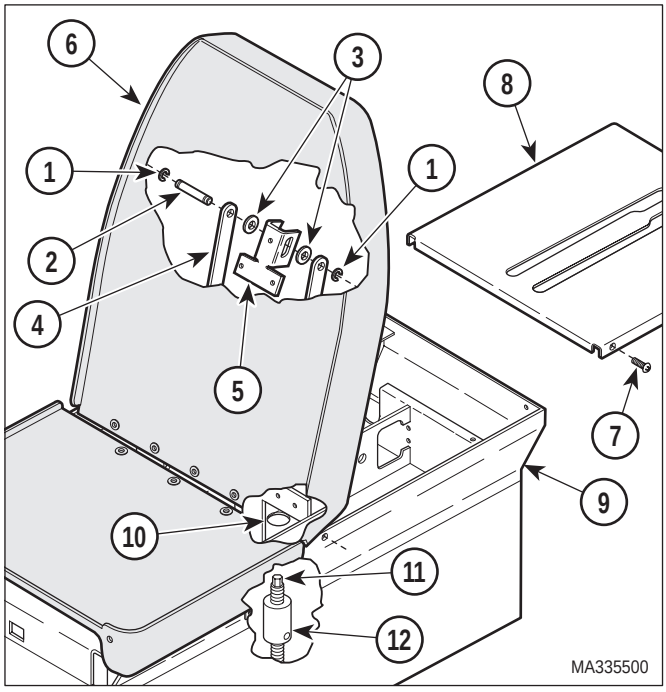

Figure 4-2. Extending Base Actuator

NOTE
The base actuator nut is located on the top of the base actuator shaft.

f. Position a 5/8 inch socket with extension thru access hole (10) and onto base actuator nut (11). Ratchet shaft of base actuator (12) until table top is raised all the way.

(2) Remove four screws (1, Figure 4-3) and two bellows retainer trim (2) from lower base weldment (3).

(3) Raise bellows (4) and support in the up position.

(4) Remove all drawers (5) from table.

CAUTION
Lift table using proper lifting techniques. Failure to do so could result in back injury.

(5) Lay the table onto its left side (patient's left).

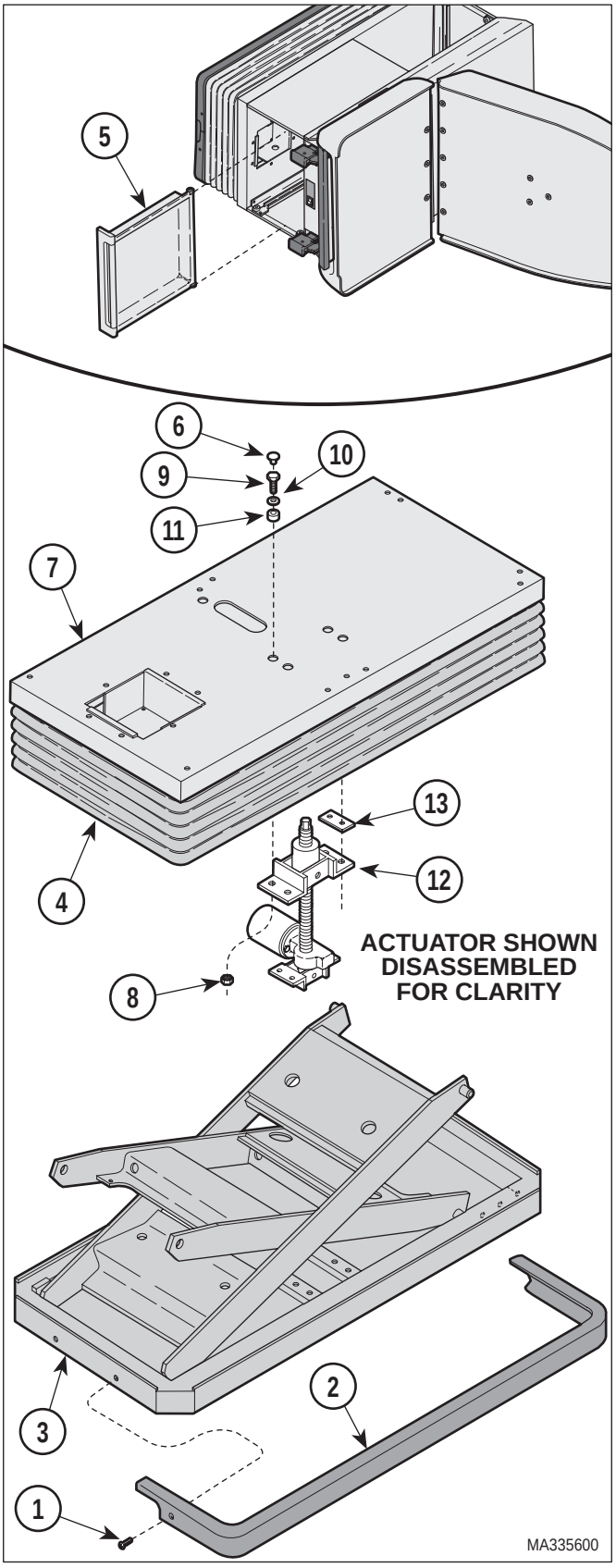

Figure 4-3. Base Actuator Shaft Disconnection

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(6) Using a small screwdriver, pry four hole plugs (6) from upper wrap (7); two from each drawer set opening.

(7) Remove four nuts (8), screws (9), washers (10), and mount bushings (11) securing upper weldment hitch (12) to upper wrap (7).

(8) Pull on lower base weldment (3) to separate upper weldment hitch (12) from upper wrap (7). Remove two isolator pads (13).

(9) Remove hitch pin clip (1, Figure 4-4) and clevis pin (2) securing base actuator (3) to lower weldment hitch (4).

(10) Cut cable tie (5) securing wires together.

(11) Disconnect three wires (6) from three actuator wires (7).

(12) Remove base actuator (3) from table.

(13) Remove two pivot screws (8) and upper weldment hitch (9) from shaft of base actuator (3).

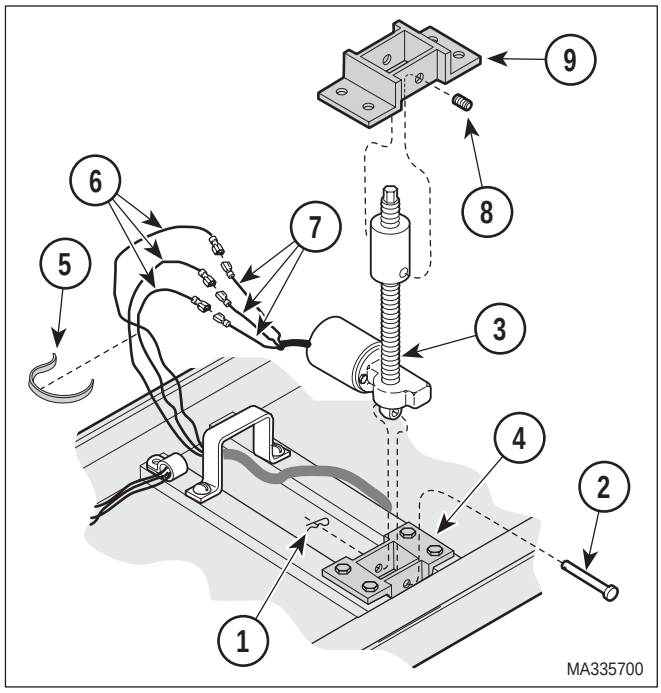

Figure 4-4. Base Actuator Removal / Installation

B. Installation

(1) Coat threads of two pivot screws (8, Figure 4-4) with permanent threadlocking adhesive (Loctite 262).

(2) Install upper weldment hitch (9) on shaft of base actuator (3) and secure with two pivot screws (8), making sure the shaft of base actuator is centered in upper weldment hitch.

(3) Position base actuator (3) in base of table.

(4) Secure base actuator (3) to lower weldment hitch (4) and secure with clevis pin (2) and hitch pin clip (1).

(5) Connect three wires (6) to three actuator wires (7).

(6) Secure wires together with cable tie (5).

(7) Plug table power cord into wall outlet.

(8) Carefully run BASE UP function until upper weldment hitch (12, Figure 4-3) is close to upper wrap (7).

(9) Unplug table power cord from wall outlet.

(10) Coat threads of four screws (9) with permanent threadlocking adhesive (Loctite 262).

(11) Connect upper weldment hitch (12) to upper wrap (7) with two isolator pads (13), four mount bushings (11), washers (10), screws (9), and nuts (8).

(12) Install four hole plugs (6) in upper wrap (7); two in each drawer set opening.

CAUTION
Lift table using proper lifting techniques. Failure to do so could result in back injury.

(13) Raise table to its upright position.

(14) Install four drawers (5) in table.

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(15) Lower bellows (4) against lower base weldment (3); then slide two bellows retainer trim (2) over bottom of bellows and secure with four screws (1).

(16) If removed, install back cover (8, Figure 4-2) on upper wrap weldment (9) and secure with four screws (7).

(17) If disconnected, connect two link bars (4) to back pivot bracket (5) with two bearing washers (3), clevis pin (2), and two e-rings (1).

(18) If base capacitor was bypassed, remove bypass wires (Refer to para 4.29).

4.4 Base Actuator Removal / Installation (Applies to units with Serial Numbers: BG3781, BH1586, DK1069, DV1000, LE1000, LF1000 and LG1000 thru Present)

A. Removal

(1) If base function is operable, raise TABLE UP function all the way up; then lower TABLE DOWN function approximately 1 inch (2.54 cm).

If base function is inoperable because of base capacitor, bypass malfunctioning base capacitor (refer to para 4.29).

(2) Unplug table power cord from wall outlet.

(3) Remove four screws (1, Figure 4-5) and two bellows retainer trim (2) from lower base weldment (3).

(4) Raise bellows (4) and support in the up position.

(5) Remove all drawers (5) from table.

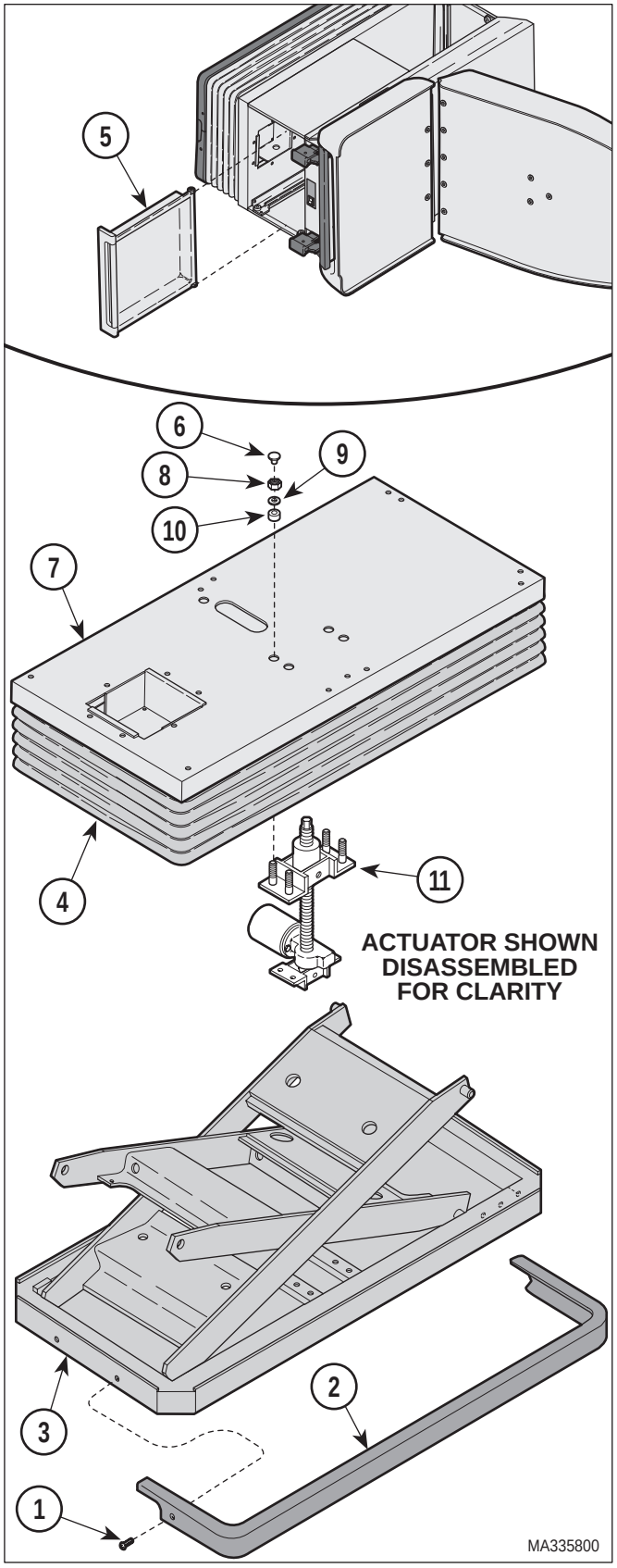

Figure 4-5. Base Actuator Shaft Disconnection

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CAUTION
Lift table using proper lifting techniques. Failure to do so could result in back injury. Do not attempt to use a jack; is very dangerous.

(6) Lay the table onto its left side (patient's left).

(7) Using a small screwdriver, pry four hole plugs (6) from upper wrap (7); two from each drawer set opening.

(8) Remove four nuts (8), washers (9), and mount bushings (10), securing upper weldment hitch (11) to upper wrap (7).

(9) Pull on lower base weldment (3) to separate upper weldment hitch (11) from upper wrap (7).

(10) Remove hitch pin clip (1, Figure 4-6) and clevis pin (2) securing base actuator (3) to lower weldment hitch (4).

(11) Cut cable tie (5) securing wires together.

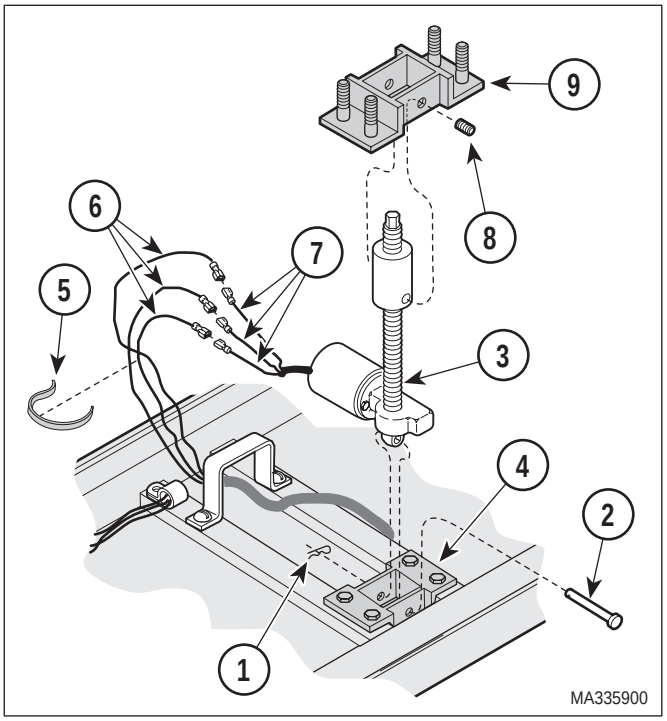

Figure 4-6. Base Actuator Removal / Installation

(12) Disconnect three wires (6) from three actuator wires (7).

(13) Remove base actuator (3) from table.

(14) Remove two pivot screws (8) and upper weldment hitch (9) from shaft of base actuator (3).

B. Installation

(1) Coat threads of two pivot screws (8, Figure 4-6) with permanent threadlocking adhesive (Loctite 262).

(2) Install upper weldment hitch (9) on shaft of base actuator (3) and secure with two pivot screws (8), making sure to shaft of base actuator is centered in upper weldment hitch.

(3) Position base actuator (3) in base of table.

(4) Secure base actuator (3) to lower weldment hitch (4) with clevis pin (2) and hitch pin clip (1).

(5) Connect three wires (6) to three actuator wires (7).

(6) Secure wires together with cable tie (5).

(7) Plug table power cord into wall outlet.

(8) Carefully run TABLE UP function until upper weldment hitch (11, Figure 4-5) is close to upper wrap (7).

(9) Unplug table power cord from wall outlet.

(10) Connect upper weldment hitch (11) to upper wrap (7) with four mount bushings (10), washers (9), and nuts (8).

(11) Install four hole plugs (6) in upper wrap (7); two in each drawer set opening.

CAUTION
Lift table using proper lifting techniques. Failure to do so could result in back injury.

(12) Raise table to its upright position.

(13) Install four drawers (5) in table.

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(14) Lower bellows (4) against lower base weldment (3); then slide two bellows retainer trim (2) over bottom of bellows and secure with four screws (1).

(15) If base capacitor was bypassed, remove bypass wires (Refer to para 4.29).

4.5 Base Capacitor Removal / Installation (115 VAC Units Only)

A. Removal

(1) If TABLE UP function ***is*** operable, raise TABLE UP function all the way up; then go to step 4.

NOTE
Steps 2 and 3 are two different ways of gaining access to the base capacitor if TABLE UP function is not operable. Use step 2 unless the unit is a 115 VAC unit with Serial Number BG3701 and BH1598 thru Present.

(2) If TABLE UP function ***is not*** operable, bypass the base capacitor (Refer to para 4.29); then go to step 4.

(3) If TABLE UP function ***is still not*** operable, remove access plate as follows:

a. Remove two side drawers (1, Figure 4-7) from table.

b. Unplug table power cord from wall outlet.

c. Remove four screws (2) and cover plate (3) from upper base weldment (4) to gain access to base capacitor.

d. Go to step 4.

(4) Remove four screws (1, Figure 4-8) and two bellows retainer trim (2) from lower base weldment (3).

(5) Raise bellows (4) and support in the up position with a prop.

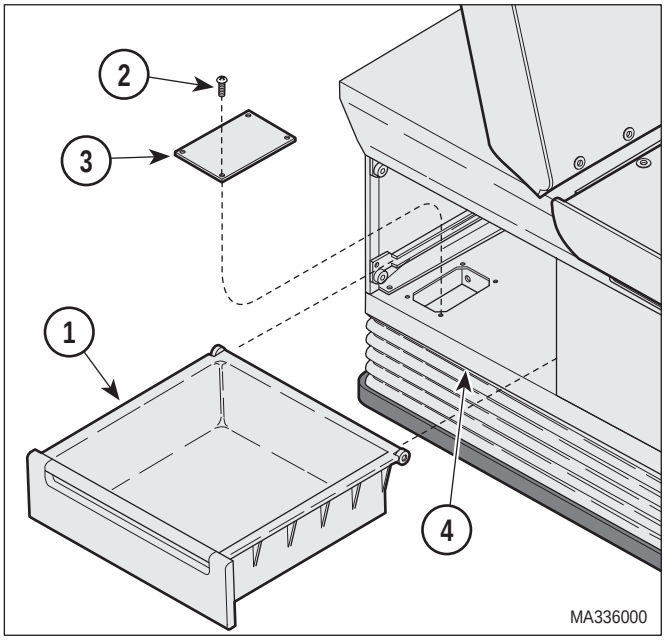

Figure 4-7. Cover Plate Removal / Installation

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(6) Unplug power cord from wall outlet.

(7) Using a screwdriver, pry tab of mounting bracket (5) outward and separate base capacitor (6) from mounting bracket.

(8) Remove capacitor cap (7) from base capacitor (6).

WARNING
The capacitor contains stored electricity. Never touch terminals of capacitor, even if power has been disconnected. Always discharge capacitor before touching capacitor terminals or wires. Failure to comply with these instructions could result in serious personal injury or death.

(5) Discharge base capacitor (6).

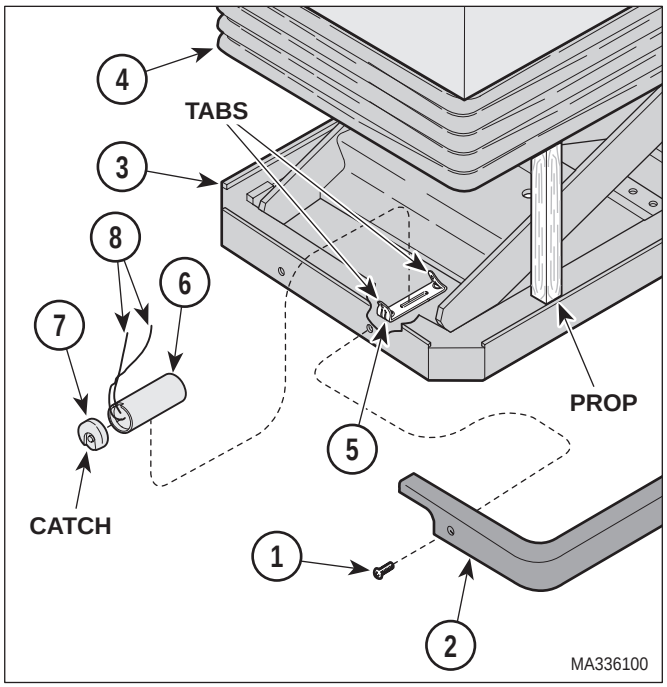

Figure 4-8. Base Capacitor Removal / Installation

(6) Disconnect two wires (8) from terminals of base capacitor (6) and remove base capacitor.

B. Installation

(1) Connect one wire (8) to each terminal group of base capacitor (6).

(2) Install capacitor cap (7) on base capacitor (6).

(3) Position the bottom of base capacitor (6) on mounting bracket (5) and then push the top of the capacitor inward. Using a screwdriver, force the tab of the mounting bracket (5) down over the catch of the capacitor cap (7). Make sure base capacitor (6) is held firmly in place.

(4) Remove prop and lower bellows (4).

(5) Slide two bellows retainer trim (2) over the bottom of bellows (4). Secure bellows retainer trim (2) to lower base weldment (3) with four screws (1).

(6) If removed, install access plate as follows:

a. Install cover plate (3, Figure 4-7) on upper base weldment (4) and secure with four screws (2).

b. Install two side drawers (1) in table.

(7) If base capacitor was bypassed, remove bypass wires (Refer to para 4.29).

(8) Plug power cord into wall outlet.

4.6 Base Capacitor Removal / Installation (100 VAC and 230 VAC Units Only)

A. Removal

(1) If TABLE UP function ***is*** operable, raise TABLE UP function all the way up; then go to step 3.

NOTE
Step 2 is a different way of gaining access to the base capacitor if TABLE UP function is not operable.

(2) If TABLE UP function ***is not*** operable, bypass the base capacitor (Refer to para 4.29) and raise TABLE UP function all the way up; then go to step 3.

(3) Unplug table power cord from wall outlet.
(4) Remove four screws (1, Figure 4-9) and two bellows retainer trim (2) from lower base weldment (3).

(5) Raise bellows (4) and support in the up position.

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(6) Unplug power cord from wall outlet.

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(7) To remove 100 VAC base capacitor:

a. Using a screwdriver, pry tab of mounting bracket (5) outward and separate base capacitor (6) from mounting bracket.

b. Remove capacitor cap (7) from base capacitor (6).

WARNING
The capacitor contains stored electricity. Never touch terminals of capacitor, even if power has been disconnected. Always discharge capacitor before touching capacitor terminals or wires. Failure to comply with these instructions could result in serious personal injury or death.

c. Discharge base capacitor (6).

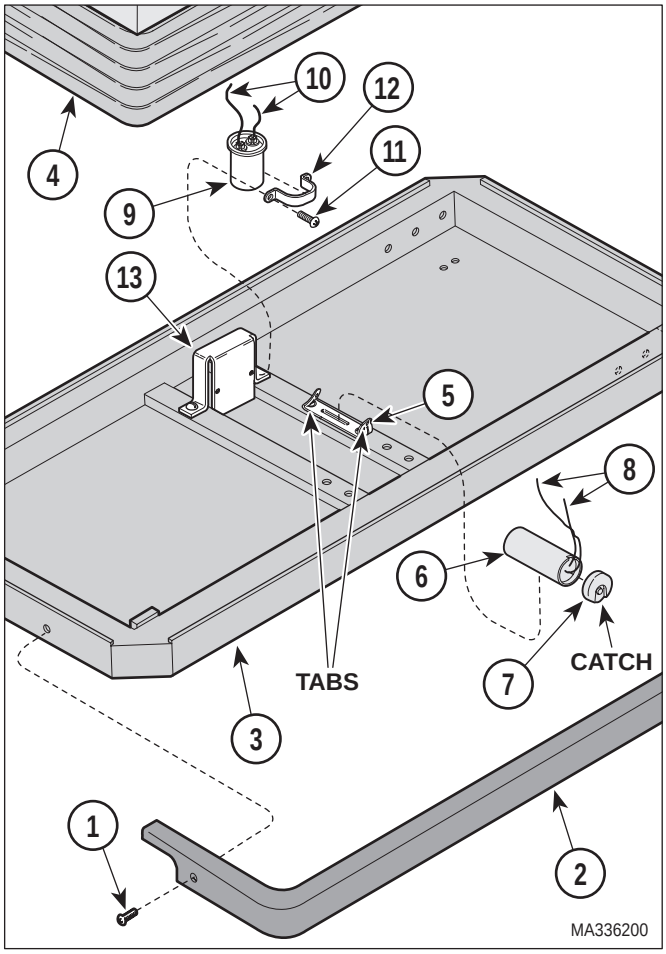

Figure 4-9. Base Capacitor Removal / Installation

d. Disconnect two wires (8) from terminals of base capacitor (6) and remove base capacitor.

(8) To remove 230 VAC base capacitor:

WARNING
The capacitor contains stored electricity. Never touch terminals of capacitor, even if power has been disconnected. Always discharge capacitor before touching capacitor terminals or wires. Failure to comply with these instructions could result in serious personal injury or death.

a. Discharge base capacitor (9).

b. Disconnect two wires (10) from base capacitor (9).

c. Remove two screws (11), capacitor clamp (12), and capacitor (9) from switch contact bracket (13).

B. Installation

(1) To install 230 VAC base capacitor:

a. Install base capacitor (9) on switch contact bracket (13) and secure with capacitor clamp (12) and two screws (11).

b. Connect two wires (10) to base capacitor (9).

(2) To install 100 VAC base capacitor:

a. Connect one wire (8) to each terminal group of base capacitor (6).

b. Install capacitor cap (7) on base capacitor (6).

c. Position the bottom of base capacitor (6) on mounting bracket (5) and then push the top of the capacitor inward. Using a screwdriver, force the tab of the mounting bracket (5) down over the catch of the capacitor cap (7). Make sure base capacitor (6) is held firmly in place.

(3) Remove prop and lower bellows (4).

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(4) Slide two bellows retainer trim (2) over the bottom of bellows (4). Secure bellows retainer trim (2) to lower base weldment (3) with four screws (1).

(5) If base capacitor was bypassed, remove bypass wires (Refer to para 4.29).

(6) Plug table power cord into wall outlet.

4.7 Back Actuator Removal / Installation

A. Removal

(1) If possible, raise the BACK UP function all the way up.

(2) Unplug table power cord from wall outlet.

NOTE
If the back actuator is inoperable and cannot be raised, manually raise the back section.

(3) While supporting back section, remove two e-rings (1, Figure 4-10), clevis pin (2), two bearing washers (3), and link bars (4) from back pivot bracket (5).

(4) Fold the back section (6) over onto the seat section (7).

(5) Remove four screws (8) and back cover (9) from upper wrap weldment (10).

(6) Remove four screws (11) and motor cover (12) from upper wrap weldment (10).

(7) Tag and disconnect three wires (1, Figure 4-11) from three actuator wires (2).

(8) Remove two shoulder bolts (3) securing base of back actuator (4) to isolation brackets (5).

(9) Remove back actuator (4) from table by sliding shaft of back actuator out of slide extrusions (6).

(10) Remove one slide bearing (7), link bar (8), and bearing washer (9) from each end of clevis pin (10).

(11) Remove two e-rings (11) and clevis pin (10) from shaft of back actuator (4).

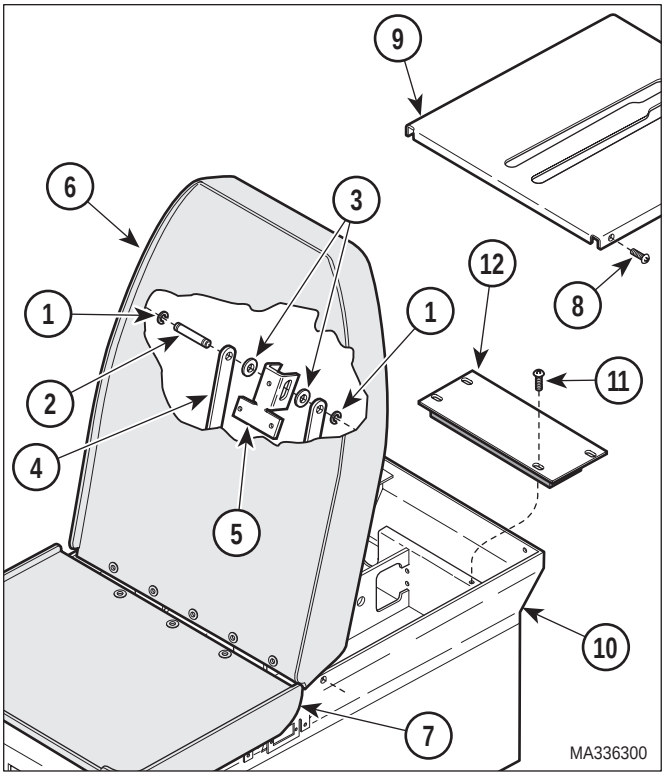

Figure 4-10. Back Actuator Access

B. Installation

(1) Install clevis pin (10, Figure 4-11) on shaft of back actuator (4) and secure with two e-rings (11).

(2) Install one bearing washer (9), link bar (8), and slide bearing (7) on each end of clevis pin (10).

(3) Insert slide bearings (7) of back actuator shaft into slide extrusions (6).

(4) Coat threads of two shoulder bolts (3) with removable threadlocking adhesive (Loctite 262).

(5) Secure base of back actuator (4) to isolation brackets (5) and secure with two shoulder bolts (3).

(6) Connect three actuator wires (2) to three wires (1).

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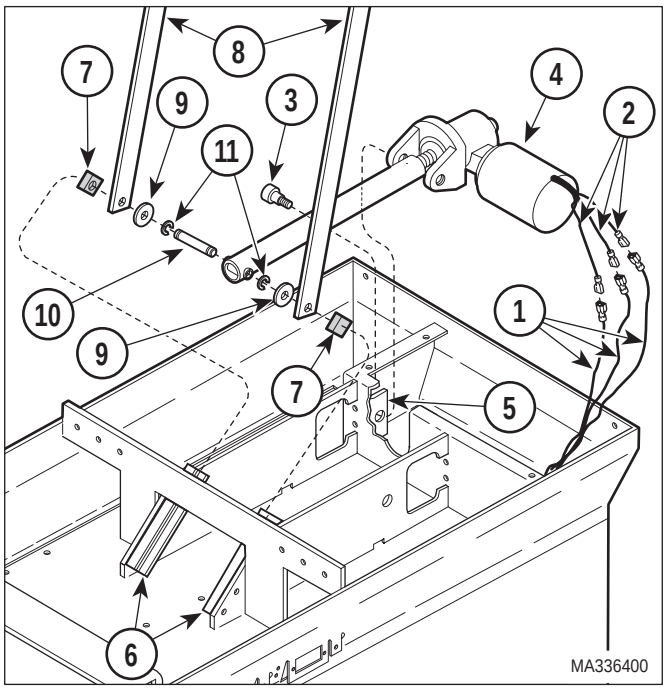

Figure 4-11. Back Actuator Removal / Installation

(7) Install motor cover (12, Figure 4-10) on upper wrap weldment (10) and secure with four screws (11).

(8) Install back cover (9) on upper wrap weldment (10) and secure with four screws (8).

(9) Lower back section (6) down; then install two link bars (4) on back pivot bracket (5) and secure with two bearing washers (3), clevis pin (2), and two e-rings (1).

(10) Plug table power cord into wall outlet.

4.8 Back Capacitor Removal / Installation

A. Removal

(1) If possible, raise the BACK UP function all the way up.

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(2) Unplug table power cord from wall outlet.

NOTE
If the back actuator is inoperable, the back section can be raised manually high enough to gain access to perform the following step.

(3) While supporting back section (1, Figure 4-12), remove two e-rings (2), clevis pin (3), two bearing washers (4), and link bars (5) from back pivot bracket (6).

(4) Carefully fold the back section (1) over onto the seat section.

(5) Remove four screws (7) and back cover (8) from upper wrap weldment (9).

NOTE
For new style units with serial numbers: LE1000, LF1000 and LG1000 thru present, it is necessary to remove the motor cover to gain access to back capacitor .

(6) If necessary, remove four screws (10) and motor cover (11) from upper wrap assembly (9).

NOTE
Figure 4-13 shows back capacitor mounting position on old style units. The same procedure applies to new style units with capacitor mounted inside motor housing.

(7) To remove 100 VAC or 120 VAC back capacitor:

a. Using a screwdriver, pry tab of mounting bracket (1, Figure 4-13) outward and separate back capacitor (2) from mounting bracket.

b. Remove capacitor cap (3) from back capacitor (2).

WARNING
The capacitor contains stored electricity. Never touch terminals of capacitor, even if power has been disconnected. Always discharge capacitor before touching capacitor terminals or wires. Failure to comply with these instructions could result in serious personal injury or death.

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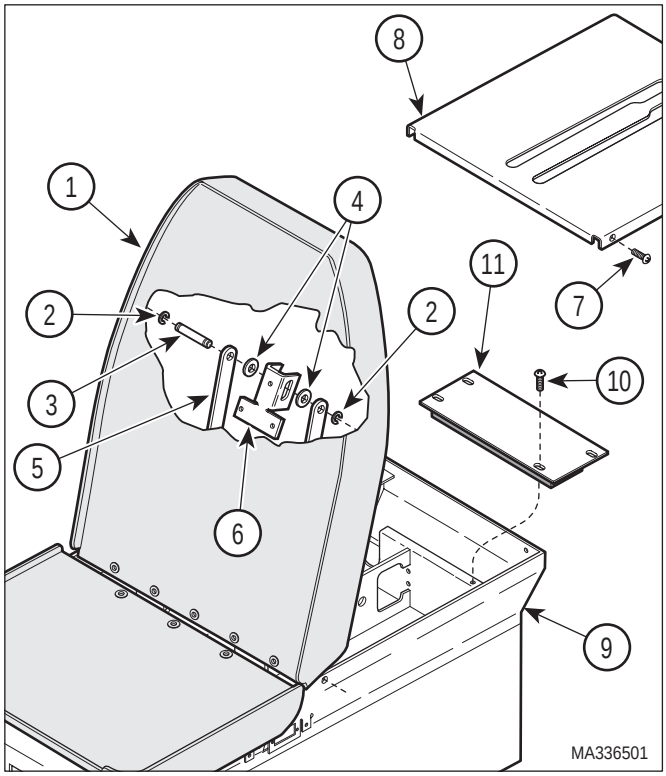

Figure 4-12. Capacitor Access

c. Discharge back capacitor (2).

d. Disconnect two wires (4) from terminals of back capacitor (2) and remove back capacitor.

(7) To remove 230 VAC back capacitor:

WARNING
The capacitor contains stored electricity. Never touch terminals of capacitor, even if power has been disconnected. Always discharge capacitor before touching capacitor terminals or wires. Failure to comply with these instructions could result in serious personal injury or death.

a. Discharge back capacitor (A, Figure 4-13).

b. Disconnect two wires (B) from terminals of back capacitor (A).

c. Remove two screws (C), capacitor clamp (D), and back capacitor (A) from upper wrap weldment (E).

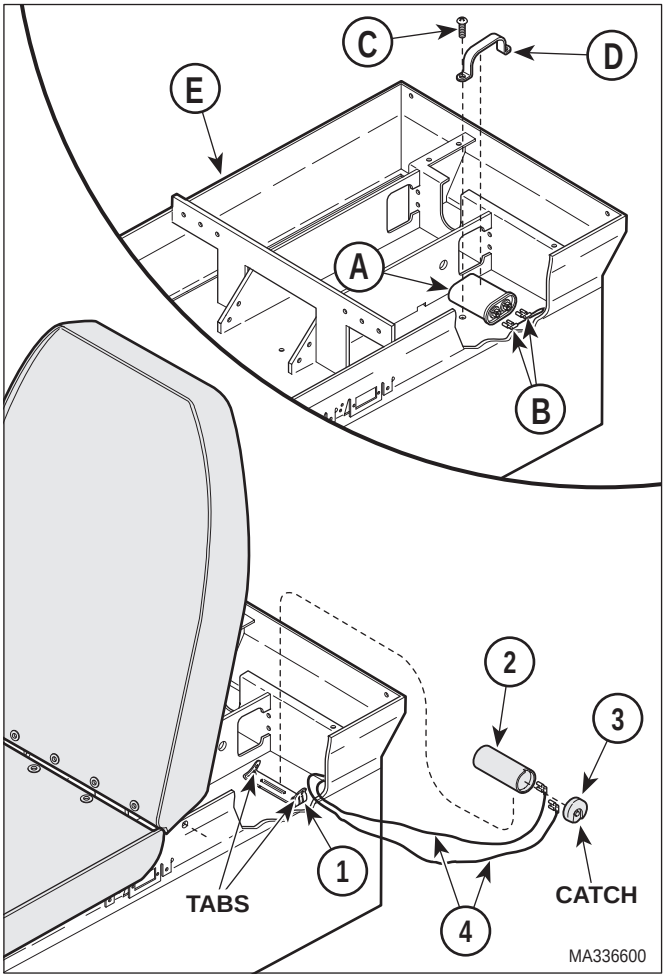

Figure 4-13. Back Capacitor Removal / Installation

B. Installation

(1) Install 230 VAC back capacitor as follows:

a. Install back capacitor (A, Figure 4-13) on upper wrap weldment (E) and secure with capacitor clamp (D) and two screws (C).

b. Connect one wire (B) to each terminal group of back capacitor (A).

c. Go to step 3.

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(2) Install 100 VAC and 120 VAC back capacitor as follows:

a. Connect one wire (4, Figure 4-13) to each terminal group of back capacitor (2).

b. Install capacitor cap (3) on back capacitor (2).

c. Position the bottom of back capacitor (2) on mounting bracket (1) and then push the top of the capacitor inward. Using a screwdriver, force the tab of the mounting bracket (1) down over the catch of the capacitor cap (3). Make sure back capacitor (2) is held firmly in place.

(3) If necessary, install motor cover (11, Figure 4-12) and secure to upper wrap assembly (12) with four screws (10).

(3) Install back cover (8) on upper wrap weldment (9) and secure with four screws (7).

(4) Lower back section (1) down; then secure two link bars (5) to back pivot bracket (6) with two bearing washers (4), clevis pin (3), and two e-rings (2).

(5) Plug table power cord into wall outlet.

4.9 Transformer Removal / Installation (100 VAC Units Only)

A. Removal

(1) If possible, raise the BACK UP function all the way up.

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(2) Unplug table power cord from wall outlet.

NOTE
If the back actutator is inoperable, the back section can be raised manually high enough to gain access to perform the following step.

(3) While supporting back section (1, Figure 4-14), remove two e-rings (2), clevis pin (3), two bearing washers (4), and link bars (5) from back pivot bracket (6).

(4) Carefully fold the back section (1) over onto the seat section.

(5) Remove four screws (7) and back cover (8) from upper wrap weldment (9).

(6) Disconnect wire harness (1, Figure 4-15) from transformer wire harness (2).

(7) Remove cable ties as necessary.

(8) Remove four screws (3), lockwashers (4), and transformer (5) from upper wrap weldment (6).

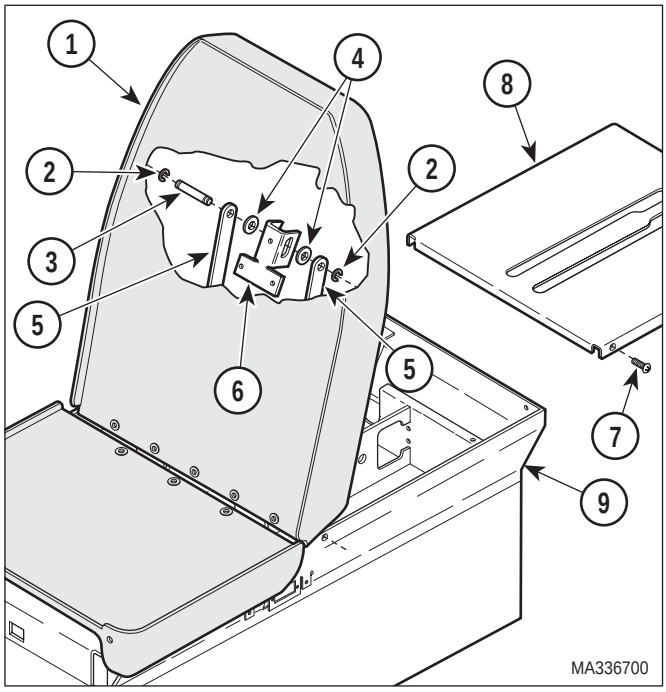

Figure 4-14. Transformer Access

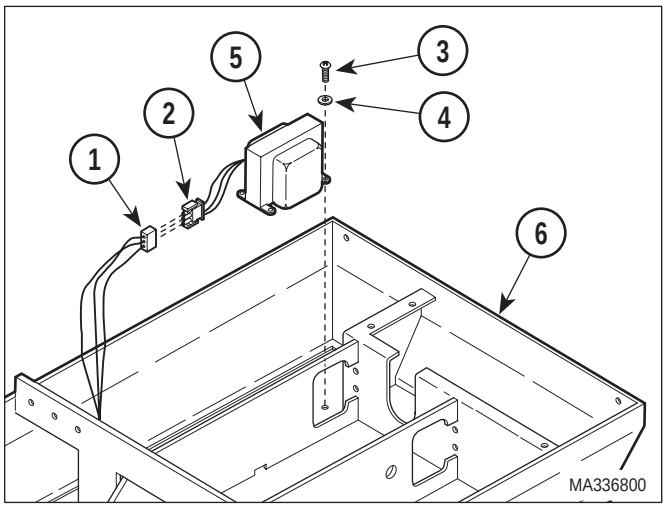

Figure 4-15. Transformer Removal / Installation

B. Installation

(1) Install transformer (5, Figure 4-15) on upper wrap weldment (6) and secure with four lockwashers (4) and screws (3).

(2) Connect transformer wire harness (2) to wire harness (1).

(3) Secure wires as necessary with cable tie(s).

(4) Install back cover (8, Figure 4-14) on upper wrap weldment (9) and secure with four screws (7).

(5) Lower back section (1) down; then secure two link bars (5) to back pivot bracket (6) with two bearing washers (4), clevis pin (3), and two e-rings (2).

(6) Plug table power cord into wall outlet.

4.10 PC Control Board Removal / Installation (Applies to units with Serial Numbers: BG1000, BH1000, DK1000 and DV1000 thru Present)

A. Removal

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(1) Unplug table power cord from wall outlet.

(2) Remove two drawers (1, Figure 4-16) from foot end of table.

(3) Remove six screws (2), cover plate (3), and gasket (4) from upper base weldment (5).

(4) Disconnect two wire harnesses (6) from PC control board (7).

(5) Disconnect two modular cords (8) from PC control board (7).

(6) Tag five wires (9); then loosen five terminal screws (10) and disconnect five wires (9) from terminal strip of PC control board (7).

(7) Check jumper strips to ensure they are in place.

(8) Turn head of each standoff (11) 1/4 turn in counterclockwise (left) direction to unlock.

(9) Remove PC control board (7) from four standoffs (11).

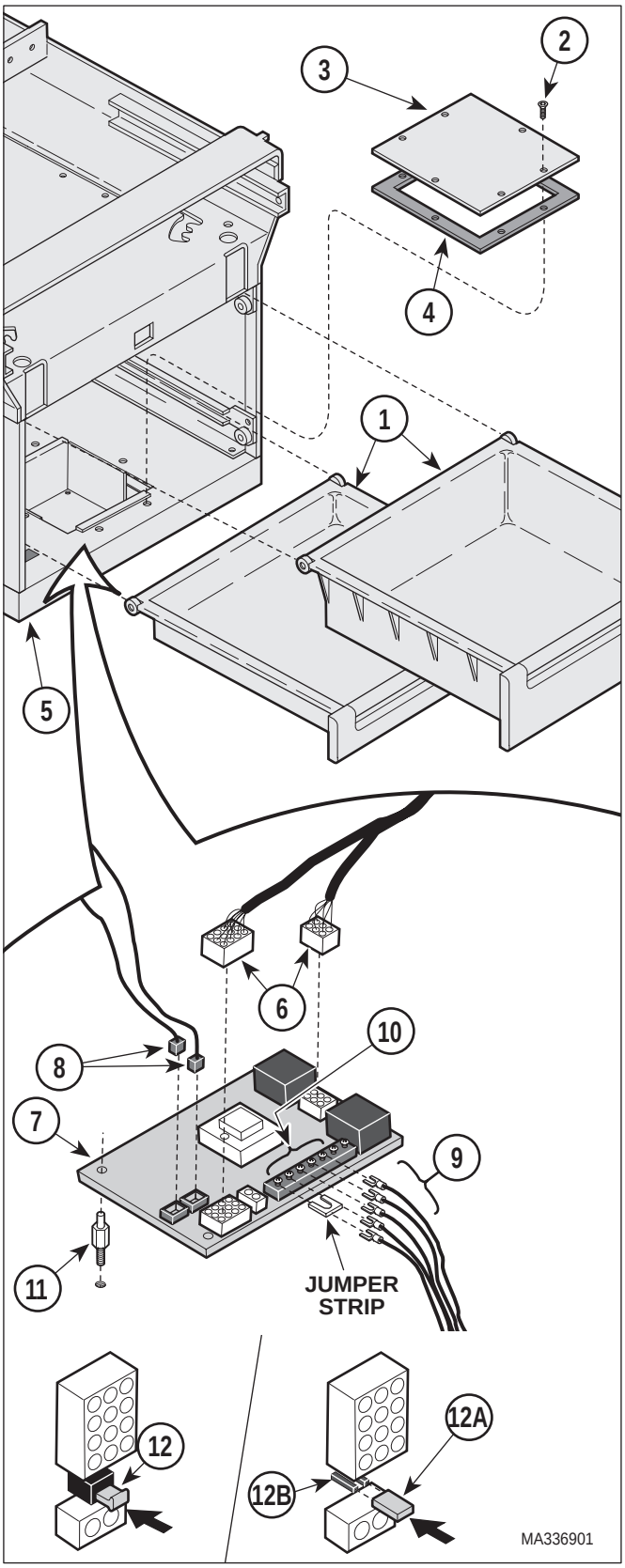

Figure 4-16. PC Control Board Removal / Installation (early units)

B. Installation

(1) On older units, check position of SW1 (12). If SW1 is not in pushed in position, push SW1 in. On newer units, check to make sure jumper connector (12A) ***is*** installed. If not installed, install jumper connector (12A) on ***both*** SW1 pins (12B).

(2) Install PC control board (7) on four standoffs (11) and secure by turning head of each standoff 1/4 turn in the clockwise (right) direction, locking standoff.

(3) Make sure two jumper strips are installed on terminal strip and did not fall out during wire disconnection. See Figure 5-1 thru 5-3 for jumper strip location.

(4) Connect five wires (9) to terminal strip of PC control board (7) and secure by tightening five terminal screws (10).

(5) Connect two modular cords (8) to PC control board (7).

(6) Connect two wire harnesses (6) to PC control board (7).

EQUIPMENT ALERT
Make sure gasket is sealing properly. Failure to do so could result in contaminants, especially liquids, dripping onto PC control board and damaging it.

(7) Install gasket (4) and cover plate (3) on upper base weldment (5) and secure with six screws (2).

(8) Install two drawers (1) into table.

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4.11 PC Control Board Removal / Installation (Applies to units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present)

A. Removal

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(1) Unplug table power cord from wall outlet.

(2) Remove two drawers (1, Figure 4-17) from foot end of table.

(3) Remove six screws (2), cover plate (3) and gasket (4) from upper base weldment (5).

(4) Tag and disconnect two wire harnesses (6) from PC control board (7).

(5) Tag and disconnect four modular cords (8) from PC control board (7).

(6) Tag and disconnect wire harness (9) from PC control board (7).

(7) Tag seven wires (10); then loosen seven terminal screws (11) and disconnect seven wires (10) from terminal strip of PC control board (7).

(8) Check jumper strips to ensure they are in place.

(9) Remove four screws (12) and PC control board (7) from upper base weldment (5).

B. Installation

(1) Install PC control board (7) in upper base weldment (5) and secure with four screws (12).

(2) Make sure two jumper strips are installed on terminal strip and did not fall out during wire disconnection. See Figure 5-1 thru 5-3 for jumper strip location.

(3) Connect seven wires (10) to terminal strip of PC control board (7) and secure by tightening seven terminal screws (11).

(4) Connect wire harness (9) to PC control board (7).

(5) Connect four modular cords (8) to PC control board (7).

(6) Connect two wire harnesses (6) to PC control board (7).

(7) Install gasket (4) and cover plate (3) on upper base weldment (5) and secure with six screws (2).

(8) Install two drawers (1) into table.

(9) Plug table power cord into wall outlet.

4.12 Base Down Limit Switch Removal / Installation

A. Removal

(1) Raise TABLE UP function all the way up.

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(2) Unplug table power cord from wall outlet.

(3) Remove two drawers (1, Figure 4-18) from foot end of table.

(4) Remove two screws (2) and actuator cover (3) from center support (4).

(5) Remove two screws (5) and separate limit switch bracket (6) from center support (4).

(6) Tag and disconnect two wires (7) from base down limit switch (8).

(7) Remove nut (9) and base down limit switch (8) from limit switch bracket (6).

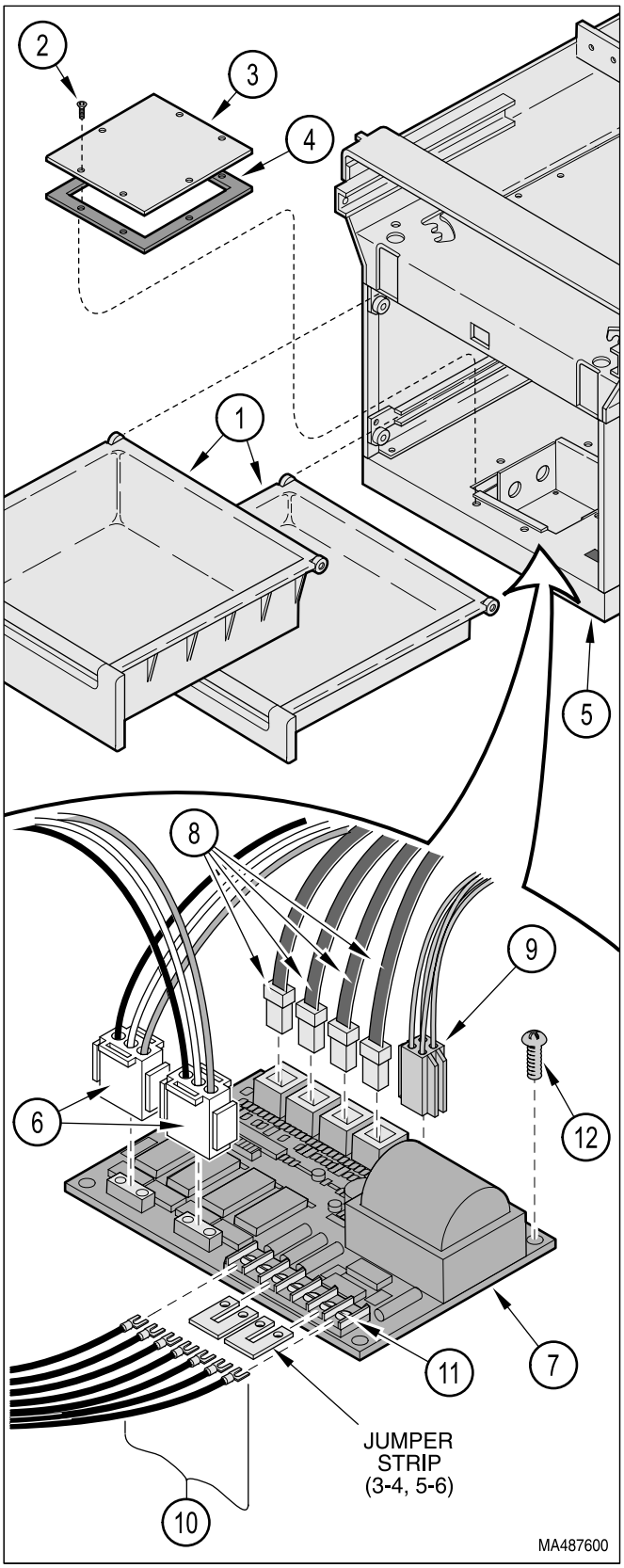

Figure 4-17. PC Board Removal / Installation (later units)

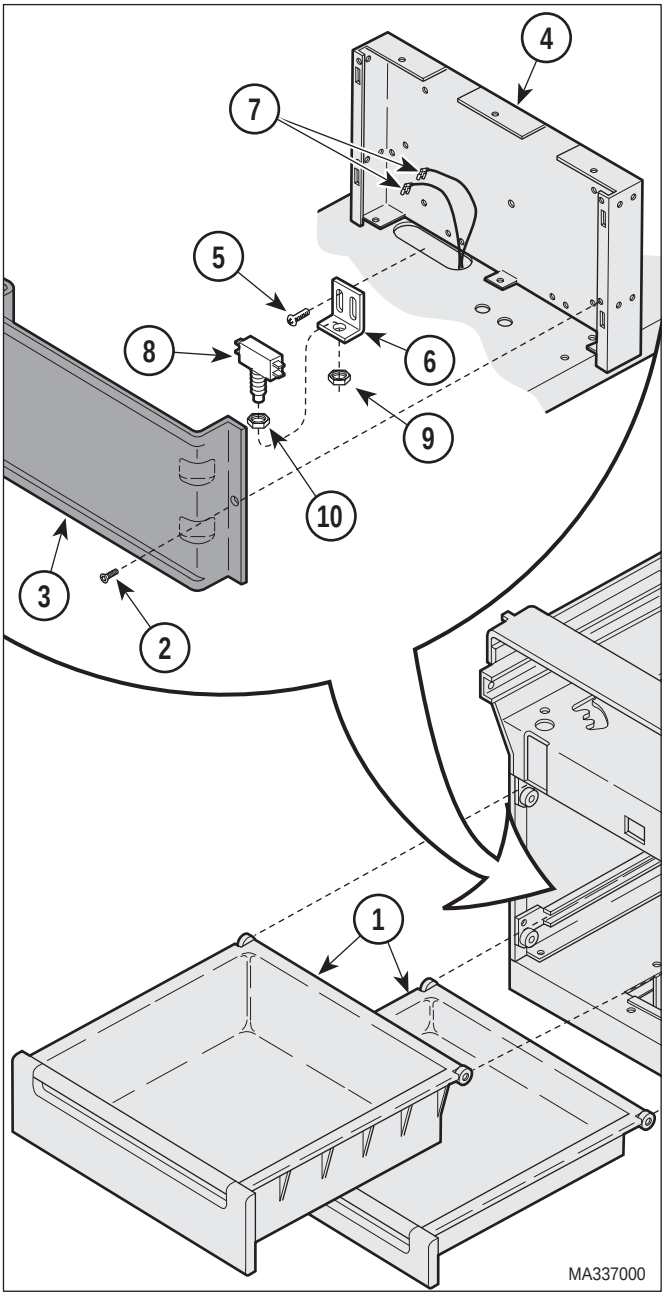

Figure 4-18. Base Down Limit Switch Removal / Installation

B. Installation

NOTE
Nuts (9) and (10) are supplied with a new base down limit switch.

(1) Screw nut (10) onto threads of base down limit switch (8) fully.

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(2) Install base down limit switch (8) on limit switch bracket (6) and secure with nut (9).

(3) Connect one wire (7) to N.O. terminal and the other wire to COM. terminal of base down limit switch (8).

(4) Install limit switch bracket (6) on center support (4) and secure with two screws (5); do not tighten screws at this time.

C. Adjustment

NOTE
If performing base down limit switch adjustment only, perform steps 1 thru 4 of Removal before proceeding.

(1) Slide limit switch bracket (6) up as far as it will go and then tighten two screws (5).

(2) Plug table power cord into wall outlet.

(3) Raise TABLE UP function up approximately halfway.

(4) Press the AUTO RETURN "START" button and observe.

(5) The base actuator should stop running automatically when the table top is completely lowered.

(6) If the base down limit switch (8) is adjusted properly, go to step 9.
If the base down limit switch (8) keeps running and freewheels when the table top is completely lowered, go to step 7.

(7) Loosen two screws (5); then slide limit switch bracket (6) downward 1/4 inch (6.3 mm) and retighten screws (5).

(8) Repeat steps 1 thru 7 until base actuator stops automatically and does not freewheel when table is completely lowered.

(9) Install actuator cover (3) on center support (4) and secure with two screws (2).

(10) Install two drawers (1) in table.

4.13 Control Disable Switch Removal / Installation

A. Removal

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(1) Unplug table power cord from wall outlet.

(2) Remove two drawers (1, Figure 4-19) from the foot end of the table.

NOTE
Units with Serial Numbers BG1000, BH1000, DK1000 and DV1000 thru Present do not have disable switch enclosure.

(3) Remove two nuts (2) and disable switch enclosure (3) from side panel (4).

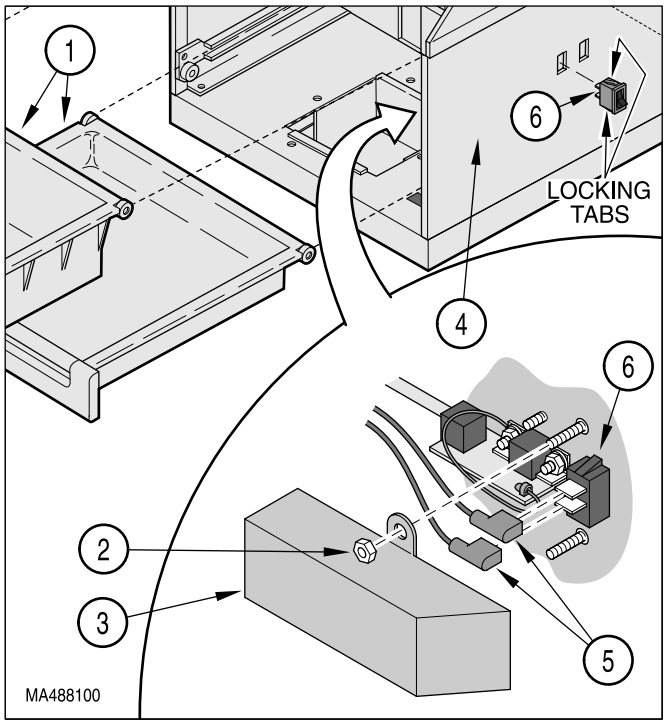

Figure 4-19. Control Disable Switch Removal / Installation

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(4) Disconnect two wires (5) from control disable switch (6).

(5) While simultaneously pressing in on four locking tabs, push control disable switch (6) out of side panel (4).

B. Installation

(1) Push control disable switch (6) into side panel (4) until it locks into position.

(2) Connect two wires (5) to control disable switch (6).

(3) If necessary, install disable switch enclosure (3) and secure to side panel (4) with two nuts (2).

(4) Install two drawers (1) in table.

(5) Plug table power cord into wall outlet.

4.14 Heater ON / OFF Switch Removal / Installation

A. Removal

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(1) Unplug table power cord from wall outlet.

(2) Using a standard screwdriver, carefully pry heater switch (1, Figure 4-20) out of upper wrap weldment (2), making sure not to scratch table.

(3) Tag and disconnect four wires (3) from heater switch (1).

B. Installation

(1) Connect four wires (3) to heater switch (1).

(2) Push heater switch (1) into upper wrap weldment (2) until heater switch "pops" into place.

(3) Plug table power cord into wall outlet.

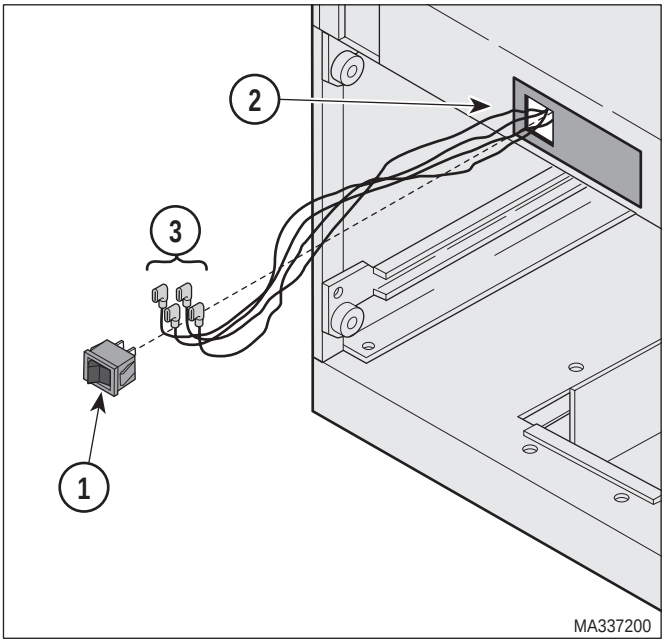

Figure 4-20. Heater On / Off Switch Removal / Installation

4.15 Heater Plate Removal / Installation

A. Removal

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(1) Unplug table power cord from wall outlet.

(2) Remove two drawers (1, Figure 4-21) from foot end of table.

(3) Remove heater ON / OFF switch (Refer to para 4.13).

(4) Pull foot rest section (2) out as far as it will go.

(5) Raise seat section (3) up.

NOTE
Early units have a heater wire cover while later units use a stirrup guide.

(6) Remove four screws (4) and stirrup guide (5) ***or*** two screws (4) and heater wire cover (6) from upper wrap weldment (7).

(7) Remove any wrap-n-tap cables (8) securing heater plate (9) wiring to upper wrap weldment (7).

NOTE
Spacers are only used on older units with a flat profile heater plate. Also, old style heater plates are secured with three screws (10) while new style heater plates are secured with two screws (10).

(8) Remove screws (10), heater plate (9), spacers (11) (old style heater plate only), and insulation (12) from upper wrap weldment (7).

B. Installation

(1) Route heater plate (9) wires thru wire hole in upper wrap weldment (7).

NOTE
Spacers (11) are only used on old style heater plates. Also, old style heater plates are secured with three screws (10) while new style heater plates are secured with two screws (10).

(2) Install insulation (12), spacers (11) (old style heater plate only), and heater plate (9) on upper wrap weldment (7) and secure with screws (10).

(3) Install heater ON / OFF switch (Refer to para 4.13).

(4) Secure heater plate (9) wires to upper wrap weldment (7) with wrap-n-tap cables (8).

NOTE
Early units have a heater wire cover while later units use a stirrup guide.

(5) Install heater wire cover (6) on upper wrap weldment (7) and secure with two screws (4) ***or*** install stirrup guide (5) on upper wrap weldment (7) and secure with four screws (4).

(6) Lower seat section (3).

(7) While holding footrest lift down, push foot rest section (2) all the way in to its stowed position.

(8) Install two drawers (1) in table.

(9) Plug table power cord into wall outlet.

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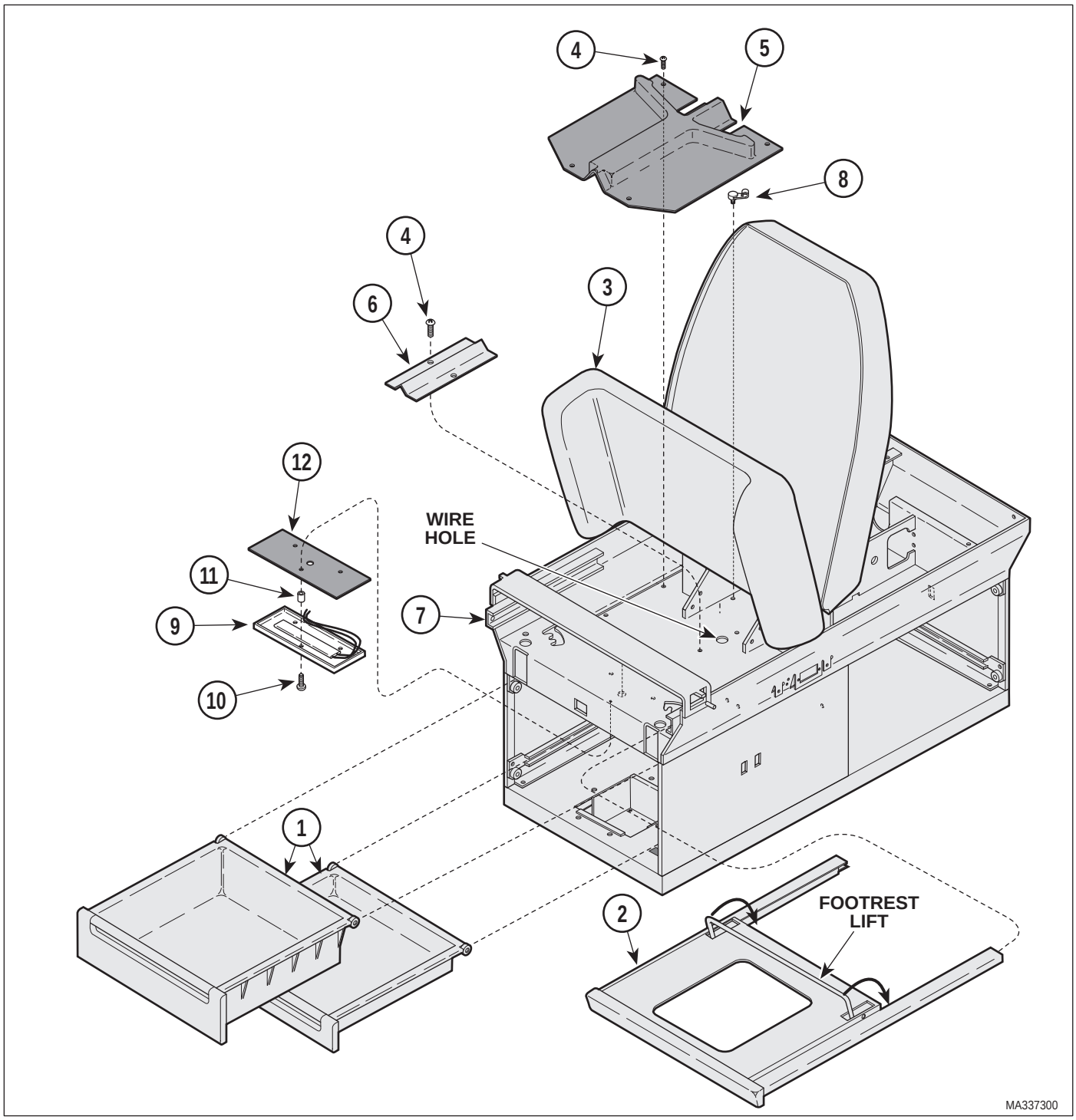

Figure 4-21. Heater Plate Removal / Installation

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4.16 Hand Control Panel or Interface Board Removal / Installation (Applies to units with Serial Numbers: BG1000, BH1000 and DK1000 thru Present)

A. Removal

(1) Disconnect coil cord (1, Figure 4-22) from hand control.

(2) Remove two screws (2) and top end cap (3) from hand control tube (4).

(3) Remove locating plate (5) from hand control tube (4).

EQUIPMENT ALERT
Do not pull on ribbon connectors with excessive force or damage to hand control panel or interface board could result.

(4) Remove hand control panel (6) and interface board (7) as an assembly from hand control tube (4).

(5) Disconnect ribbon connector of hand control panel (6) from connector of interface board (7).

B. Installation

(1) Connect ribbon connector of hand control panel (6) to connector of interface board (7).

(2) Make sure fishpaper (8) is in the bottom of the hand control tube (4).

(3) Simultaneously, slide hand control panel (6) into Slot A and interface board (7) into Slot B of hand control tube (4).

(4) Install locating plate (5) into Slot B of hand control tube (4).

(5) Install top end cap (3) on hand control tube (4) and secure with two screws (2).

(6) Connect coil cord (1) to hand control.

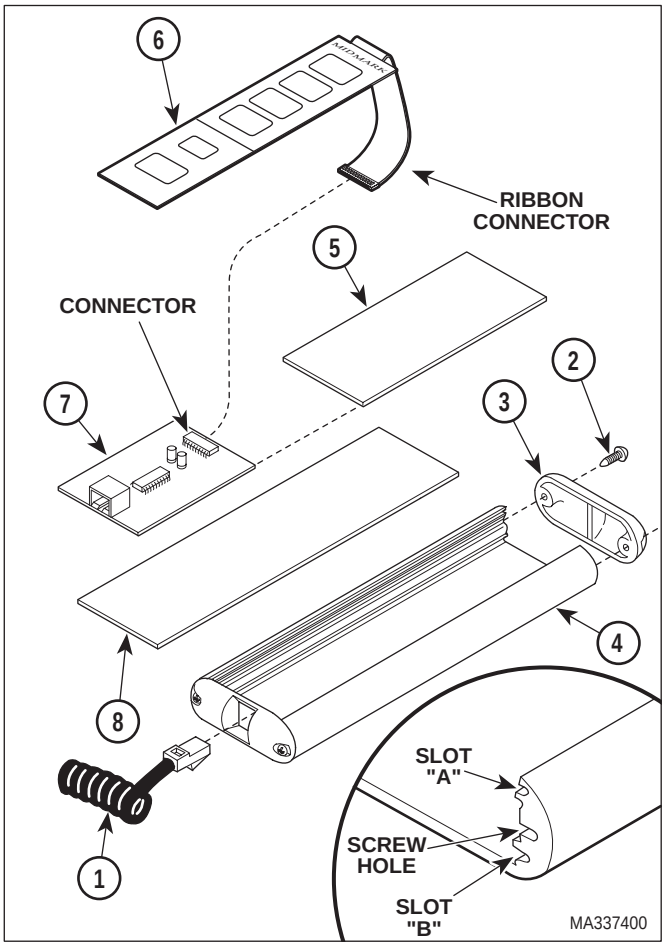

Figure 4-22. Hand Control Panel or Interface Board Removal / Installation (early

4.17 Hand Control Interface Board Removal / Installation (Applies to units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present)

A. Removal

(1) Disconnect hand control cord (1, Figure 4-23) from table.

(2) Remove four screws (2) and hand control bottom (3) from hand control top (4).

(3) Disconnect hand control cord (1) from interface board (5).

(4) Using a small flat-bladed screwdriver, pry upward on two retaining rings (6) until they separate from two standoffs (7).

(5) Disconnect ribbon connector (8) from interface board (5) and remove interface board.

B. Installation

(1) Connect ribbon connector (8) to interface board (5).

NOTE
Be sure to push the two retaining rings down on the standoffs until they touch the interface board. This will hold the board in place.

(2) Install interface board (5) onto two standoffs (7) and secure with two retaining rings (6).

(3) Connect hand control cord (1) to interface board (5).

EQUIPMENT ALERT
Be sure to align the hand control cord (1) with the notch (A) in the hand control bottom (3). Failure to do so could result in damage to the hand control cord.

(4) Install hand control bottom (3) on hand control top (4) and secure with four screws (2).

(5) Connect hand control cord (1) to table.

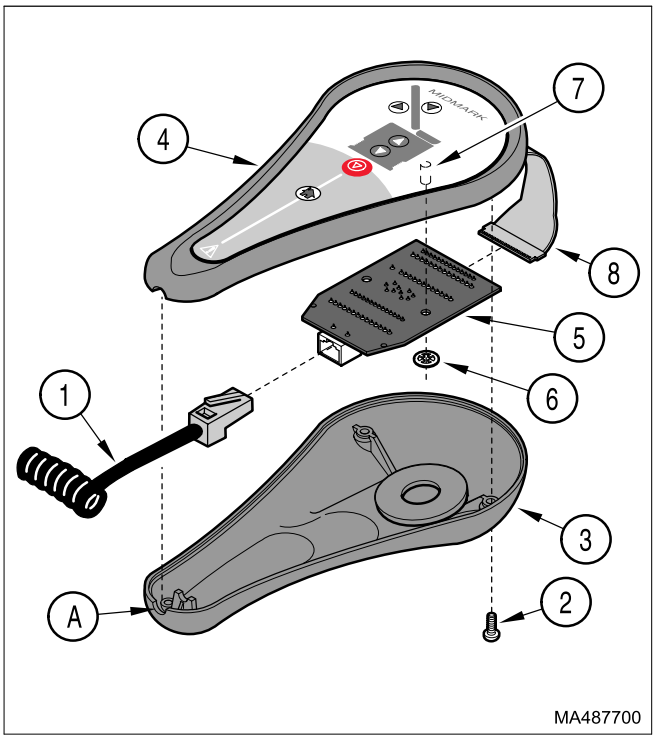

Figure 4-23. Hand Control Interface Board Removal / Installation (later units)

4.18 Typical Actuator Motor / Actuator Brake Removal / Installation

A. Removal

(1) Remove malfunctioning actuator assembly:
Base actuator assembly (Refer to para 4.3 or 4.4).
Back actuator assembly (Refer to para 4.7).

(2) Remove two nuts (1, Figure 4-24) and actuator motor (2) from actuator mechanism (3).

(3) Remove two shoulder washers (4) from actuator mechanism (3).

(4) Remove spacer (5) and motor coupler (6) from shaft of actuator motor (2).

NOTE
A needle nose pliers should be used to extract the actuator brake from the actuator mechanism. Grasp the raised round plate of the actuator brake with the pliers and pull.

(5) Remove actuator brake (7) and rubber damper (8) from shaft of actuator mechanism (3).

B. Installation

NOTE
The rubber damper must be installed so its flat side faces the inside of the actuator mechanism. The actuator brake must be installed so its flattest side faces outward. The shaft of the actuator mechanism may be turned with a screwdriver to help align the keys of the actuator mechanism shaft with the key slots in actuator brake.

(1) Install rubber damper (8), actuator brake (7), and spacer (5) in actuator mechanism (3).

(2) Install motor coupler (6) on shaft of actuator motor (2).

(3) Install two shoulder washers (4) in actuator mechanism (3).

(4) Align keys of actuator mechanism (3) shaft with key slots of motor coupler (6) and then install actuator motor (2) on actuator mechanism (3) and secure with two nuts (1).

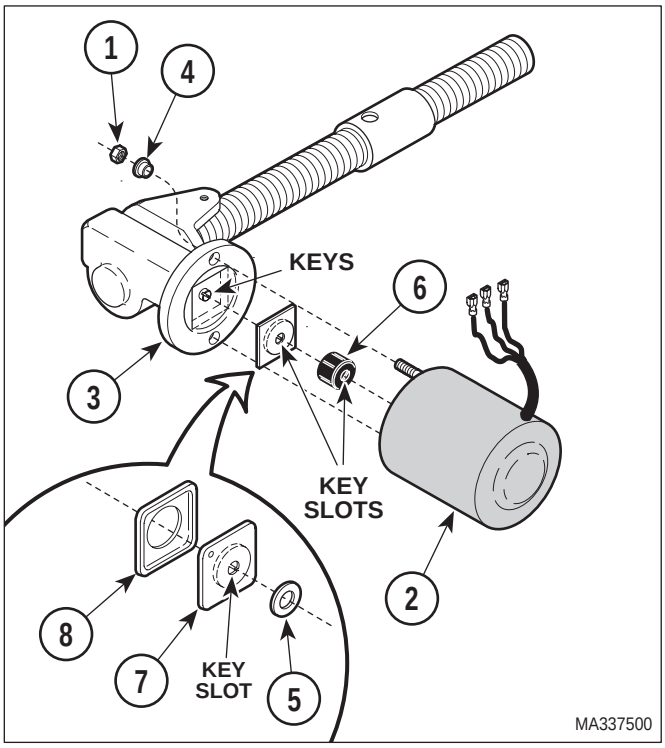

Figure 4-24. Actuator Motor / Actuator Brake Removal / Installation

(5) Install actuator assembly:
Base actuator assembly (Refer to para 4.3 or 4.4).
Back actuator assembly (Refer to para 4.7).

(6) Check actuator assembly for proper operation. The actuator assembly should run normally and should not make a grinding noise; this indicates that key slots of motor coupler were not aligned properly with keys of actuator mechanism (the grinding noise also indicates that the motor coupler is being damaged). The actuator assembly should brake properly.

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4.19 Typical Foot Control Switch Removal / Installation (Applies to units with Serial Numbers: BG1000, BH1000, DK1000 and DV1000 thru Present)

A. Removal

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(1) Unplug the table power cord from the wall outlet.

(2) Remove screw (1, Figure 4-25), lockwasher (2), and pedal (3) from foot switch bracket (4).

(3) Remove two locknuts (5), screws (6), two insulators (7), and footswitch (8) from footswitch bracket (4).

(4) Tag and disconnect two ***or*** three wires (9) from terminals of footswitch (8). Remove footswitch.

B. Installation

(1) Connect two ***or*** three wires (9) to terminals of footswitch (8).

(2) Install footswitch (8) on foot switch bracket (4) and secure with two insulators (7), screws (6), and locknuts (5).

(3) Ensure springs (10) are in position and have not fallen off.

(4) Install pedal (3) on foot switch bracket (4) and secure with lockwasher (2) and screw (1), making sure pedal is mounted on pivot spacer.

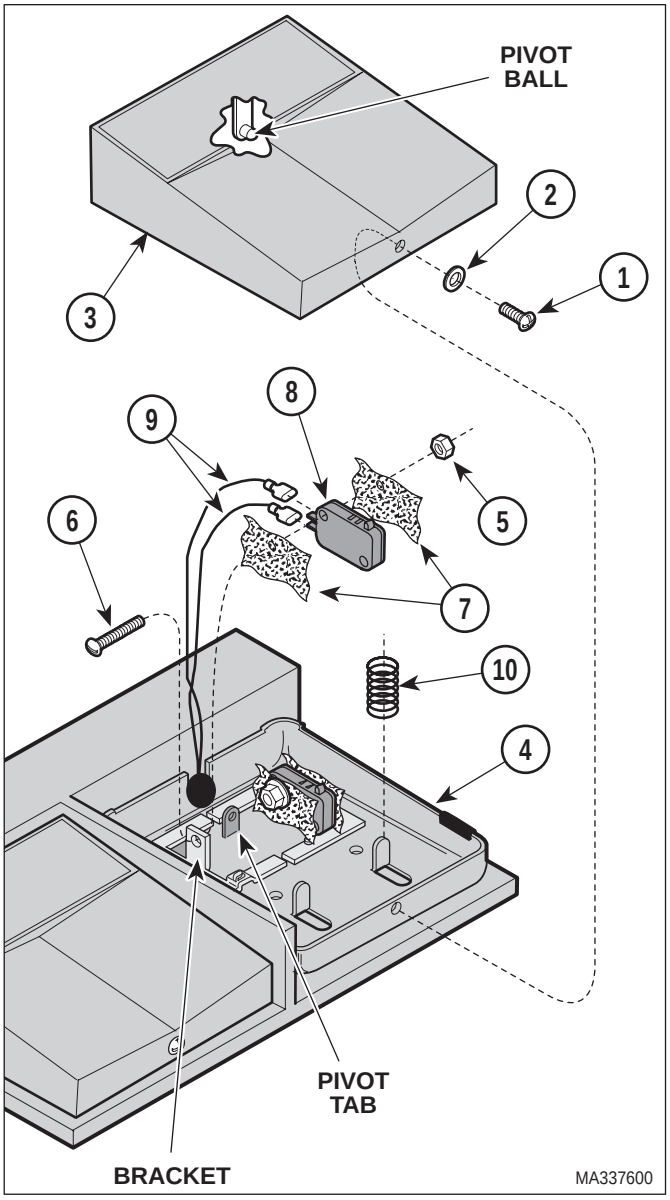

Figure 4-25. Typical Foot Control Switch Removal / Installation

4.20A Typical Foot Control *Function Button* Switch Removal / Installation (Applies to units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present)

A. Removal

(1) Unplug the foot control cord from the table.

(2) Remove two screws (1, Figure 4-26) and strain relief bracket (2).

(3) Remove four screws (3) and partially separate foot control top (4) from foot control base (5).

(4) Disconnect foot control cord (6) from PC board (7).

(5) Disconnect wire harness (8) from PC board (7) and remove foot control top (4).

(6) Remove four screws (9) and partially separate PC board (7) from foot control top (4).

NOTE
Be sure to trace the switch leads from the faulty switch to the proper wire harness at the board. The switch being replaced dictates which wire harness to remove.

(7) Disconnect correct wire harness (10) from PC board (7).

(8) Tag switch lead (11) with position; then using a small screwdriver or similar device, gently depress the silver tab (A) of the switch lead (11) thru the hole in the wire harness connector (10) and pull the switch lead out of the connector. Repeat this procedure for the second switch lead.

(9) Remove nut (12), lockwasher (13) and switch (14) from foot control top (4).

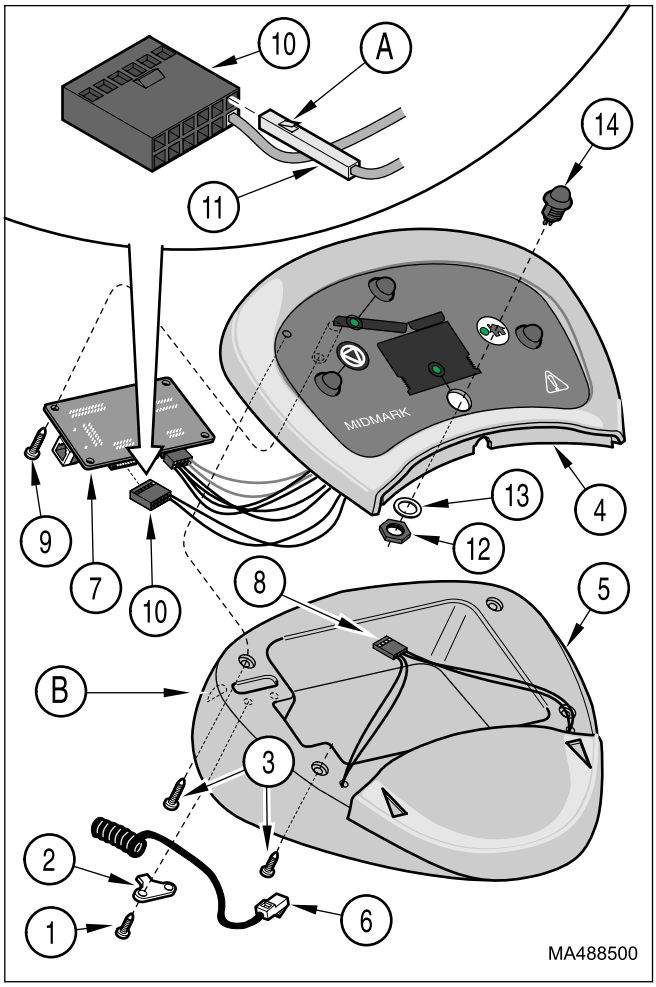

Figure 4-26. Foot Control *Function Button* Switch Removal / Installation

B. Installation

EQUIPMENT ALERT
The soldered connections at the switch are very delicate. Use caution when tightening nut. Failure to do so could result in broken connections at the switch.

(1) Install switch (14) into foot control top (4) and secure with lockwasher (13) and nut (12).

(2) Insert two switch leads (11) into proper position at wire harness connector (10) and push inward until they snap into place.

(3) Connect wire harness (10) to PC board (7).

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(4) Secure PC board (7) to foot control top (4) with four screws (9).

(5) Connect wire harness (8) to PC board (7).

(6) Connect foot control cord (6) to PC board (7).

(7) Install foot control top (4) onto foot control base (5) and secure with four screws (3).

(8) Place foot control cord (6) into notch (B) of foot control base (5); then install strain relief bracket (2) and secure with two screws (1).

4.20B Typical Foot Control *Foot Pedal* Switch Removal / Installation (Applies to units with Serial Numbers: LE1000, LF1000and LG1000 thru Present)

A. Removal

(1) Refer to para 4.20A (Removal - steps 1 thru 5).

(2) Remove four screws (1, Figure 4-27), two pedal caps (2), foot control pedal (3) and two springs (4) from foot control base (5).

(3) Tag switch lead (6) with position; then using a small screwdriver or similar device, gently depress the silver tab of the switch lead (6) thru the hole (A) in the wire harness connector (7) and pull the switch lead out of the connector. Repeat this procedure for the second switch lead.

(4) Remove two screws (8) and switch cover (9).

(5) Pull two switch leads (6) thru hole (B).

(6) Remove nut (10), lockwasher (11) and switch (12) from foot control base (5).

B. Installation

EQUIPMENT ALERT
The soldered connections at the switch are very delicate. Use caution when tightening nut. Failure to do so could result in broken connections at the switch.

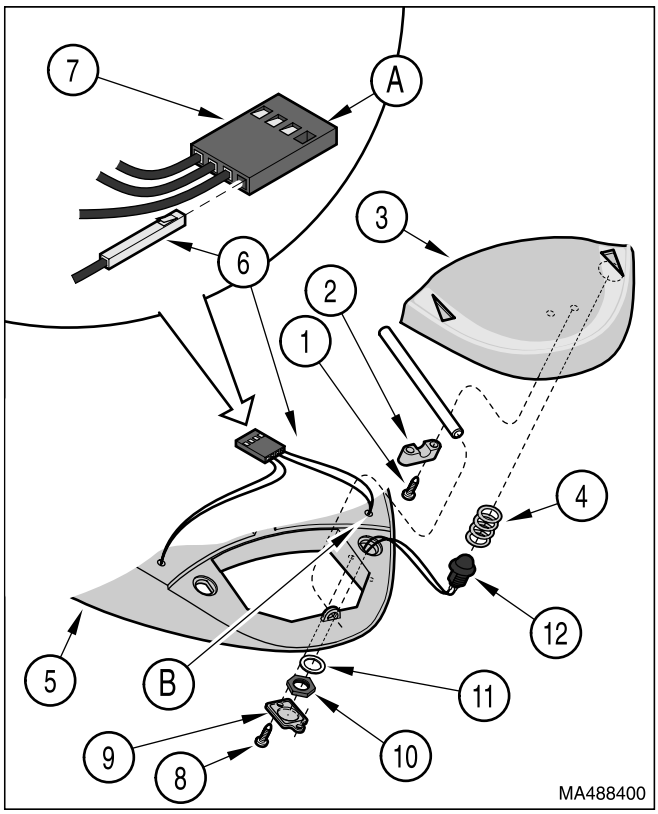

Figure 4-27. Foot Control *Foot Pedal* Switch Removal / Installation

(1) Install switch (12) into foot control base (5) and secure with lockwasher (11) and nut (10).

(2) Feed two switch leads (6) up thru hole (B).

(3) Insert switch leads (6) into proper position at wire harness connector (7) and push inward until they snap into place.

(4) Install switch cover (9) and secure with two screws (8).

(5) Install two springs (4), foot control pedal (3) and two pedal caps (2) and secure with four screws (1).

(6) Refer to para 4.20A (Installation - steps 5 thru 8).

4.21 Foot Control PC Board Removal / Installation (Applies to units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present)

A. Removal

(1) Refer to para 4.20A (Removal - steps 1 thru 5).

(2) Disconnect three wire harnesses (1, Figure 4-28) from PC board (2).

(3) Remove four screws (3) and PC board (2) from foot control top (4).

B. Installation

(1) Install PC board (2) and secure to foot control top (4) with four screws (3).

(2) Connect three wire harnesses (1) to PC board (2).

(3) Refer to para 4.18 (Installation - steps 5 thru 8).

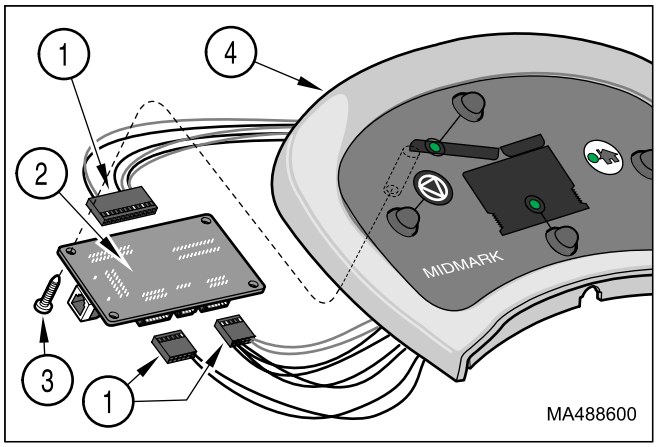

Figure 4-28. Foot Control PC Board Removal / Installation

4.22 Foot Control Cord Removal / Installation (Applies to units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present)

A. Removal

(1) Refer to para 4.20A (Removal - steps 1 thru 4).

B. Installation

(1) Refer to para 4.20A (Installation - steps 6 thru 8).

4.23 Stirrup Components Removal / Installation (Applies to units with Serial Numbers: BG1000thru BG2277 and BH1000 thru BH1271)

A. Removal

(1) Raise seat section (1, Figure 4-30) up.

(2) Pull foot rest section (2) out all the way.

(3) Pull stirrup (3) out far enough to access screw (4).

(4) Remove screw (4) and spacer (5) from stirrup (3).

(5) Pull stirrup (3) out of pivot boss (6).

B. Installation

(1) Slide stirrup (3) into pivot boss (6).

(2) Install spacer (5) and screw (4) on stirrup (3).

(3) While holding footrest lift down, push foot rest section (2) all the way in to its stowed position.

(4) Lower the seat section (1).

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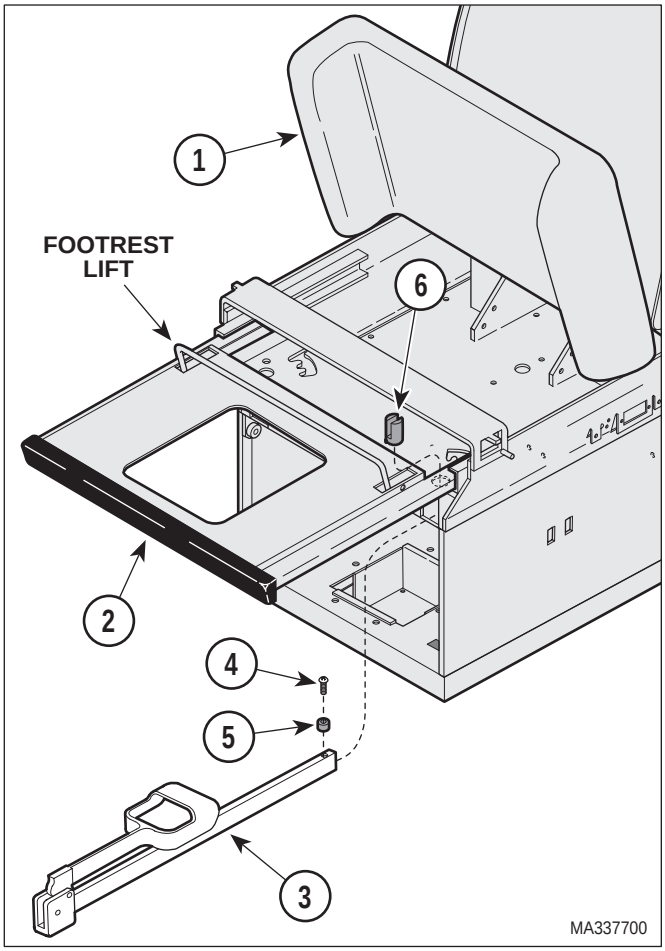

Figure 4-30. Stirrup Components Removal / Installation (early units)

4.24 Stirrup Components Removal / Installation (Applies to units with Serial Numbers: BG2278, BH1272, DK1000, DV1000, LE1000, LF1000 and LG1000 thru Present)

A. Removal

(1) Raise seat section (1, Figure 4-31) up.

(2) Pull foot rest section (2) out all the way.

(3) Pull stirrup (3) out far enough to access screw (4).

(4) Remove screw (4) from stirrup (3).

(5) Pull stirrup (3) out of pivot boss (5).

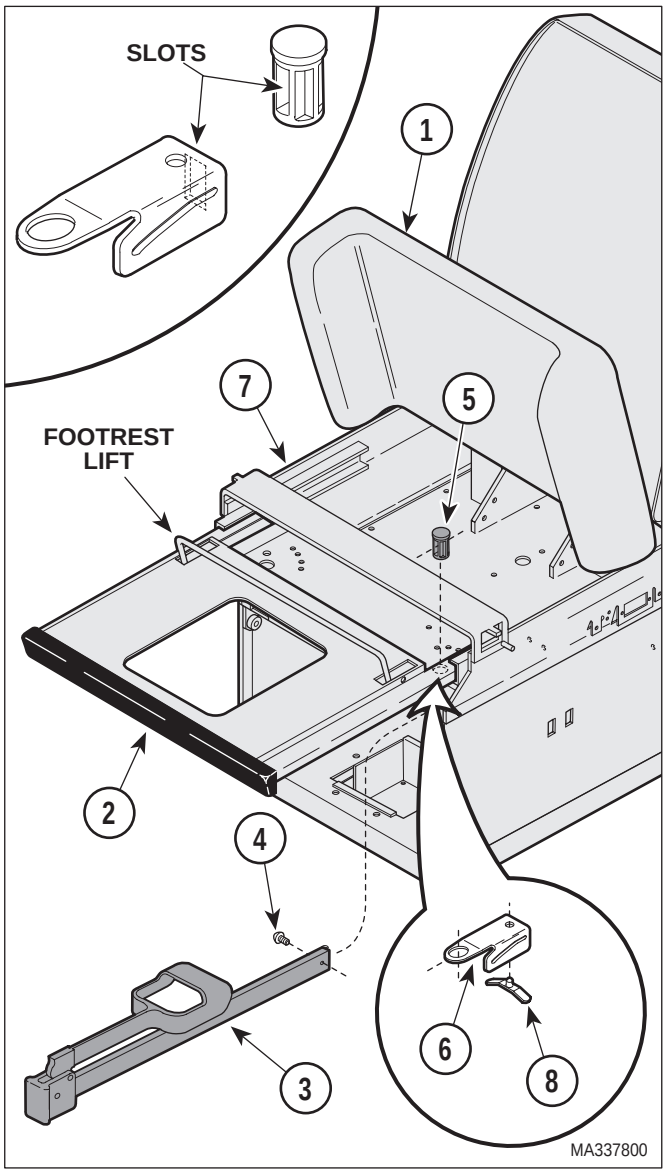

Figure 4-31. Stirrup Components Removal / Installation (later units)

(6) Remove pivot boss (5) and then guide bracket (6) from upper wrap weldment (7).

(7) If worn, remove index spring (8) from guide bracket (6).

B. Installation

(1) If removed, install index spring (8) on guide bracket (6).

(2) Install guide bracket (6) in upper wrap weldment (7) and secure with pivot boss (5).

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(3) Slide stirrup (3) thru slots in pivot boss (5) and guide bracket (6).

(4) Install screw (4) on stirrup (3).

(5) While holding footrest lift down, push foot rest section (2) all the way in to its stowed position.

(6) Lower the seat section (1).

4.25 Fuse Removal / Installation (220 VAC CE Units Only)

A. Removal

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

A. Removal

(1) Unplug the table power cord from the wall outlet.

(2) Using a flat- bladed screwdriver, rotate fuse cap(s) (1, Figure 4-32) counterclockwise and pull fuse cap(s) from fuse housing(s) (2).

(3) Pull fuse(s) (3) out of fuse cap(s) (1).

B. Installation

(1) Insert fuse(s) (3) into fuse cap(s) (1).

(2) Insert fuse cap(s) into fuse housing(s) (2); then using a flat-bladed screwdriver, gently rotate fuse cap(s) (1) clockwise until fuse cap(s) is locked into fuse housing(s).

(3) Plug table power cord into wall outlet.

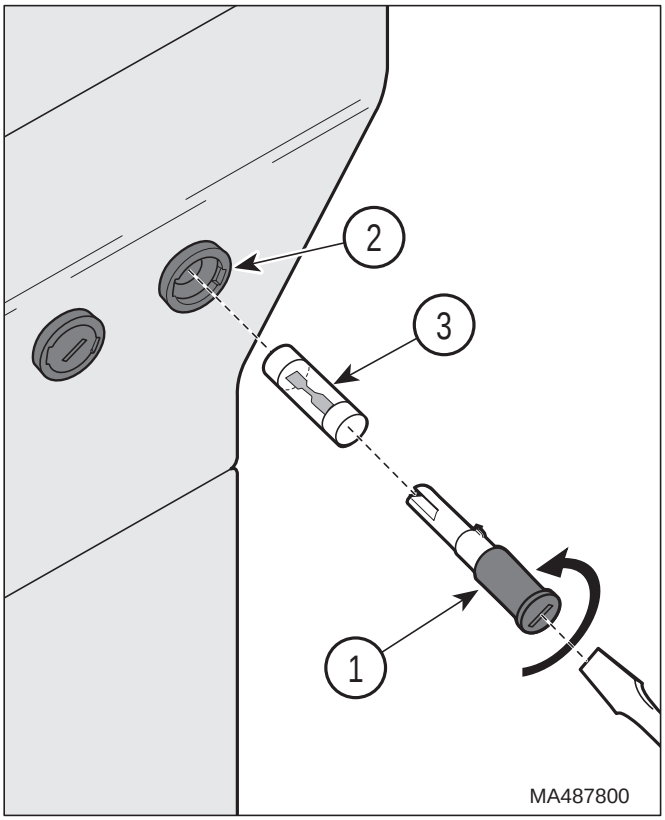

Figure 4-32. Fuse Removal / Installation (220 VAC CE units only)

4.26 Footrest Extension Removal / Installation

A. Removal

(1) Raise seat section (1, Figure 4-33) up.

(2) Pull foot rest section (2) out as far as it will go.

(3) Remove footrest pad (3) from foot rest section (2).

(4) Using fingers, press up locking snaps (4) to release foot rest section (2); then pull foot rest section out of upper wrap weldment (5).

B. Installation

(1) Press up on locking snaps (4) of foot rest section (2); then slide foot rest section into upper wrap weldment (5).

(2) Install footrest pad (3) on foot rest section (2).

(3) While holding footrest lift down, push foot rest section (2) all the way in to its stowed position.

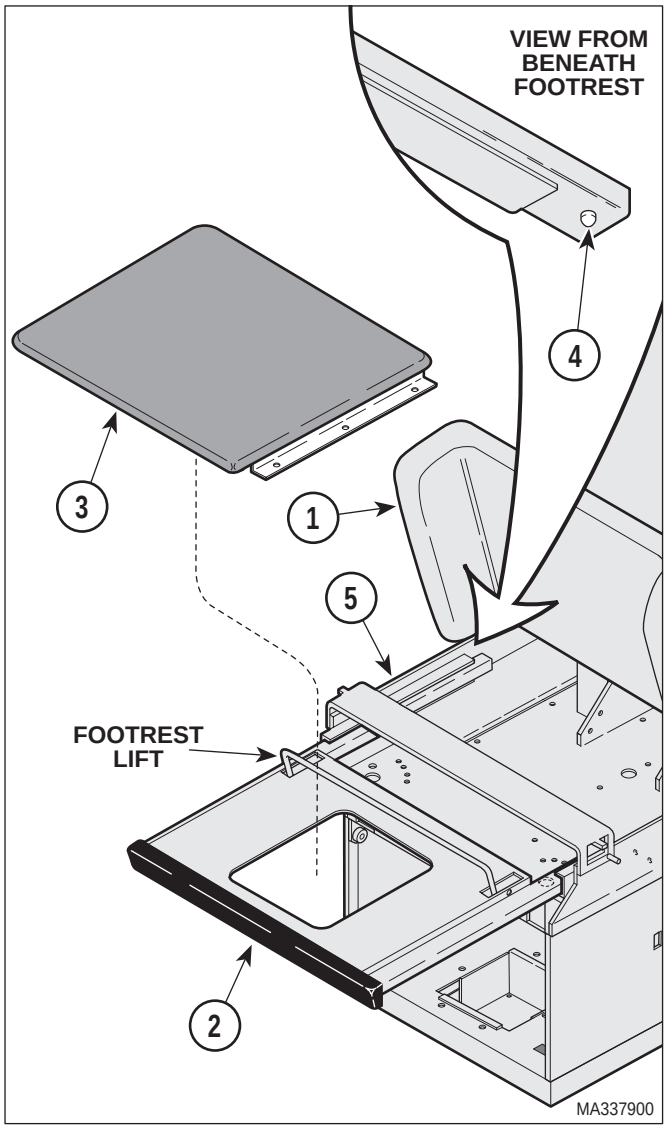

Figure 4-33. Footrest Extension Removal / Installation

4.27 Hand Control Inlet Board Removal / Installation (Applies to units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present)

A. Removal

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(1) Unplug table power cord from wall outlet.

NOTE
To access the hand control inlet board located at the head end of the table, remove the two side drawers. To access the hand control inlet board located on the side of the table, remove the two drawers from the foot end of the table.

(2) Remove two drawers (1, Figure 4-34) from table.

NOTE
The hand control inlet board located at the head end of the table does not have the disable switch enclosure (4).

(3) Remove two nuts (2) and disable switch enclosure (3) from side panel (4).

(4) Disconnect wire harness (5) from hand control inlet board (6).

(5) Remove two nuts (7), ground wire (8), two lockwashers (9) and hand control inlet board (6) from mounting studs of side panel (4).

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B. Installation

(1) Connect wire harness (5) to hand control inlet board (6).

(2) Install hand control inlet board (6), two lockwashers (9) and ground wire (8) onto mounting studs of side panel (10) and secure with two nuts (7).

(3) If necessary, install disable switch enclosure (3) and secure to side panel (4) with two nuts (2).

(4) Install two drawers (1) into table.

(5) Plug table power cord into wall outlet.

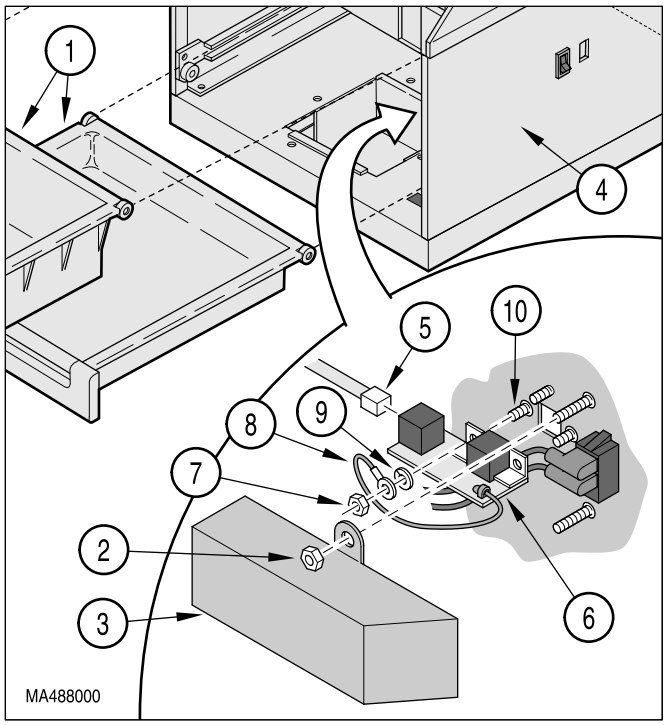

Figure 4-34. Hand Control Inlet Board Removal / Installation

4.28 Foot Control Inlet Board Removal / Installation (Applies to units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present)

A. Removal

(1) Raise TABLE UP function all the way up.

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(2) Unplug table power cord from wall outlet.

(3) Remove four screws (1, Figure 4-35) and two bellows retainer trim (2) from lower base weldment (3).

(4) Raise bellows (4) and support in the up position with a prop.

(5) Remove two screws (5); then remove foot control inlet board (6) from lower base weldment (3) by gently pulling modular cord (7).

(6) Remove screw (8), ground wire (9), lock-washer (10) and cable clamp (11) from scissor base (12).

(7) Disconnect modular cord (7) from foot control inlet board (6) and remove inlet board from lower base weldment (3).

B. Installation

(1) Secure cable clamp (11), lockwasher (10), and ground wire (9) to scissor base with screw (8).

(2) Connect modular cord (7) to foot control inlet board (6); then insert inlet board into hole in lower base weldment (3).

(3) Align mounting holes of foot control inlet board (6) with holes in lower base weldment (3) and secure with two screws (5).

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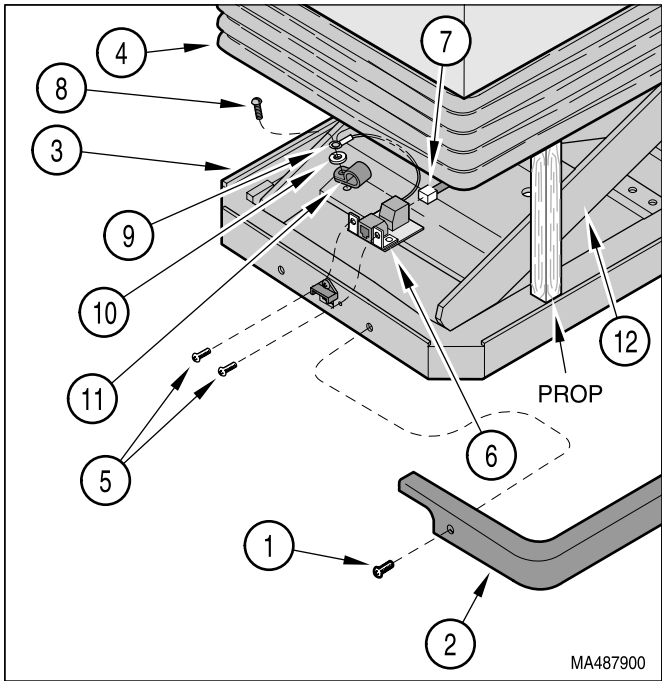


Figure 4-35. Foot Control Inlet Board Removal / Installation

(4) Remove prop and lower bellows (4).

(5) Slide two bellows retainer trim (2) over the bottom of bellows (4). Secure bellows retainer trim (2) to lower base weldment (3) with four screws (1).

(6) Plug table power cord into wall outlet.

4.29 Bypass of Malfunctioning Base Capacitor

A. Insertion of Bypass Wires

WARNING
Always unplug the power cord from the wall outlet before removing any of the table's shrouds/covers or making any repairs to prevent the possibility of electrical shock. Failure to comply with these instructions could result in severe personal injury or death.

(1) Unplug table power cord from wall outlet.

(2) Remove two drawers (1, Figure 4-36) from foot end of table.

(3) Remove six screws (2), cover plate (3), and gasket (4) from upper base weldment (5).

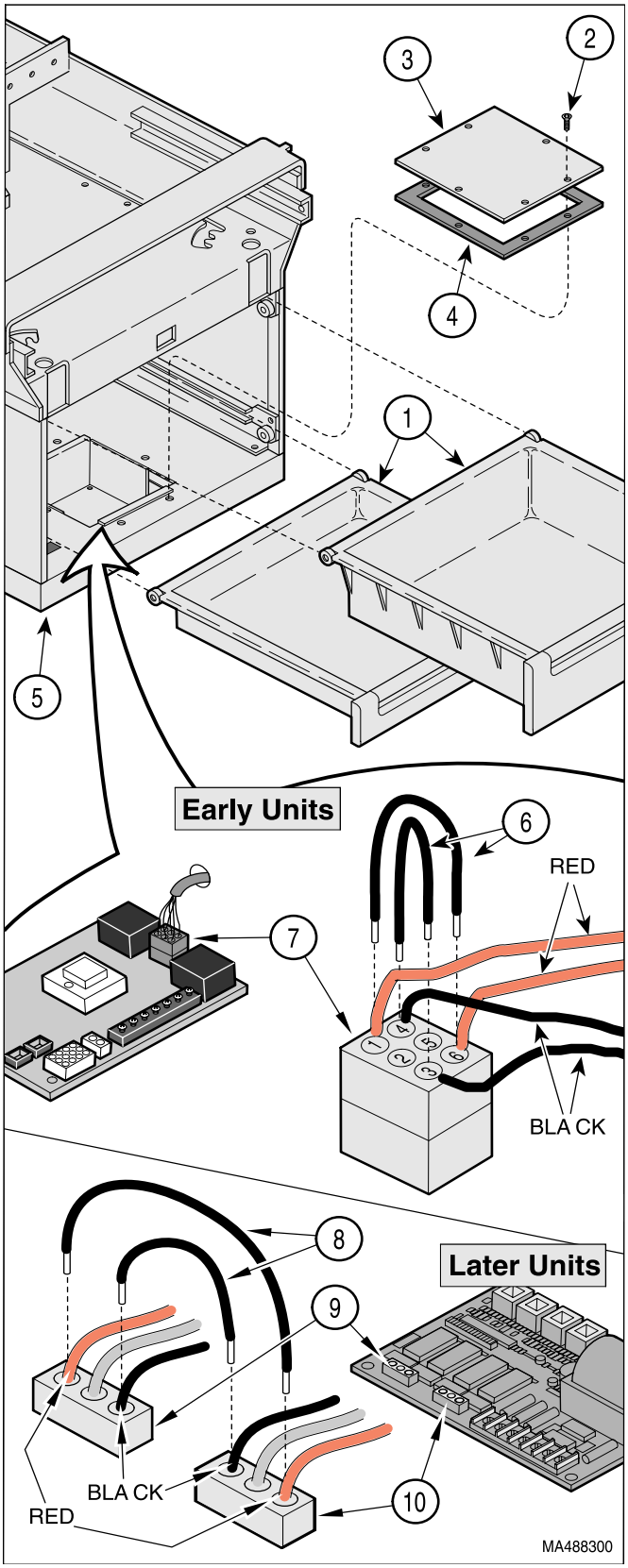


Figure 4-36. Bypass of Malfunctioning Base Capacitor

NOTE
Step 4 applies to early units with Serial Numbers: BG1000, BH1000, DK1000 and DV1000 thru Present only. For later units, go to step 5.

(4) Using two wires (6) approximately 6 inches (15.2 cm) in length with bare lead ends, jump from terminal #1 (red wire) to terminal #6 (red wire) and also from terminal #4 (black) to terminal #3 (black) of connector (7); then go to step 6.

NOTE
Step 5 applies to later units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present only.

(5) Using two wires (8) approximately 6 inches (15.2 cm) in length with bare lead ends, jump from terminal #1 (red wire) of base motor connector (9), to terminal #3 (red wire) of back motor connector (10) and also from terminal #3 (black wire) of base motor connector (9), to terminal #1 (black wire) of back motor connector (10); then go to step 6.

(6) Plug table power cord into wall outlet.

(7) Run TABLE UP function all the way up.

B. Removal of Bypass Wires

(1) Unplug table power cord from wall outlet.

NOTE
Step 2 applies to early units with Serial Numbers: BG1000, BH1000, DK1000 and DV1000 thru Present only. For later units, go to step 3.

(2) Remove bypass wires (6) from connector (7); then go to step 4.

NOTE
Step 3 applies to later units with Serial Numbers: LE1000, LF1000 and LG1000 thru Present only.

(3) Remove bypass wires (8) from base motor connector (9) and back motor connector (10); then go to step 4.

EQUIPMENT ALERT
Make sure gasket is sealing properly. Failure to do so could result in contaminants, especially liquids, dripping onto PC control board and damaging it.

(4) Install gasket (4) and cover plate (3) on upper base weldment (5) and secure with six screws (2).

(5) Install two drawers (1) in table.

SECTION V
SCHEMATICS AND DIAGRAMS

5.1 Electrical Schematics / Wiring Diagrams

Figure 5-1 illustrates the logic/current flow and wiring connections between the electrical components in the 100 VAC table, Figure 5-2 for the 120 VAC tables, and Figure 5-3 for the 220 VAC tables.

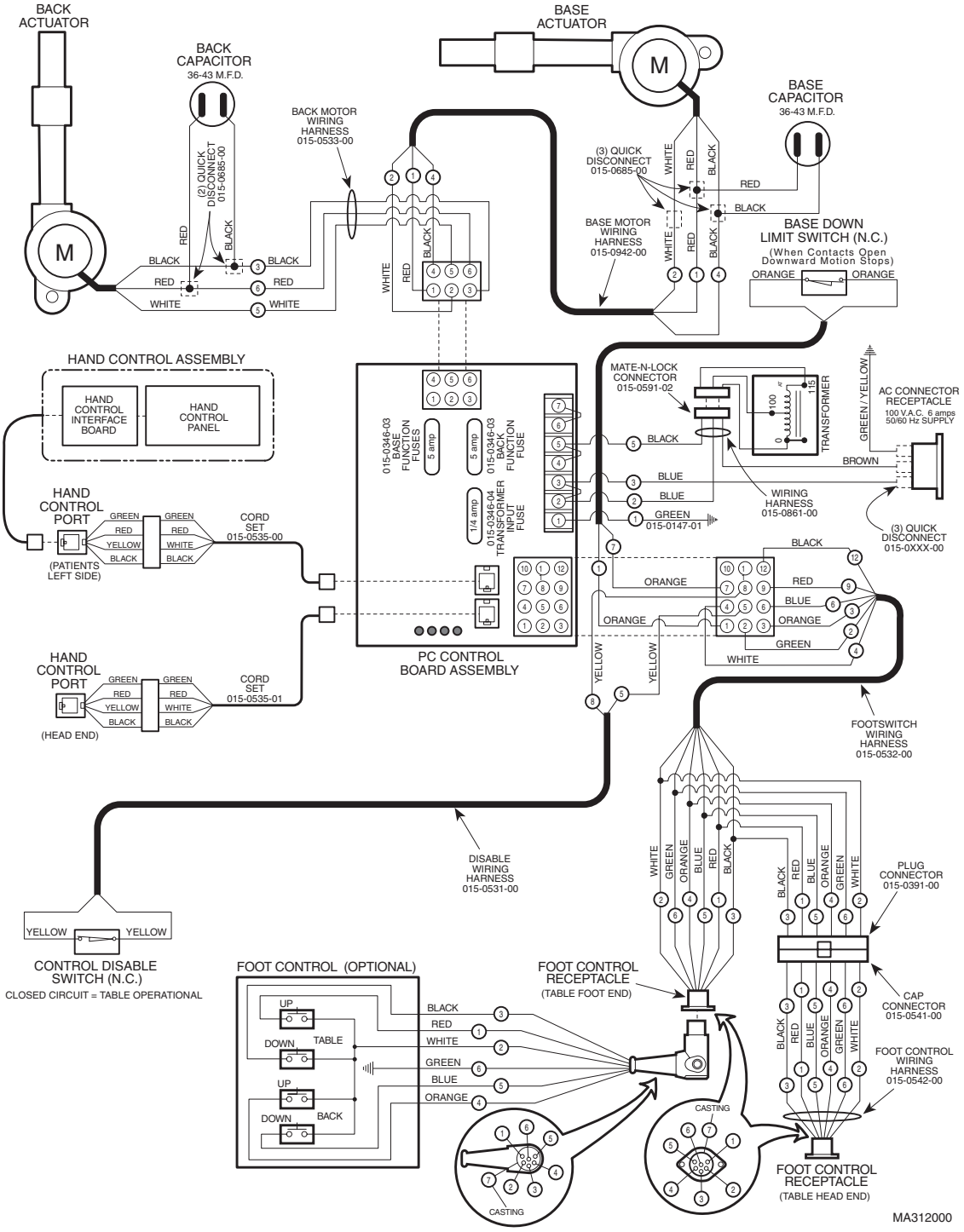


Figure 5-1. 100 VAC Units Electrical Schematic / Wiring Diagram

SECTION V
SCHEMATICS AND DIAGRAMS

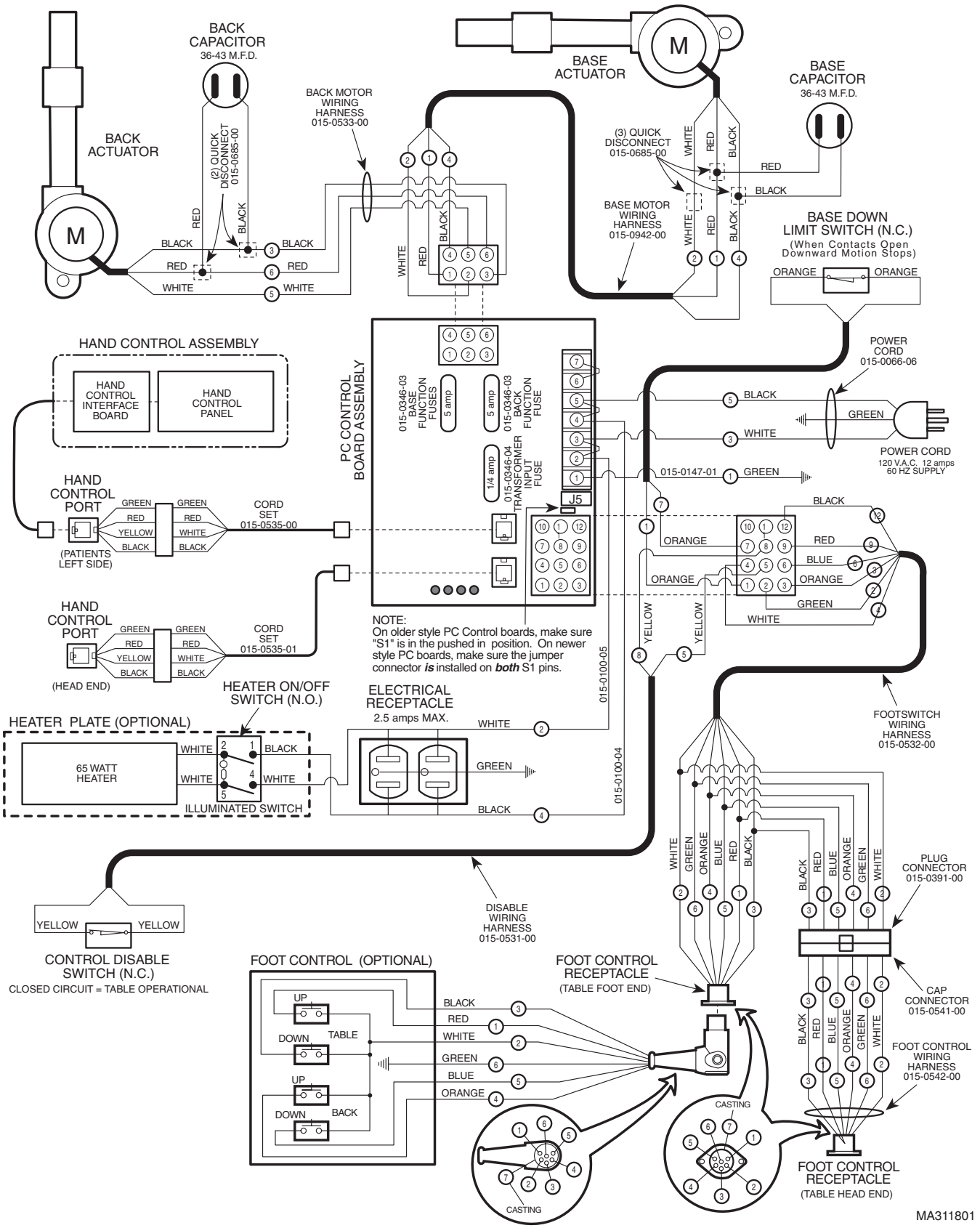


Figure 5-2. Wiring Diagram (Used on 120 VAC Units with Serial Numbers BG-1000 and BH-1000 thru Present)

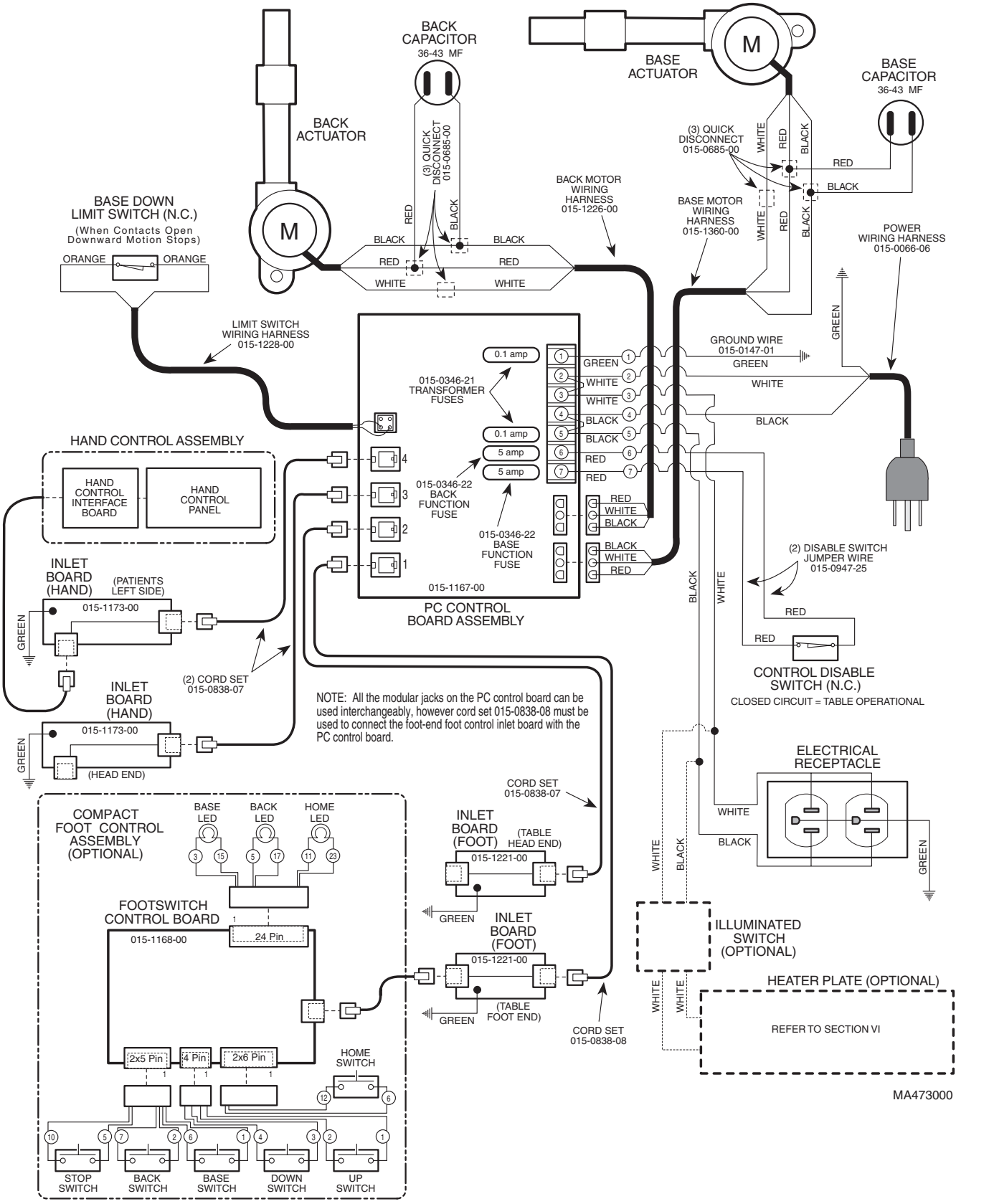


Figure 5-3. Wiring Diagram (Used on 120 VAC Units with Serial Numbers LF-1000 and LG-1000 thru Present)

SECTION V
SCHEMATICS AND DIAGRAMS

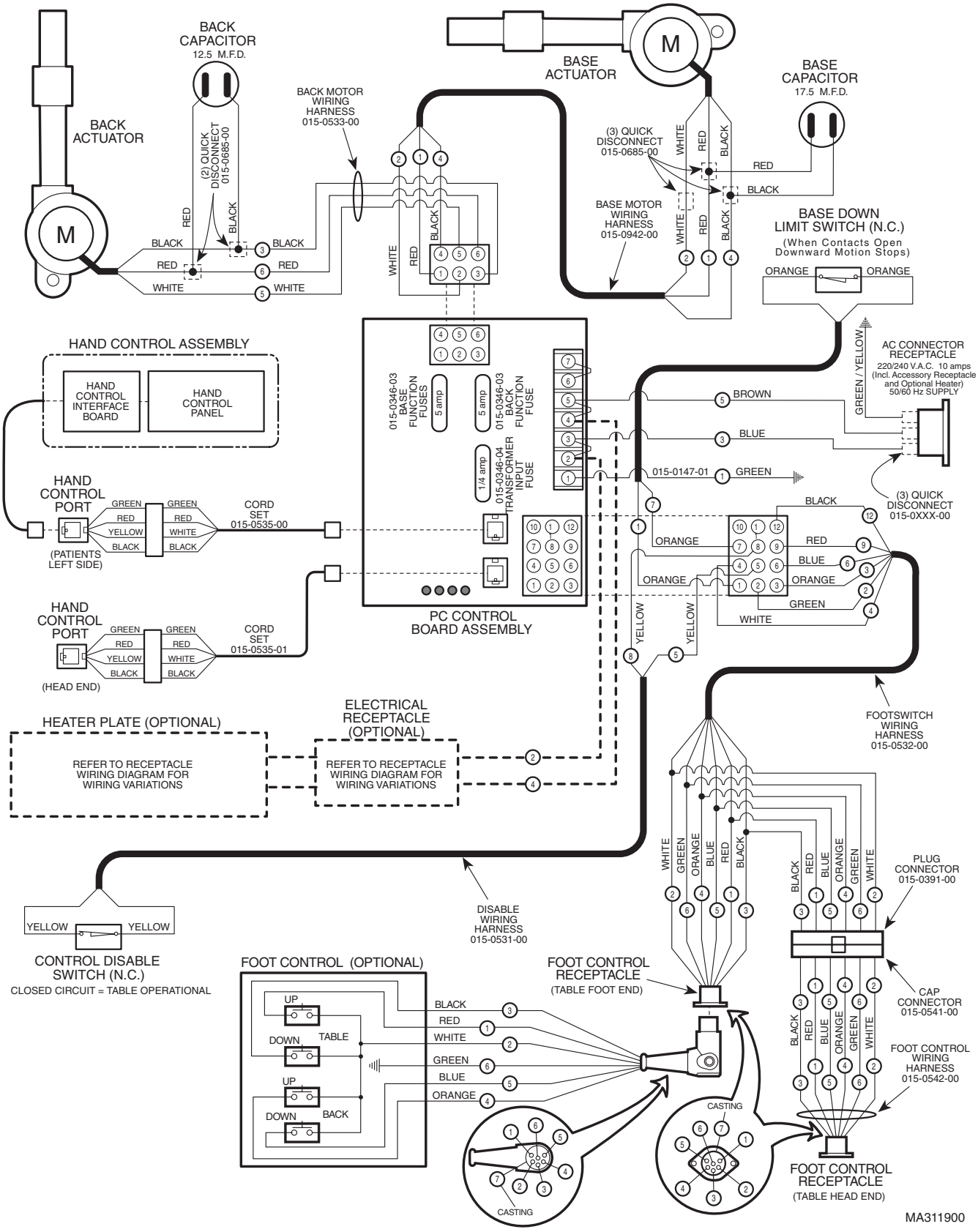


Figure 5-4. Wiring Diagram (Used on 220 VAC Units with Serial Numbers DK-1000 thru Present)

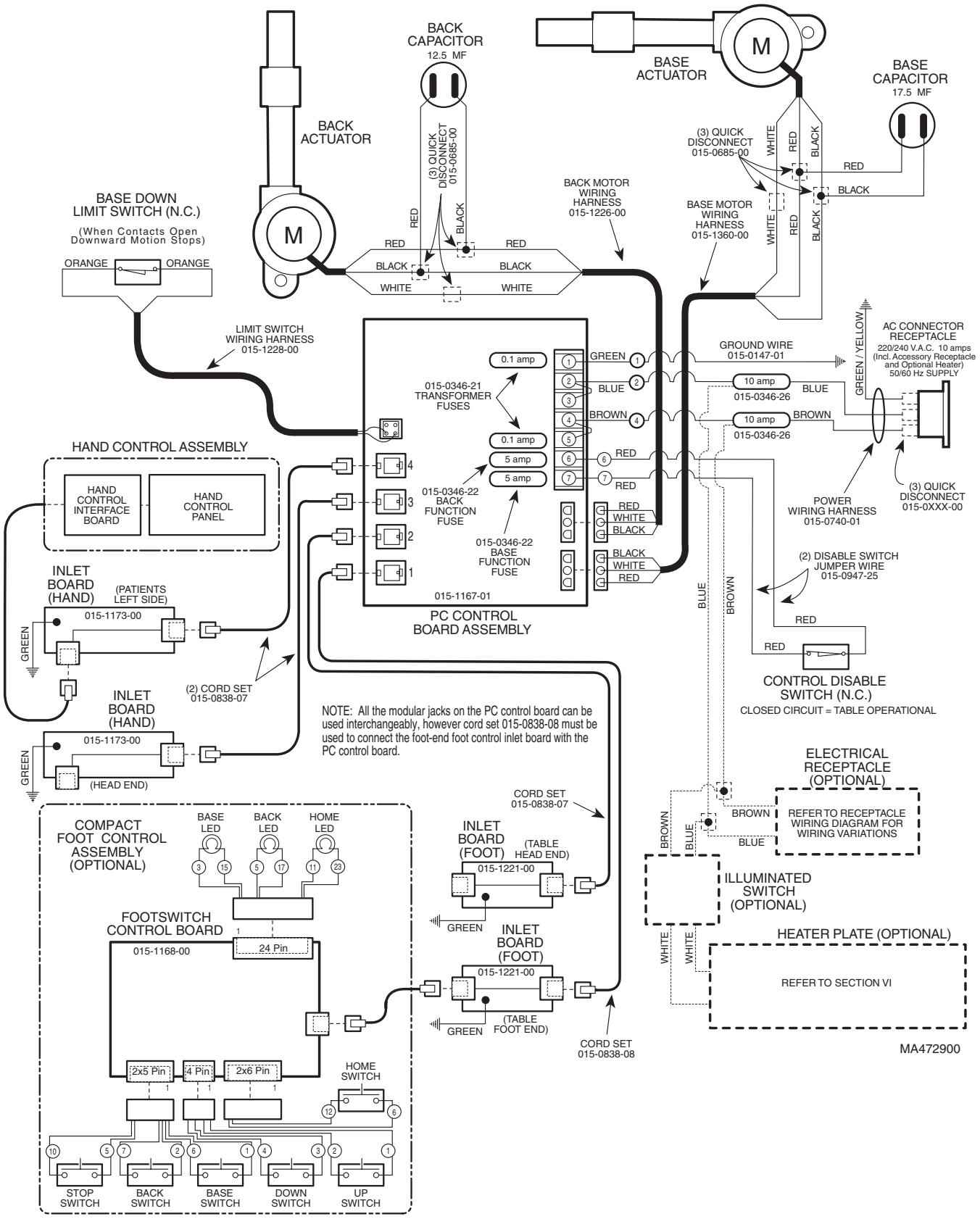
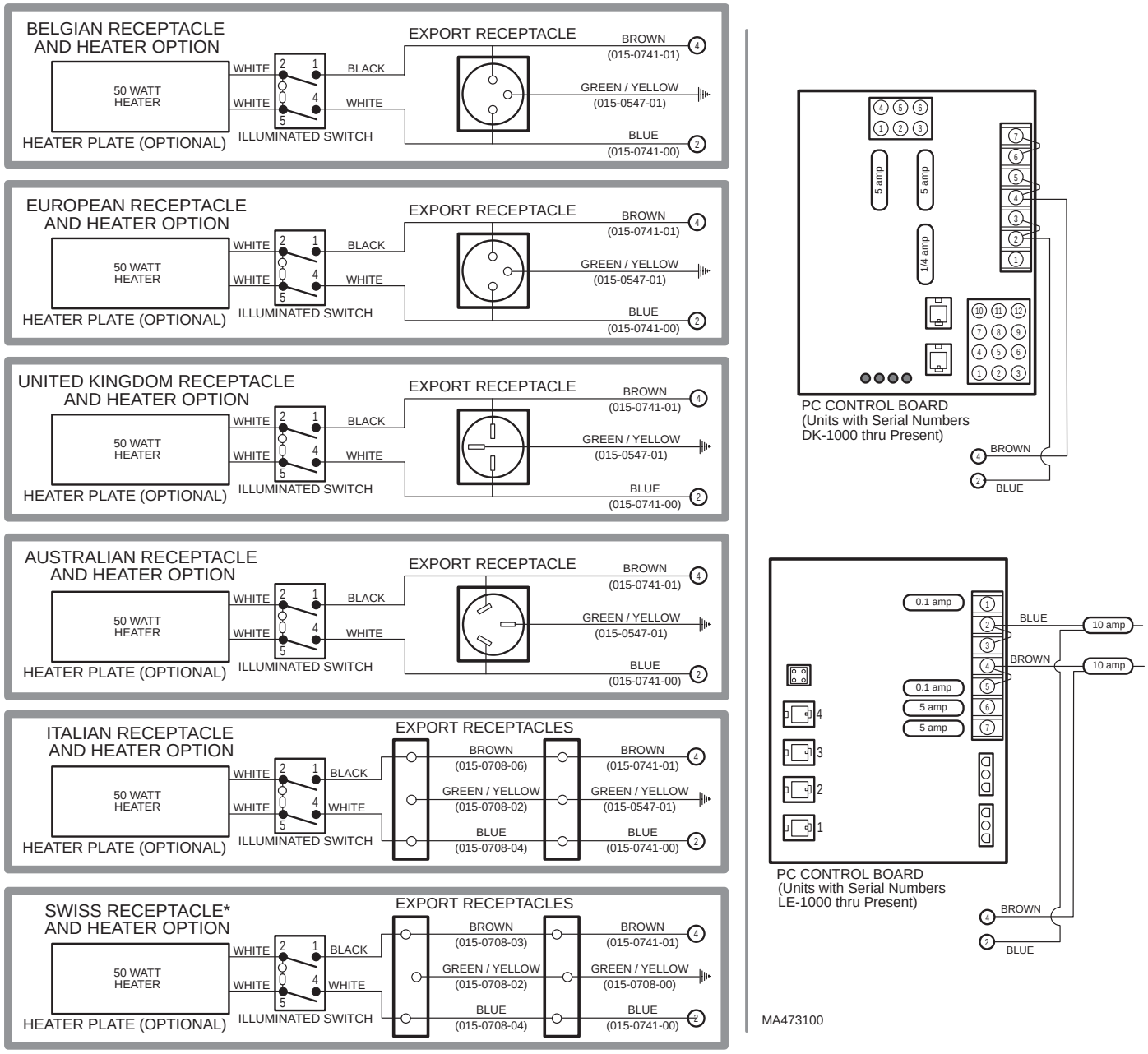


Figure 5-5. Wiring Diagram (Used on 220 VAC Units with Serial Numbers LE-1000 thru Present)

SECTION V
SCHEMATICS AND DIAGRAMS



* Note: The Swiss Receptacle is only available on units with Serial Numbers DK-1000 thru Present.

Figure 5-6. 220 VAC Units Wiring Diagram / Optional Heater and Receptacle

5.2 Diagnostic L.E.D. Charts

Table 5-1 can be used to troubleshoot the table thru diagnosis of a function's L.E.D. status. The first column lists each function that may be selected by an operator. The second column lists which L.E.D's will illuminate, when a particular function is selected when the unit is functioning properly.

Table 5-1. Diagnostic L.E.D. Chart for Units with Serial Numbers LE-1000 LF-1000 and LG-1000 thru Present

Selected Function Button	L.E.D's Which Should Be Illuminated When Function Is Selected
Hand Control	
BASE UP button	base up relay L.E.D.
BASE DOWN button	base down relay L.E.D.
BACK UP button	back up relay L.E.D.
BACK DOWN button	back down relay L.E.D.
AUTO RETURN button	base down relay L.E.D.
STOP button	none
Foot Control	
BASE switch then UP pedal	base up relay L.E.D.
BASE switch then DOWN pedal	base down relay L.E.D.
BACK switch then UP pedal	back up relay L.E.D.
BACK switch then DOWN pedal	back down relay L.E.D.
AUTO RETURN switch then DOWN pedal	base down relay L.E.D.
STOP switch	none

Table 5-2. Diagnostic L.E.D. Chart for Units with Serial Numbers BG-1000, BH-1000 DK-1000 and DV-1000 thru Present

Selected Function Button	L.E.D's Which Should Be Illuminated When Function Is Selected
Hand Control	
BASE UP button	data line #1 L.E.D. / data line #3 L.E.D. / base up relay L.E.D.
BASE DOWN button	data line #2 L.E.D. / data line #3 L.E.D. / base down relay L.E.D.
BACK UP button	data line #1 L.E.D. / back up relay L.E.D.
BACK DOWN button	data line #2 L.E.D. / back down relay L.E.D.
AUTO RETURN button	data line #3 L.E.D. / auto return base function L.E.D. / base down relay L.E.D.
STOP button	data line #1 L.E.D. / data line #2 L.E.D. / data line #3 L.E.D.
Foot Control	
BASE UP foot pedal	foot control base up L.E.D. / base up relay L.E.D.
BASE DOWN foot pedal	foot control base down L.E.D. / base down relay L.E.D.
BACK UP foot pedal	foot control back up L.E.D. / back up relay L.E.D.
BACK DOWN foot pedal	foot control back down L.E.D. / back down relay L.E.D.

NOTE: All amber L.E.D's stay illuminated only as long as their function button is depressed. The green auto return base function L.E.D remains illuminated until the base actuator has reached its limit and its limit switch has become tripped.

See following page for description of each L.E.D's meaning when illuminated.

SECTION V
SCHEMATICS AND DIAGRAMS

Description of each L.E.D's meaning when illuminated

(All units as applicable. See Figures 5-7 and 5-8 for L.E.D. locations.)

- The **back up relay L.E.D.** illuminates to indicate that the PC control board is energizing the back up relay.
- The **back down relay L.E.D.** illuminates to indicate that the PC control board is energizing the back down relay.
- The **base up relay L.E.D.** illuminates to indicate that the PC control board is energizing the base up relay.
- The **base down relay L.E.D.** illuminates to indicate that the PC control board is energizing the base down relay.
- The **foot control back up L.E.D.** illuminates to indicate that the PC control board is receiving a good signal from the back up foot switch.
- The **foot control back down L.E.D**. illuminates to indicate that the PC control board is receiving a good signal from the back down foot switch.
- The **foot control base up L.E.D.** illuminates to indicate that the PC control board is receiving a good signal from the base up foot switch.
- The **foot control base down L.E.D.** illuminates to indicate that the PC control board is receiving a good signal from the base down foot switch.
- The **auto return back function L.E.D.** is not used on this table.
- The **auto return base function L.E.D.** illuminates to indicate that the auto return circuit for the base function is activated. The L.E.D. stays illuminated until the base function has completed its portion of the auto return cycle.
- There are three Data Line L.E.D.'s; **data line #1 L.E.D.**, **data line #2 L.E.D.**, and **data line #3 L.E.D.**. Different combinations of these L.E.D's illuminate to indicate if the proper input signal is being sent to the PC control board from the membrane panels or hand control.

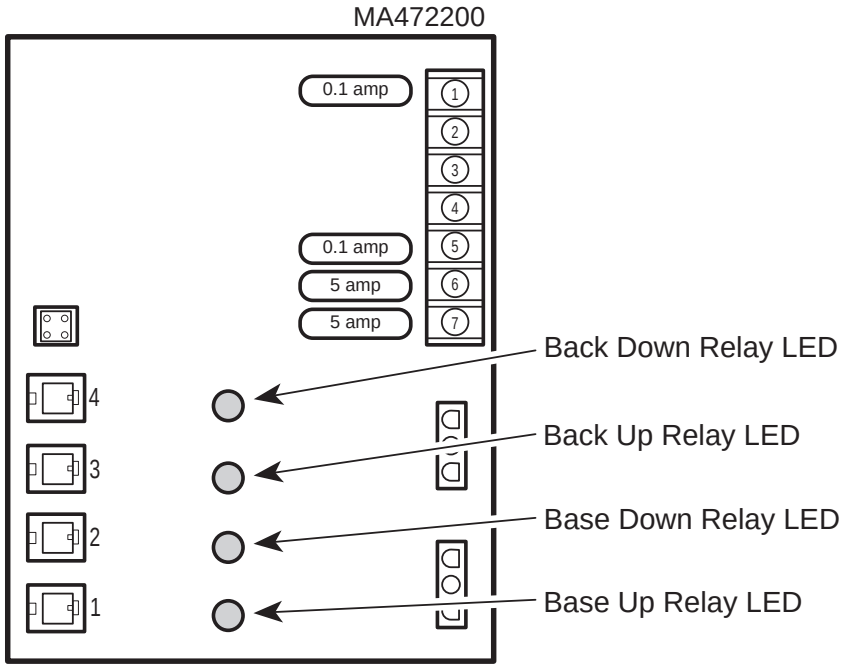


Figure 5-7. PC Control Board Diagnostoc L.E.D. Locations for Units with Serial Numbers LE-1000 LF-1000 and LG-1000 thru Present

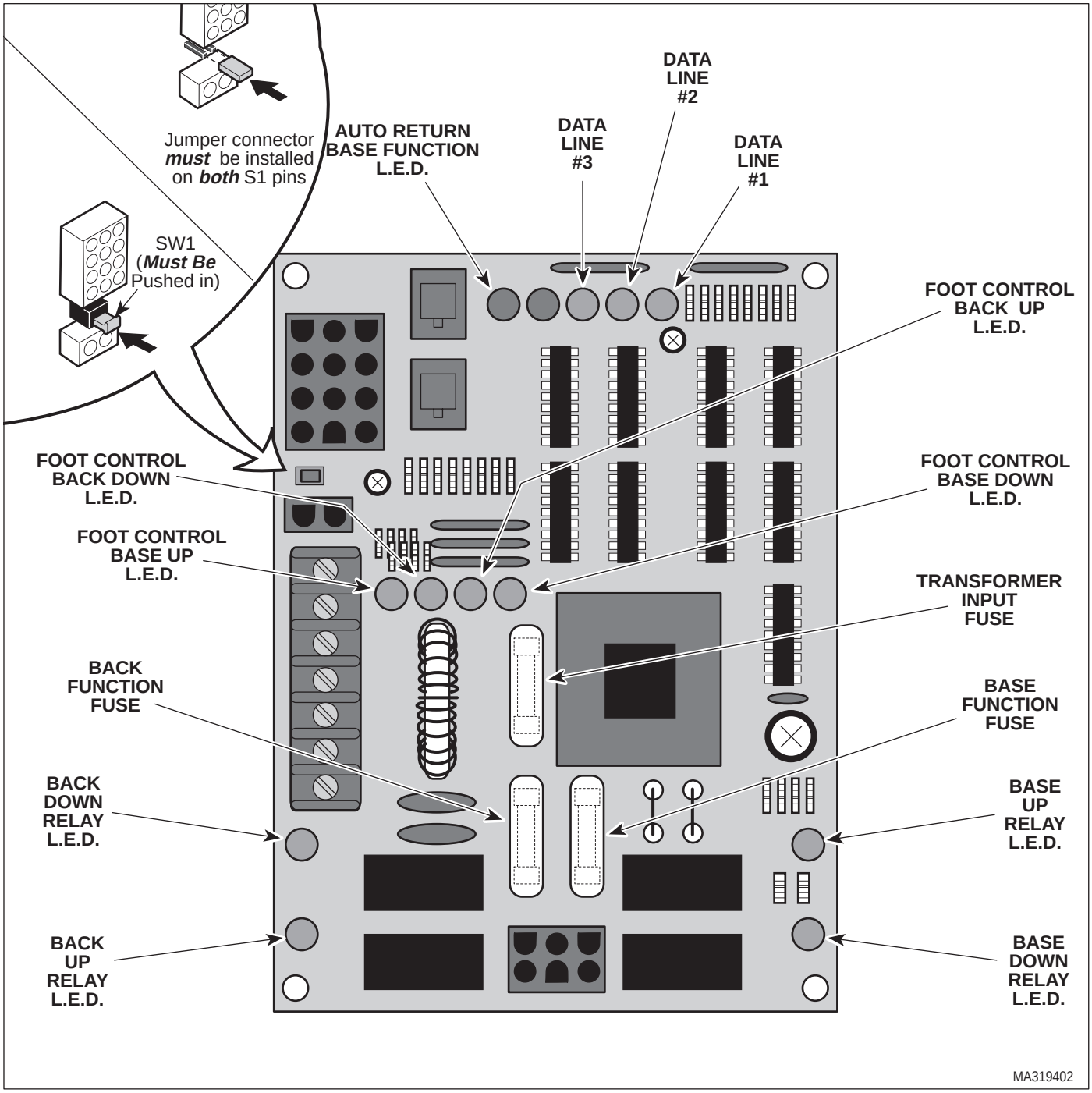


Figure 5-8. PC Control Board Diagnostoc L.E.D. Locations for Units with Serial Numbers BG-1000 BH-1000, DK-1000 and DV-1000 thru Present

Return To Table Of Contents

SECTION V
SCHEMATICS AND DIAGRAMS

SECTION VI
PARTS LIST

6.1 Introduction

The illustrated parts list provides information for identifying and ordering the parts necessary to maintain the unit in peak operating condition. Refer to paragraph 1.5 for parts ordering information.

The parts list also illustrates disassembly and assembly relationships of parts.

6.2 Description of Columns

The *Item* column of the parts list gives a component its own unique number. The same number is given to the component in the parts illustration. This allows a part number of a component to be found if the technician can visually spot the part on the illustration. The technician simply finds the component in question on the illustration and notes the item number of that component. Then, he finds that item number in the parts list. The row corresponding to the item number gives the technician the part number, a description of the component, and quantity of parts per subassembly. Also, if a part number is known, the location of that component can be determined by looking for the item number of the component on the illustration.

The *Part No.* column lists the MIDMARK part number for that component.

The *Description* column provides a physical description of the component.

The *Qty.* column lists the number of units of a particular component that is required for the subassembly. The letters “AR” denote “as required” when quantities of a particular component cannot be determined, such as: adhesive.

Bullets { • } in the *Part No.* column and the *Description* column show the indenture level of a component. If a component does not have a bullet, it is a main component of that illustration. If a component has a bullet, it is a subcomponent of the next component listed higher in the parts list than itself that does not have a bullet. Likewise, if a component has two bullets, it is a subcomponent of the next component listed higher in the parts list than itself that has only one bullet.

6.3 Torque Specifications and Important Assembly Notes

When specific assembly torque specifications, measurements, or procedures have been identified, by our engineering department, as required to assure proper function of the unit, those torque specifications measurements, and procedures will be noted on the parts illustrations. Adherence to these requirements is essential.

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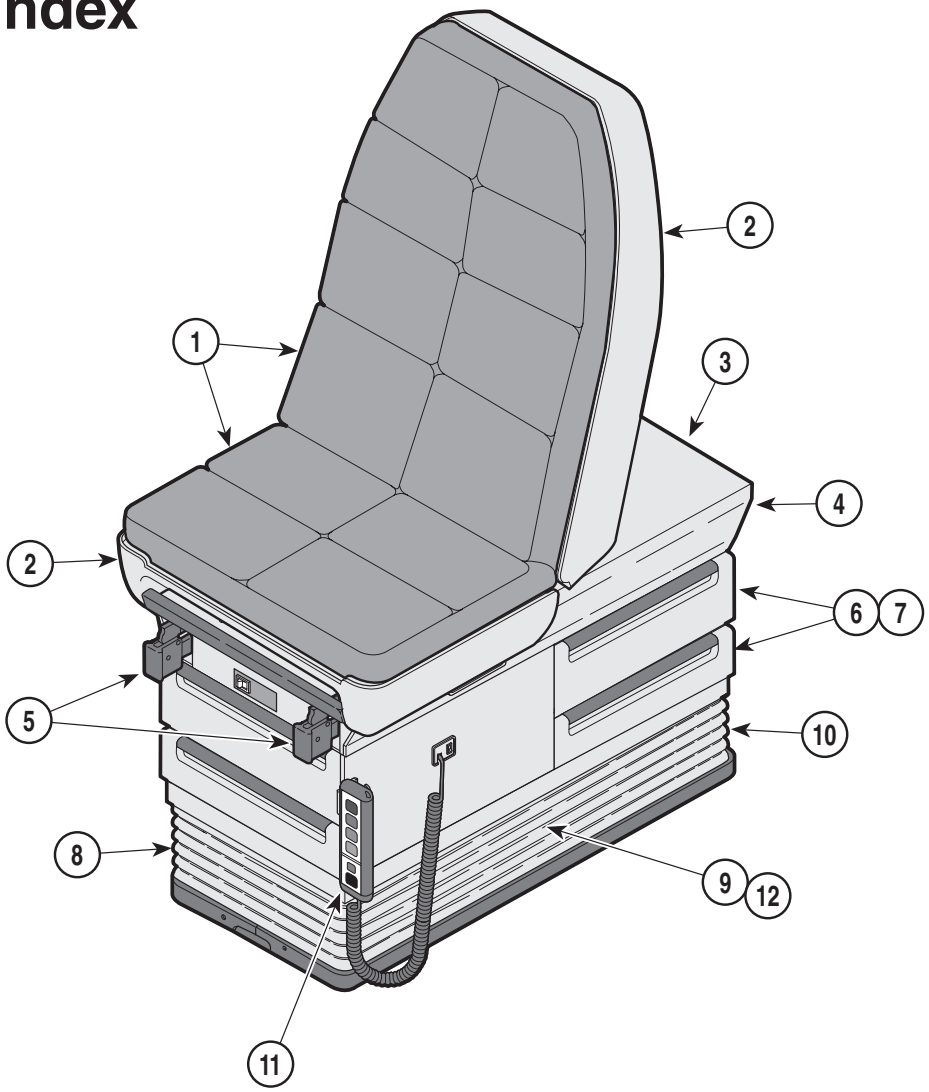
Pictorial Index



MA310300

Used On Units With Serial Number BG-1000 Thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Page
	405-001	405 Power Examination Table - R.H. (with Upholstery, w/o Heater)	Ref
	405-002	405 Power Examination Table - L.H. (with Upholstery, w/o Heater{Shown})	Ref
	405-005	405 Power Examination Table - R.H. (w/o Upholstery-w/o Heater)	Ref
	405-006	405 Power Examination Table - L.H. (w/o Upholstery-w/o Heater)	Ref
1	•	• Upholstery Components	6-3
2	•	• Table Top Components	6-4
3	••	•• Back Actuator Assembly	6-5
4	•	• Upper Wrap Components	6-6.*
5	••	•• Stirrup Assembly	6-7.*
6	•	• Cabinet Components	6-8.*
7	••	•• Drawers	6-9
8	•	• Base Components	6-10.*
9	••	•• Base Actuator Assembly	6-11
10	•	• Upper Base Electrical Components - Domestic	6-12.*
11	••	•• Hand Control	6-15
	••	•• Hand Control	6-15.1
12	•	• Lower Base Electrical Components - Domestic	6-16

Item	Part No.	Description	Page
		OPTIONAL ACCESSORIES	
		Refer to MEDICAL ACCESSORY BOOK {004-0096-00}	
13	9A04001	Procto Rest Assembly	9A04
14	9A74002	Knee Crutch Set (BG1000 thru BG2277)	9A74
15	9A88002	Restraint Strap Package	9A88
16	9A89001	Footswitch Assembly	9A89
17	9A90003	Armboard Assembly	9A90
18	9A91002	Welch Allyn Bracket	9A91
19	9A109001	Heater Assembly (BG1000 thru BG2277)	9A109
	9A109002	Heater Assembly (BG2278 thru Present)	9A109
20	9A140002	Knee Crutch Set (BG2278 thru Present)	9A140
21	9A15200X	Packaged Cordset Assembly	9A152
22	9A190002	Paper Roll Bracket	9A190
23	9A207002	Knee Crutch Set (BG2278 thru Present)	9A207

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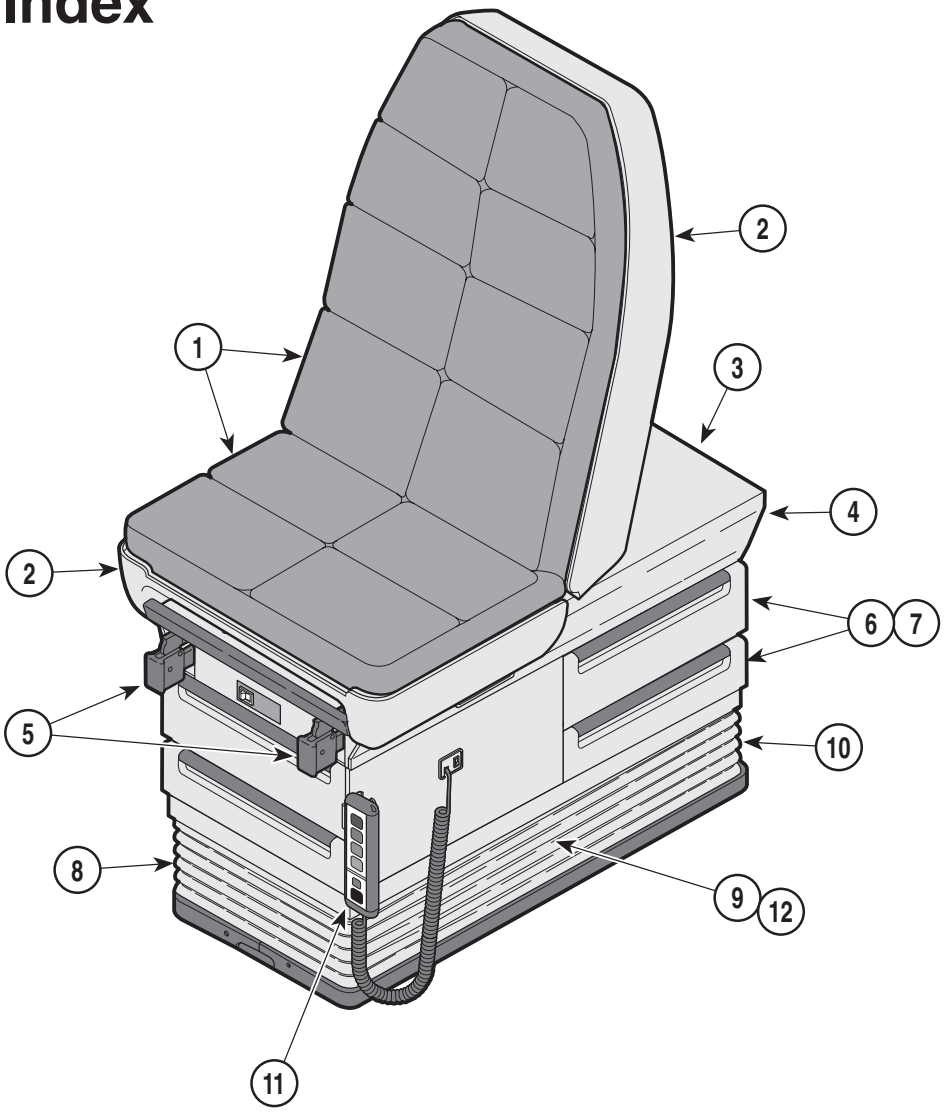

MA310300

Used On Units With Serial Number BH-1000 Thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Page
	405-003	405 Power Examination Table - R.H. (with Upholstery, with Heater)	Ref
	405-004	405 Power Examination Table - L.H. (with Upholstery, with Heater{Shown})	Ref
	405-007	405 Power Examination Table - R.H. (w/o Upholstery-with Heater)	Ref
	405-008	405 Power Examination Table - L.H. (w/o Upholstery-with Heater)	Ref
1	•	• Upholstery Components	6-3
2	•	• Table Top Components	6-4
3	••	•• Back Actuator Assembly	6-5
4	•	• Upper Wrap Components	6-6.*
5	••	•• Stirrup Assembly	6-7.*
6	•	• Cabinet Components	6-8.*
7	••	•• Drawers	6-9
8	•	• Base Components	6-10.*
9	••	•• Base Actuator Assembly	6-11
10	•	• Upper Base Electrical Components - Domestic	6-12
11	••	•• Hand Control	6-15.*
12	•	• Lower Base Electrical Components - Domestic	6-16

Item	Part No.	Description	Page
		OPTIONAL ACCESSORIES	
		Refer to MEDICAL ACCESSORY BOOK {004-0096-00}	
13	9A04001	Procto Rest Assembly	9A04
14	9A74002	Knee Crutch Set (BH1000 thru BH1271)	9A74
15	9A88002	Restraint Strap Package	9A88
16	9A89001	Footswitch Assembly	9A89
17	9A90003	Armboard Assembly	9A90
18	9A91002	Welch Allyn Bracket	9A91
19	9A109001	Heater Assembly (BH1290 thru BH2277)	9A109
	9A109002	Heater Assembly (BH2278 thru Present)	9A109
20	9A140002	Knee Crutch Set (BH1272 thru Present)	9A140
21	9A15200X	Packaged Cordset Assembly	9A152
22	9A190002	Paper Roll Bracket	9A190
23	9A207002	Knee Crutch Set (BH1272 thru Present)	9A207

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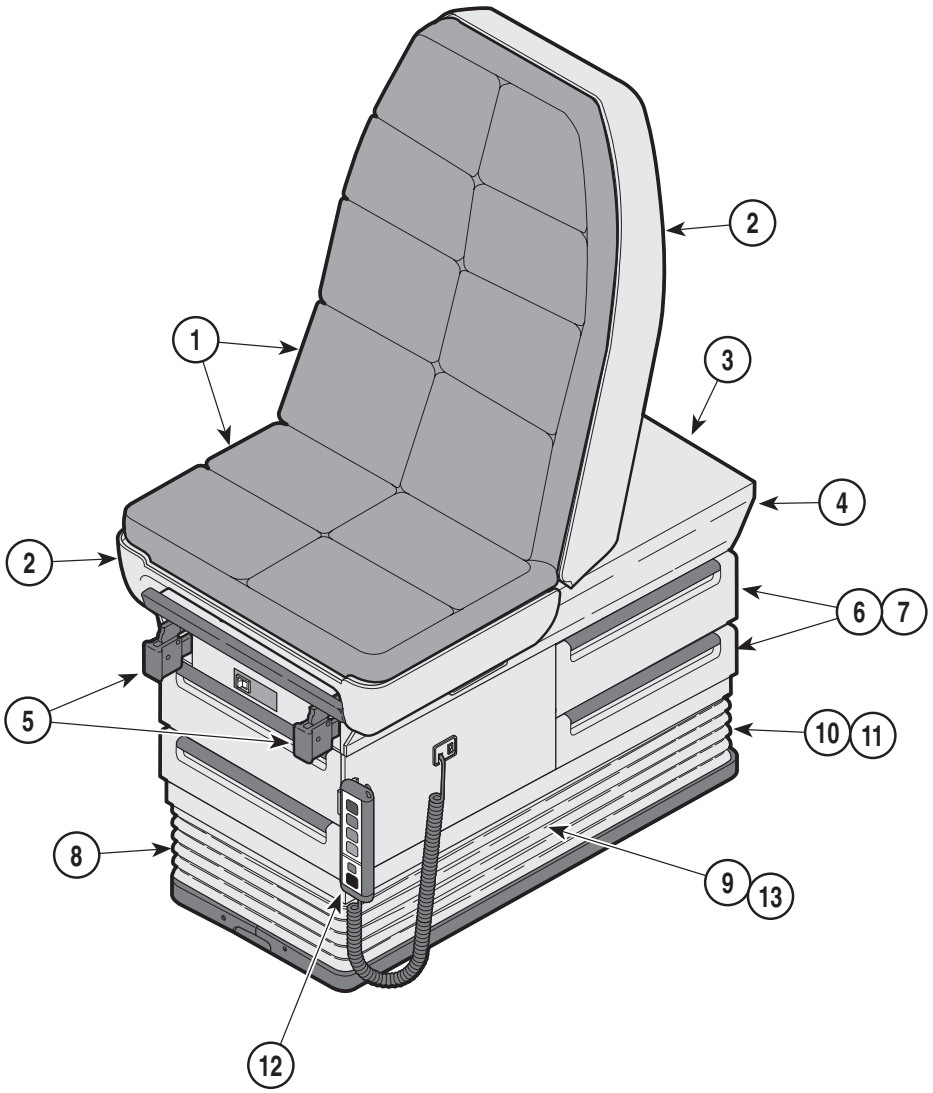

MA310301

Used On Units With Serial Number DK-1000 Thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Page
	405-009	405 Power Examination Table - R.H. (230 volt Export)	Ref
	405-010	405 Power Examination Table - L.H. (230 volt Export {Shown})	Ref
1	•	• Upholstery Components	6-3
2	•	• Table Top Components	6-4
	•	• Table Top Components	6-4.1
3	••	•• Back Actuator Assembly	6-5
4	•	• Upper Wrap Components	6-6.3
	•	• Upper Wrap Components	6-6.4
5	••	•• Stirrup Assembly	6-7.1
	••	•• Stirrup Assembly	6-7.2
6	•	• Cabinet Components	6-8.1
	•	• Cabinet Components	6-8.2
7	••	•• Drawers	6-9
8	•	• Base Components	6-10
	•	• Base Components	6-10.1
	•	• Base Components	6-10.2
9	••	•• Base Actuator Assembly	6-11
10	•	• Upper Base Electrical Components - Export	6-13
11	••	•• Receptacle Assembly	6-14
12	••	•• Hand Control	6-15
	••	•• Hand Control	6-15.1
13	•	• Lower Base Electrical Components - Export	6-17
		OPTIONAL ACCESSORIES	
		Refer to MEDICAL ACCESSORY BOOK {004-0096-00}	
14	9A04001	Procto Rest Assembly	9A04
15	9A88002	Restraint Strap Package	9A88
16	9A89001	Footswitch Assembly	9A89
17	9A90003	Armboard Assembly	9A90
18	9A91002	Welch Allyn Bracket	9A91
19	9A10900X	Heater Assembly	9A109
20	9A140002	Knee Crutch Set	9A140
21	9A15200X	Packaged Cordset Assembly	9A152
22	9A190002	Paper Roll Bracket	9A190
23	9A207002	Knee Crutch Set	9A207

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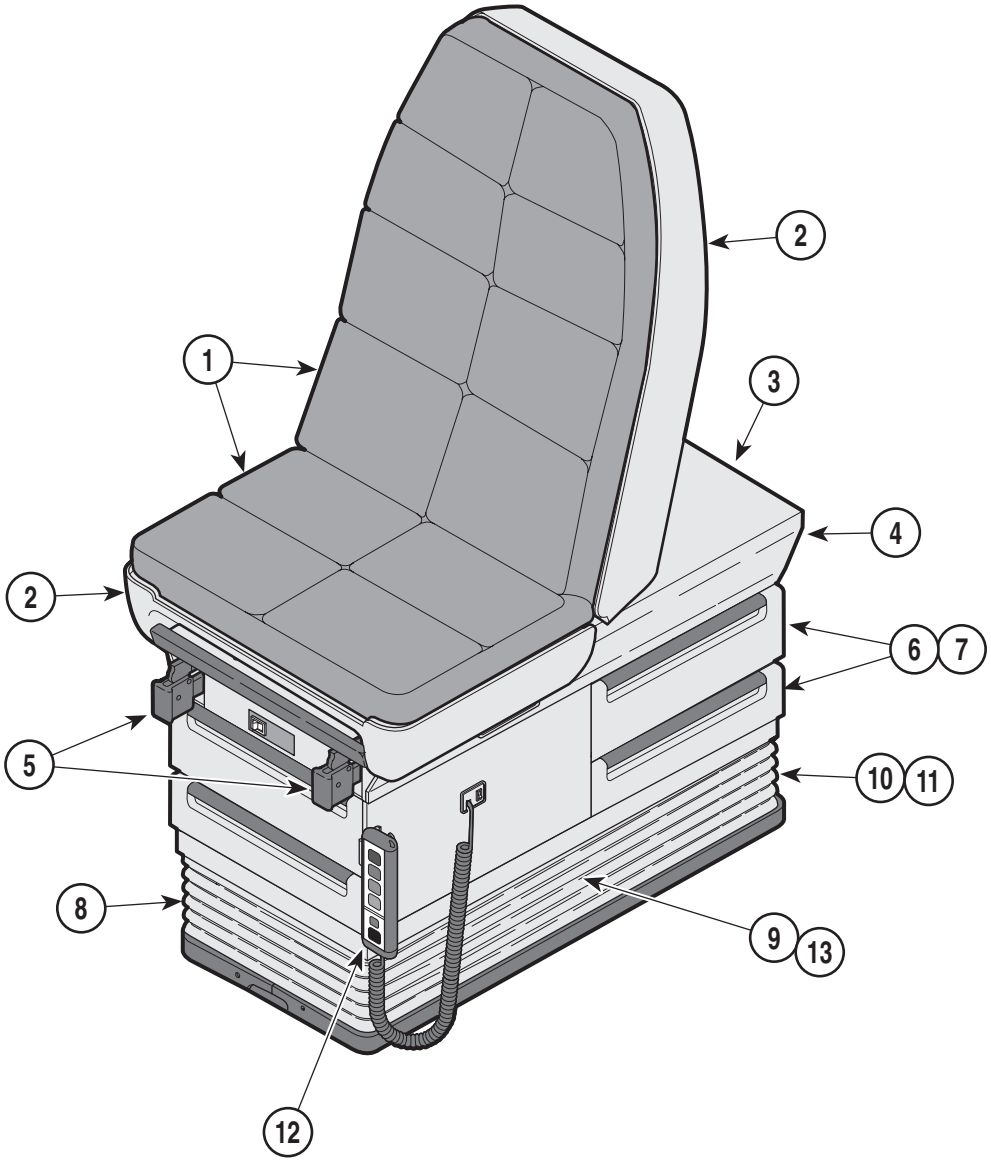

MA310301

Used On Units With Serial Number DV-1000 Thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Page
	405-011	405 Power Examination Table - R.H. (100 volt Export)	Ref
	405-012	405 Power Examination Table - L.H. (100 volt Export {Shown})	Ref
1	•	• Upholstery Components	6-3
2	•	• Table Top Components	6-4.1
3	••	•• Back Actuator Assembly	6-5
4	•	• Upper Wrap Components	6-6.4
5	••	•• Stirrup Assembly	6-7.2
6	•	• Cabinet Components	6-8.2
7	••	•• Drawers	6-9
8	•	• Base Components	6-10.2
9	••	•• Base Actuator Assembly	6-11
10	•	• Upper Base Electrical Components - Export	6-13
11	••	•• Receptacle Assembly	6-14
12	••	•• Hand Control	6-15.1
13	•	• Lower Base Electrical Components - Export	6-17
		OPTIONAL ACCESSORIES	
		Refer to MEDICAL ACCESSORY BOOK {004-0096-00}	
14	9A04001	Procto Rest Assembly	9A04
15	9A88002	Restraint Strap Package	9A88
16	9A89001	Footswitch Assembly	9A89
17	9A90003	Armboard Assembly	9A90
18	9A91002	Welch Allyn Bracket	9A91
19	9A10900X	Heater Assembly	9A109
20	9A140002	Knee Crutch Set	9A140
21	9A15200X	Packaged Cordset Assembly	9A152
22	9A190002	Paper Roll Bracket	9A190
23	9A207002	Knee Crutch Set	9A207

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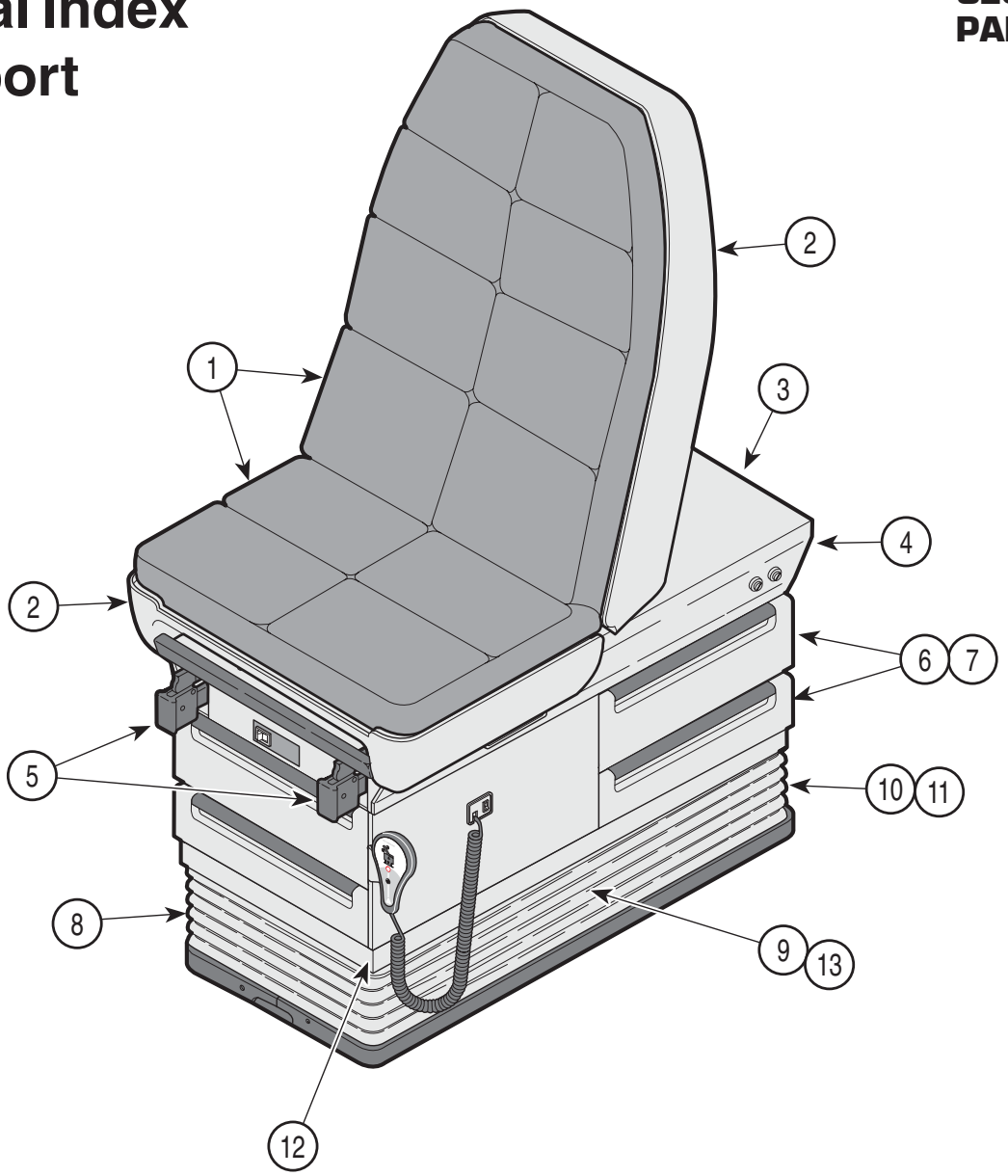
Pictorial Index
CE Export



MA462400

Used On Units With Serial Number LE-1000 Thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Page
	405-013	405 Power Examination Table - R.H. (230 volt CE Export)	Ref
	405-014	405 Power Examination Table - L.H. (230 volt CE Export {Shown})	Ref
1	•	• Upholstery Components	6-3
2	•	• Table Top Components	6-4.2
3	••	•• Back Actuator Assembly	6-5
4	•	• Upper Wrap Components	6-6.5
5	••	•• Stirrup Assembly	6-7.2
6	•	• Cabinet Components	6-8.3
7	••	•• Drawers	6-9
8	•	• Base Components	6-10.2
9	••	•• Base Actuator Assembly	6-11
10	•	• Upper Base Electrical Components	6-13.1
11	••	•• Receptacle Assembly	6-14.1
12	••	•• Hand Control	6-15.2
13	•	• Lower Base Electrical Components	6-17
		OPTIONAL ACCESSORIES	
		Refer to MEDICAL ACCESSORY BOOK {004-0096-00}	
14	9A04001	Procto Rest Assembly	9A04
15	9A70000	Stainless Steel Treatment Pan	6-6.5
16	9A88002	Restraint Strap Package	9A88
17	9A90003	Armboard Assembly	9A90
18	9A91002	Welch Allyn Bracket	9A91
19	9A101001	Colposcope Mount	9A101
20	9A104001	Urology Drain Pan	9A104
21	9A10900X	Heater Assembly	9A109
22	9A140002	Knee Crutch Set	9A140
23	9A207002	Knee Crutch Set	9A207
24	9A239001	Foot Control	9A239

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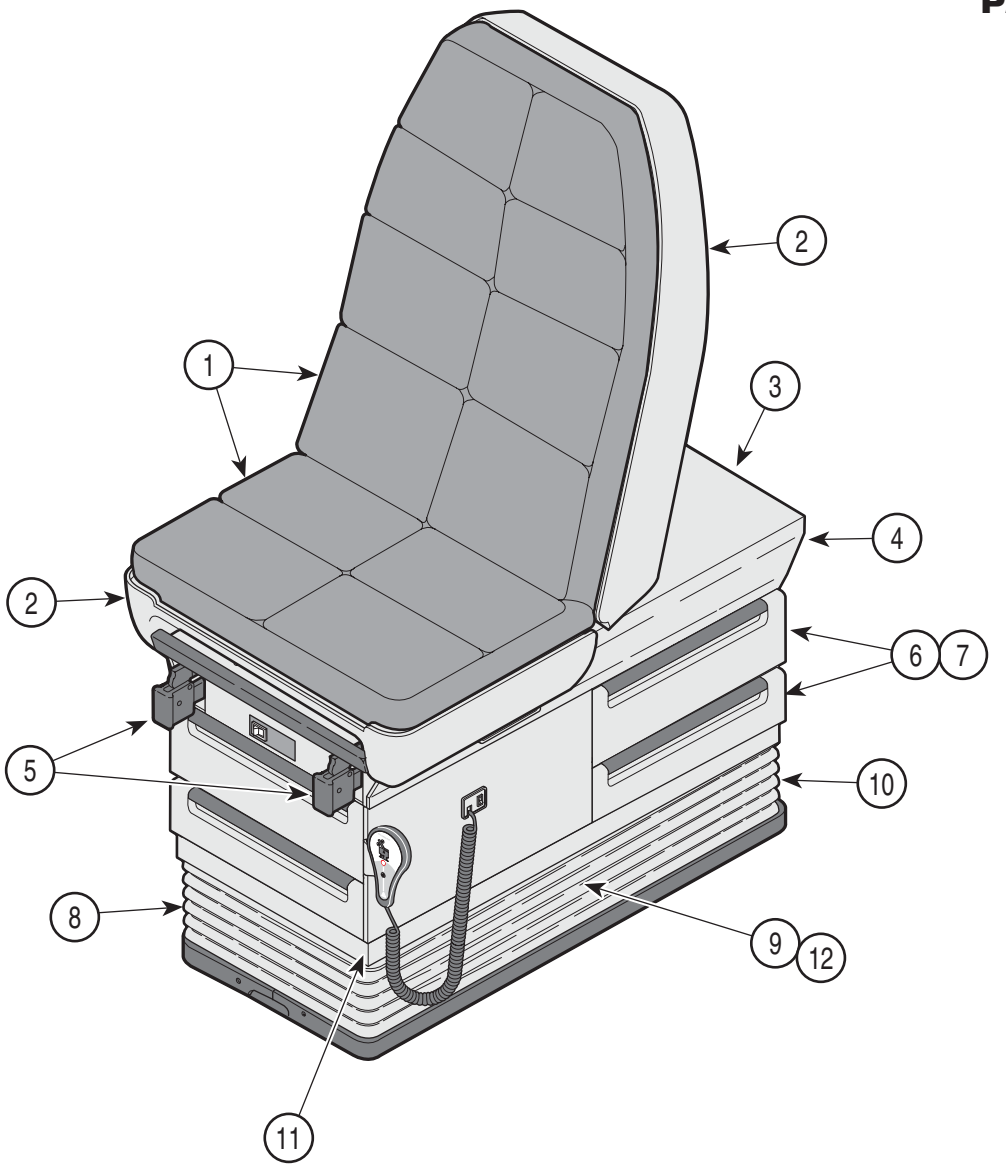

MA462402

Used On Units With Serial Number LF-1000 and LG-1000 Thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Page
	405-015	405 Power Examination Table - R.H. (Domestic/ no heater)	Ref
	405-016	405 Power Examination Table - L.H. (Domestic/ no heater)	Ref
	405-017	405 Power Examination Table - R.H. (Domestic w/ heater)	Ref
	405-018	405 Power Examination Table - L.H. (Domestic w/ heater)	Ref
1	•	• Upholstery Components	6-3
2	•	• Table Top Components	6-4.2
3	••	•• Back Actuator Assembly	6-5
4	•	• Upper Wrap Components	6-6.5
5	••	•• Stirrup Assembly	6-7.2
6	•	• Cabinet Components	6-8.3
7	••	•• Drawers	6-9
8	•	• Base Components	6-10.2
9	••	•• Base Actuator Assembly	6-11
10	•	• Upper Base Electrical Comp.	6-12.3
11	••	•• Hand Control	6-15.2
12	•	• Lower Base Electrical Components	6-17
		OPTIONAL ACCESSORIES	
		Refer to MEDICAL ACCESSORY BOOK {004-0096-00}	
13	9A04001	Procto Rest Assembly	9A04
14	9A70000	Stainless Steel Treatment Pan	6-6.5
15	9A88002	Restraint Strap Package	9A88
16	9A90003	Armboard Assembly	9A90
17	9A91002	Welch Allyn Bracket	9A91
18	9A101001	Colposcope Mount	9A101
19	9A104001	Urology Drain Pan	9A104
20	9A10900X	Heater Assembly	9A109
21	9A140002	Knee Crutch Set	9A140
22	9A207002	Knee Crutch Set	9A207
23	9A239001	Foot Control	9A239

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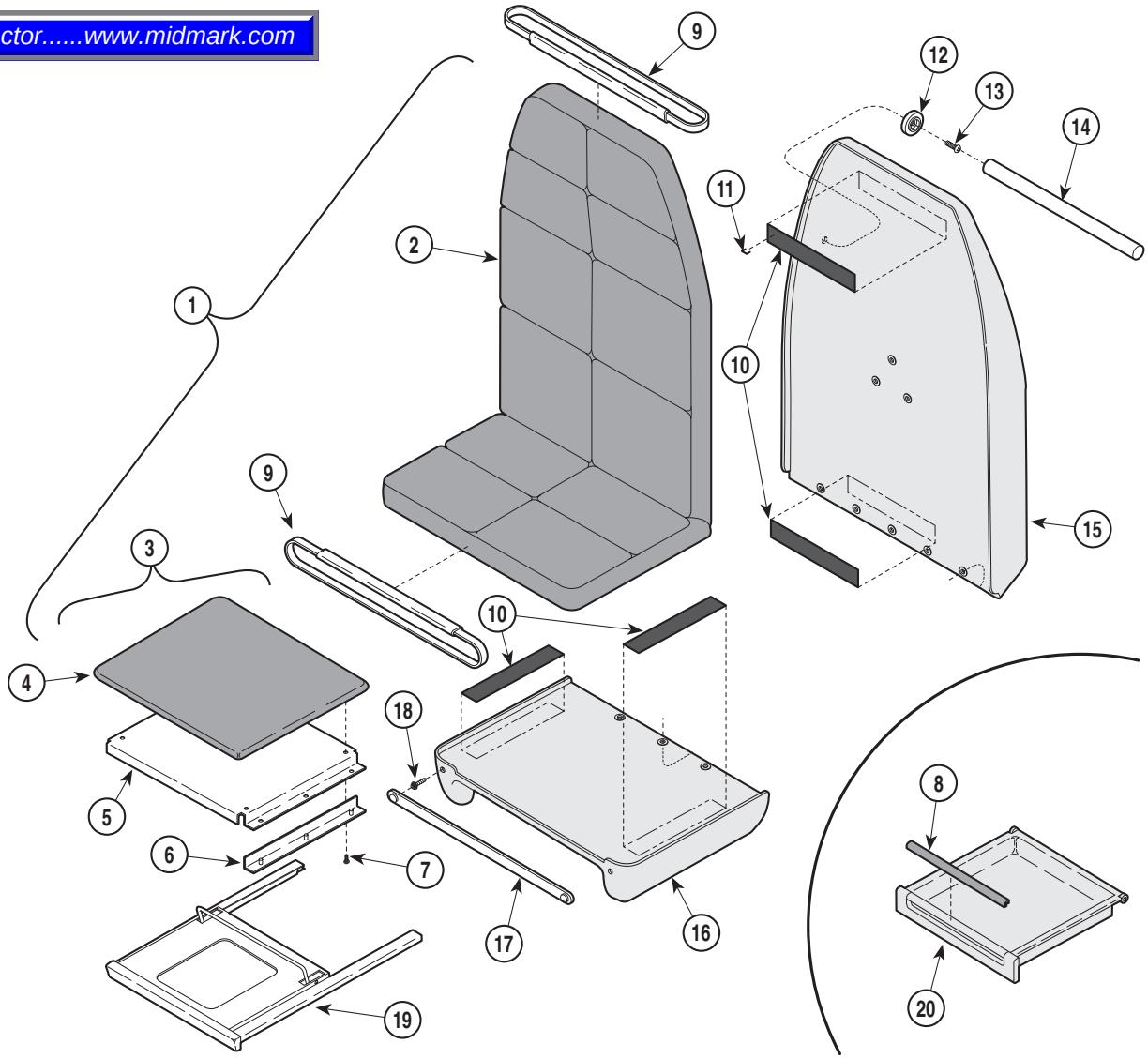
Upholstery Components

Color Selector.....www.midmark.com



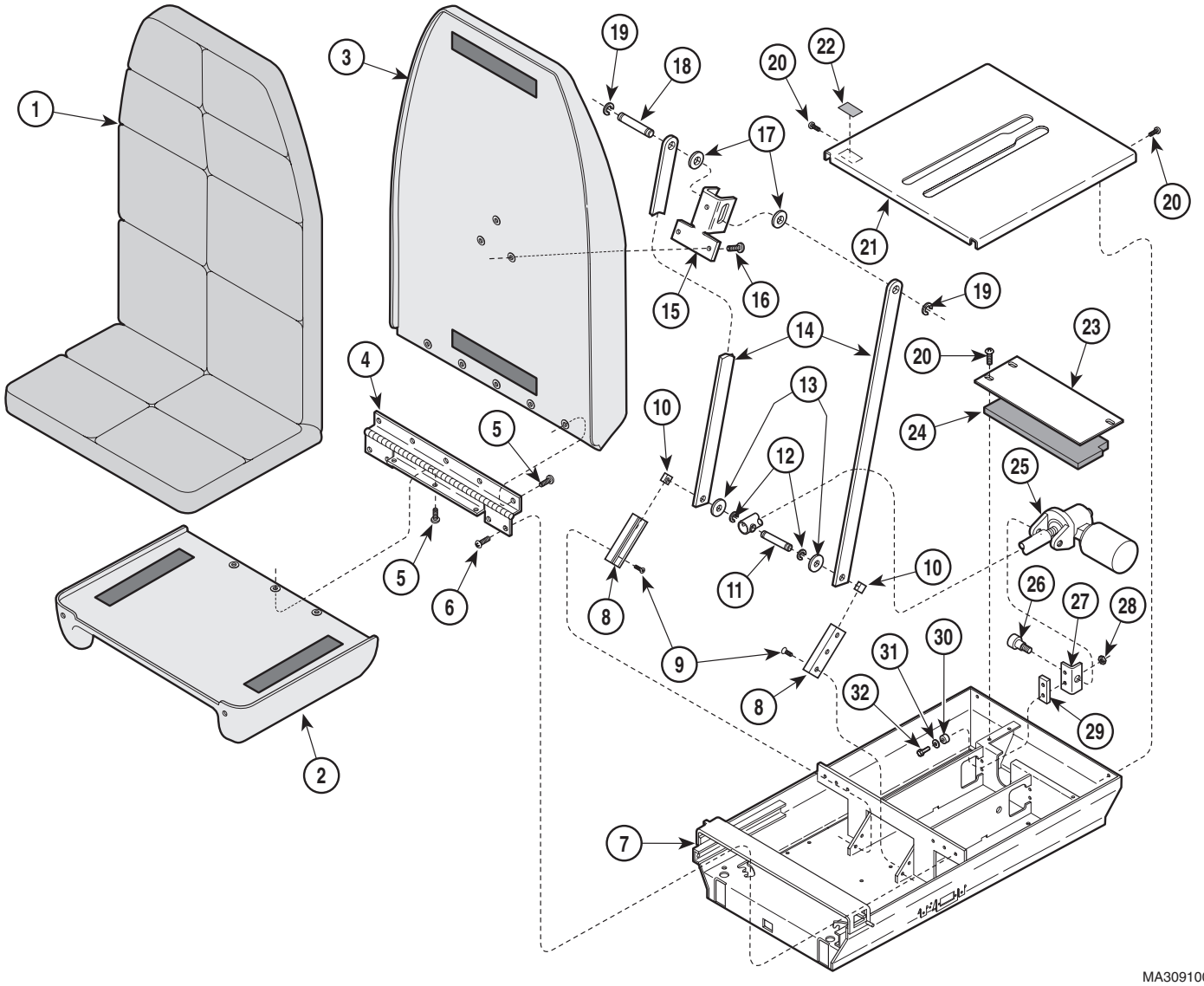
MA309200

Item	Part No.	Description	Qty.
1	002-0257-XX	405 Upholstery Set (Includes Items 2 thru 8 [*Specify Color])	1
2	• ~~028-0186-XX~~	• Back/Seat Upholstery [*Specify Color]	1
3	• 029-1116-01	• Upholstered Footboard Assembly (Incl. items 4 thru 6 [*Specify Color])	1
4	• • 028-0357-00	• • Uphol. Footboard [*Specify Color])	1
5	• • 050-1490-00	• • Footrest Pad Runner	1
6	• • 053-0319-00	• • Nylon Guide	2
7	• • 040-0010-23	• • Screw	4
8	• 002-0256-12	• Drawer Pull Set [*Specify Color]	1
9	029-0452-02	Paper Tear Strip Assy.(Later Units)	2
10	053-0131-02	Velcro Hook Tape	4
11	042-0040-00	Staple	AR
12	053-0043-04	R.H. Pole Socket (Shown [Apply Adhesive #042-0021-00)	1
	053-0043-03	L.H. Pole Socket (Not Shown [Apply Adhesive #042-0021-00)	1
13	040-006-26	Screw	2
14	055-0005-01	Wood Dowel	1
15		Plastic Back Assembly (Refer to "Table Top Components" Elsewhere)	Ref
16		Plastic Seat Assembly (Refer to "Table Top Components" Elsewhere)	Ref
17	029-0407-00	Paper Tear Strip Assy.(Early Units)	2
18	016-0022-00	Tear Strip Stud (Early Units)	2
19		Footrest Assembly (Refer to "Footrest Assembly" Elsewhere)	Ref
20		Drawer Assembly (Refer to "Cabinet Assembly" Elsewhere)	Ref

* Click on the Color Selector link above to see available colors.

Always Specify Model & Serial Number

Table Top Components



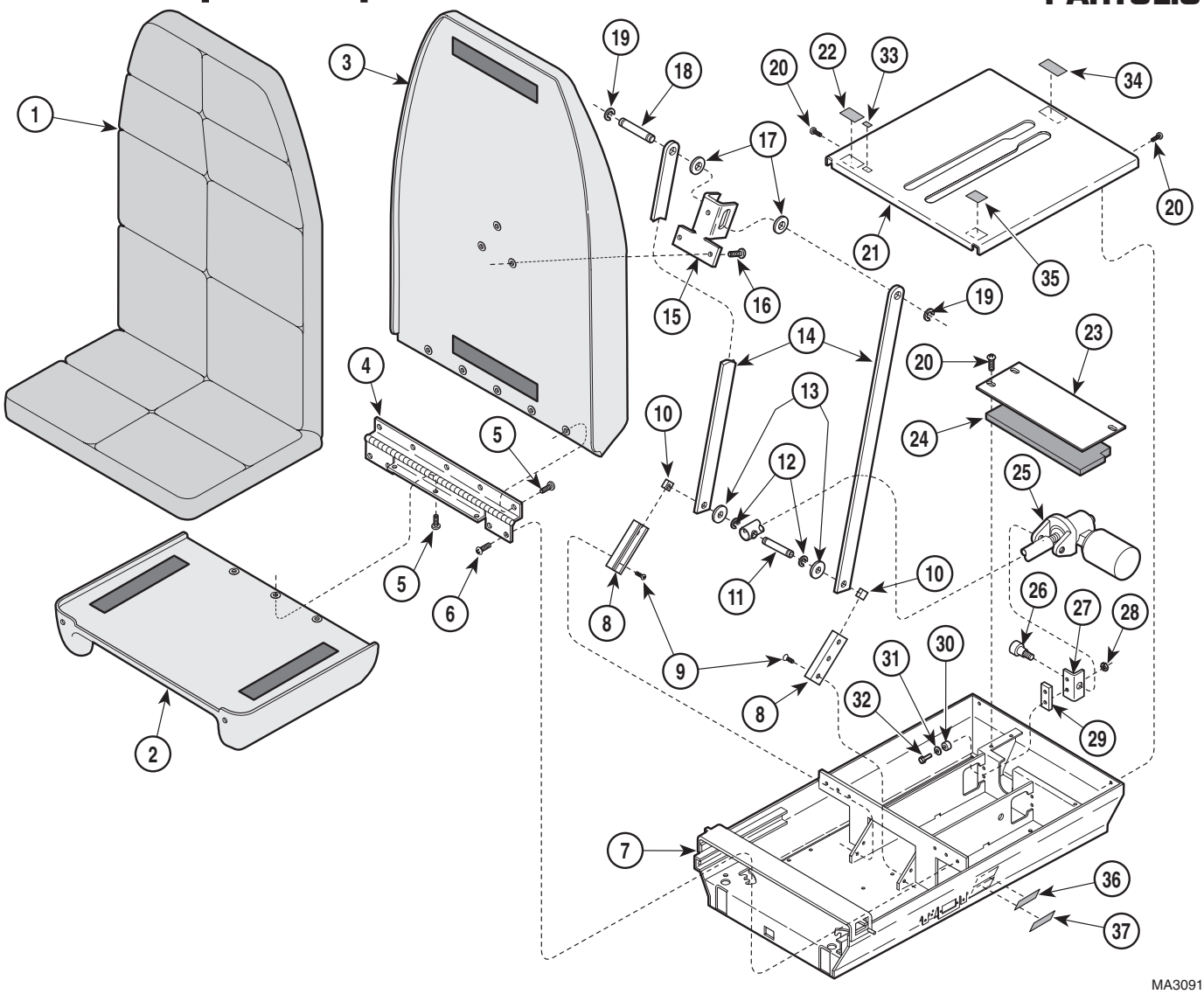
MA309100

Used On Units With Serial Number BG1000 Thru BG3179, BH1000 Thru BH1479 and DK1000 thru DK1015

Item	Part No.	Description	Qty.
1		Upholstery Set (Refer to "Upholstery Components" Elsewhere)	Ref
2	029-0654-00	Plastic Seat Assembly (Replace with Retrofit Kit #002-0401-00)	1
3	029-0653-00	Plastic Back Assembly (Replace with Retrofit Kit #002-0401-00)	1
4	016-0270-00	Hinge (Replace with Retrofit Kit #002-0401-00)	1
5	040-0010-01	Screw	8
6	040-0010-04	Screw	4
7		Upper Wrap Weldment (Refer to "Upper Wrap Assembly" Elsewhere)	Ref
8	021-0018-01	Slide Extrusion	2
9	040-0250-35	Screw	6
10	053-0189-00	Slide Bearing	2
11	042-0048-04	Clevis Pin	1
12	042-0007-06	E-ring	2
13	045-0007-04	Bearing Washer	2
14	051-0480-00	Link Bar	2
15	050-1431-00	Back Pivot Bracket	1
16	040-0010-43	Screw	3
17	045-0007-05	Bearing Washer	2
18	042-0048-05	Clevis Pin	1
19	042-0007-02	E-ring	2
20	040-0010-00	Screw	7
21	050-1434-00	Back Cover	1
22		Serial Number Tag	Ref
23	050-1430-00	Motor Cover	1
24	054-0145-00	Motor Cover Sound Damp	1
25		Back Actuator (Refer to "Back Actuator Assembly" Elsewhere)	Ref
26	042-0014-00	Shoulder Bolt	2
27	059-0035-00	Isolation Bracket	2
28	041-0250-06	Nut	4
29	053-0293-00	Isolation Pad	2
30	053-0127-02	Vibration Mount Bushing	4
31	045-0001-02	Flatwasher	4
32	040-0250-27	Bolt	4

Always Specify Model & Serial Number

Table Top Components



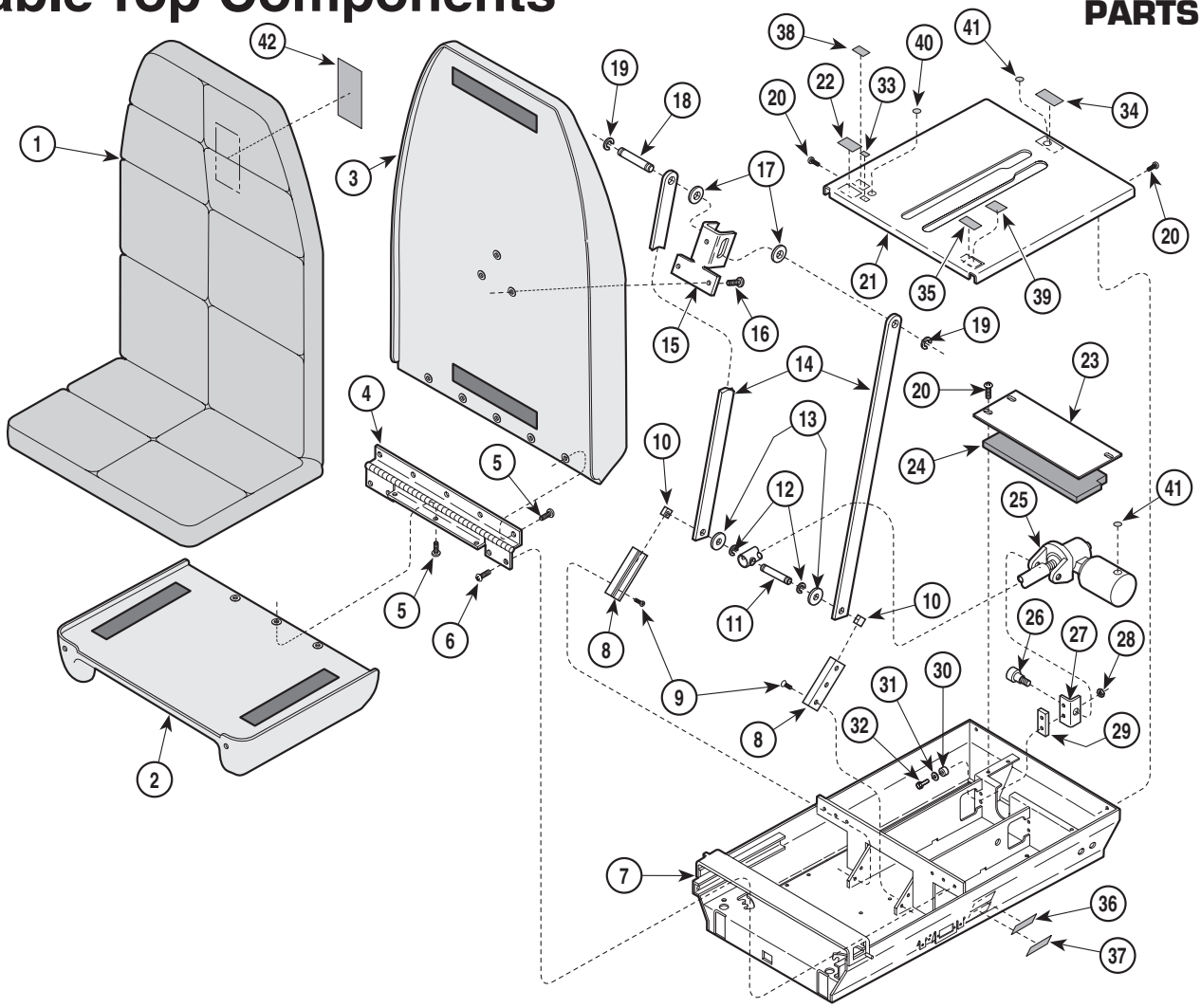
MA309101

Used On Units With Serial Number BG3180, BH1480, DK1016 and DV1000 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1		Upholstery Set (Refer to "Upholstery Components" Elsewhere)	Ref
2	029-1565-00	Plastic Seat Assembly	1
3	029-1557-00	Plastic Back Assembly	1
4	016-0505-00	Hinge	1
5	040-0250-121	Screw	8
6	040-0010-04	Screw	4
7		Upper Wrap Weldment (Refer to "Upper Wrap Assembly" Elsewhere)	Ref
8	021-0018-01	Slide Extrusion	2
9	040-0250-35	Screw	6
10	053-0189-00	Slide Bearing	2
11	042-0048-04	Clevis Pin	1
12	042-0007-06	E-ring	2
13	045-0007-04	Bearing Washer	2
14	051-0480-00	Link Bar	2
15	050-1431-00	Back Pivot Bracket	1
16	040-0010-43	Screw	3
17	045-0007-05	Bearing Washer	2
18	042-0048-05	Clevis Pin	1
19	042-0007-02	E-ring	2
20	040-0010-00	Screw	7
21	050-1434-00	Back Cover	1
22		Serial Number Tag	Ref
23	050-1430-00	Motor Cover	1
24	054-0145-00	Motor Cover Sound Damp	1
25		Back Actuator (Refer to "Back Actuator Assembly" Elsewhere)	Ref
26	042-0014-00	Shoulder Bolt	2
27	059-0035-00	Isolation Bracket	2
28	041-0250-06	Nut	4
29	053-0293-00	Isolation Pad	2
30	053-0127-02	Vibration Mount Bushing	4
31	045-0001-02	Flatwasher	4
32	040-0250-27	Bolt	4
33	061-0590-00	CE Mark Label (230 Volt Units Only)	1
34	061-0033-00	Caution Label	1
35	061-0301-00	U/L Label (Domestic Units Only)	1
36	061-0293-00	Caution Label	1
37	061-0293-01	Danger Label	1

Always Specify Model & Serial Number

Table Top Components



MA462601

Used On Units With Serial Number LE1000, LF1000 and LG1000 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1		Upholstery Set (Refer to "Upholstery Components" Elsewhere)	Ref
2	029-1565-00	Plastic Seat Assembly	1
3	029-1557-00	Plastic Back Assembly	1
4	016-0505-00	Hinge	1
5	040-0250-121	Screw	8
6	040-0010-04	Screw	4
7		Upper Wrap Weldment (Refer to "Upper Wrap Assembly" Elsewhere)	Ref
8	021-0018-01	Slide Extrusion	2
9	040-0250-35	Screw	6
10	053-0189-00	Slide Bearing	2
11	042-0048-04	Clevis Pin	1
12	042-0007-06	E-ring	2
13	045-0007-04	Bearing Washer	2
14	051-0480-00	Link Bar	2
15	050-1431-00	Back Pivot Bracket	1
16	040-0010-43	Screw	3
17	045-0007-05	Bearing Washer	2
18	042-0048-05	Clevis Pin	1
19	042-0007-02	E-ring	2
20	040-0010-00	Screw	7
21	050-1434-00	Back Cover	1
22		Serial Number Tag	Ref
23	050-1430-00	Motor Cover	1
24	054-0145-00	Motor Cover Sound Damp	1
25		Back Actuator (Refer to "Back Actuator Assembly" Elsewhere)	Ref
26	042-0014-00	Shoulder Bolt	2
27	059-0035-00	Isolation Bracket	2
28	041-0250-06	Nut	4
29	053-0293-00	Isolation Pad	2
30	053-0127-02	Vibration Mount Bushing	4
31	045-0001-02	Flatwasher	4
32	040-0250-27	Bolt	4
33	061-0665-00	CE Mark Label (Export Units Only)	1
34	061-0033-00	Caution Label (Domestic Units Only)	1
35	061-0301-00	U/L Label (Domestic Units Only)	1
36	061-0293-00	Caution Label (Domestic Units Only)	1
37	061-0293-01	Danger Label (Domestic Units Only)	1
38	061-0291-00	Patent Number Label (All Units)	1
39	061-0661-00	CE Representative Label (Export Units)	1
40	061-0652-00	Type B Equipment Label (Export Units)	1
41	061-0650-00	Dangerous Voltage Label (Export Units)	2
42	061-0041-00	Law Label (Export Units Only)	1

Always Specify Model & Serial Number

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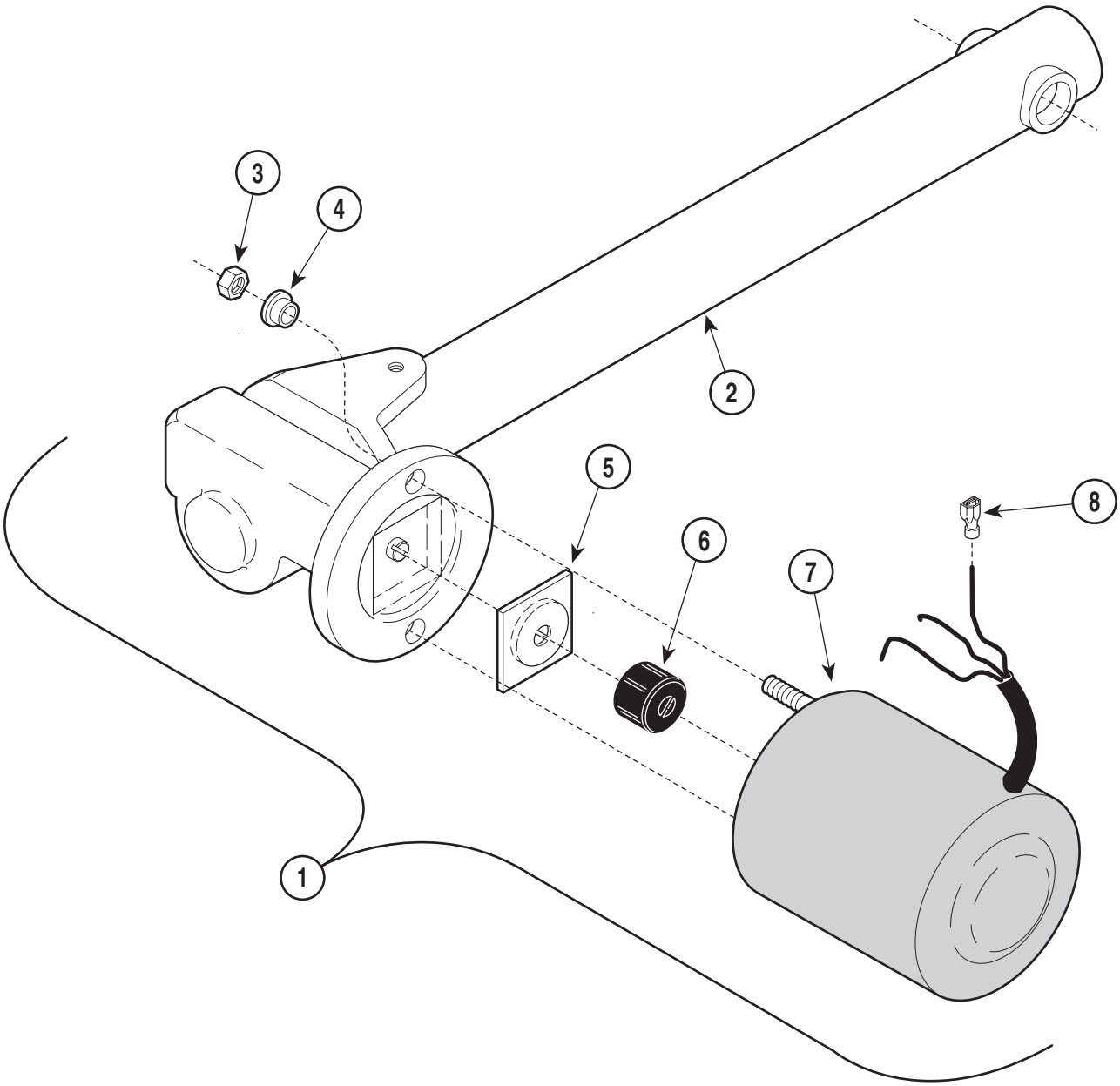
Back Actuator Assembly



MA294900

Item	Part No.	Description	Qty.
1	002-0345-00	Actuator Assembly - 115 Volt (prefixes BG, BH and DV) (Includes Items 2 thru 8)	1
	029-0683-00	Actuator Assembly - 115 Volt (prefixes LF and LG) (Includes Items 2 thru 8)	1
	029-0683-01	Actuator Assembly - 230 Volt (prefixes DK and LE) (Includes Items 2 thru 8)	1

Item	Part No.	Description	Qty.
2	• 016-0331-02	• Actuator (Less Motor)	1
3	• 041-0010-01	• Nut	2
4	• 053-0198-00	• Shoulder Washer	2
5	• 016-0237-00	• Actuator Brake	1
6	• 016-0509-00	• Motor Coupler	1
7	• 002-0574-04	• Motor - 115 Volt (Less Terminals)	1
	• 002-0574-05	• Motor - 230 Volt (Less Terminals)	1
8	• 015-0312-00	• Terminal	3

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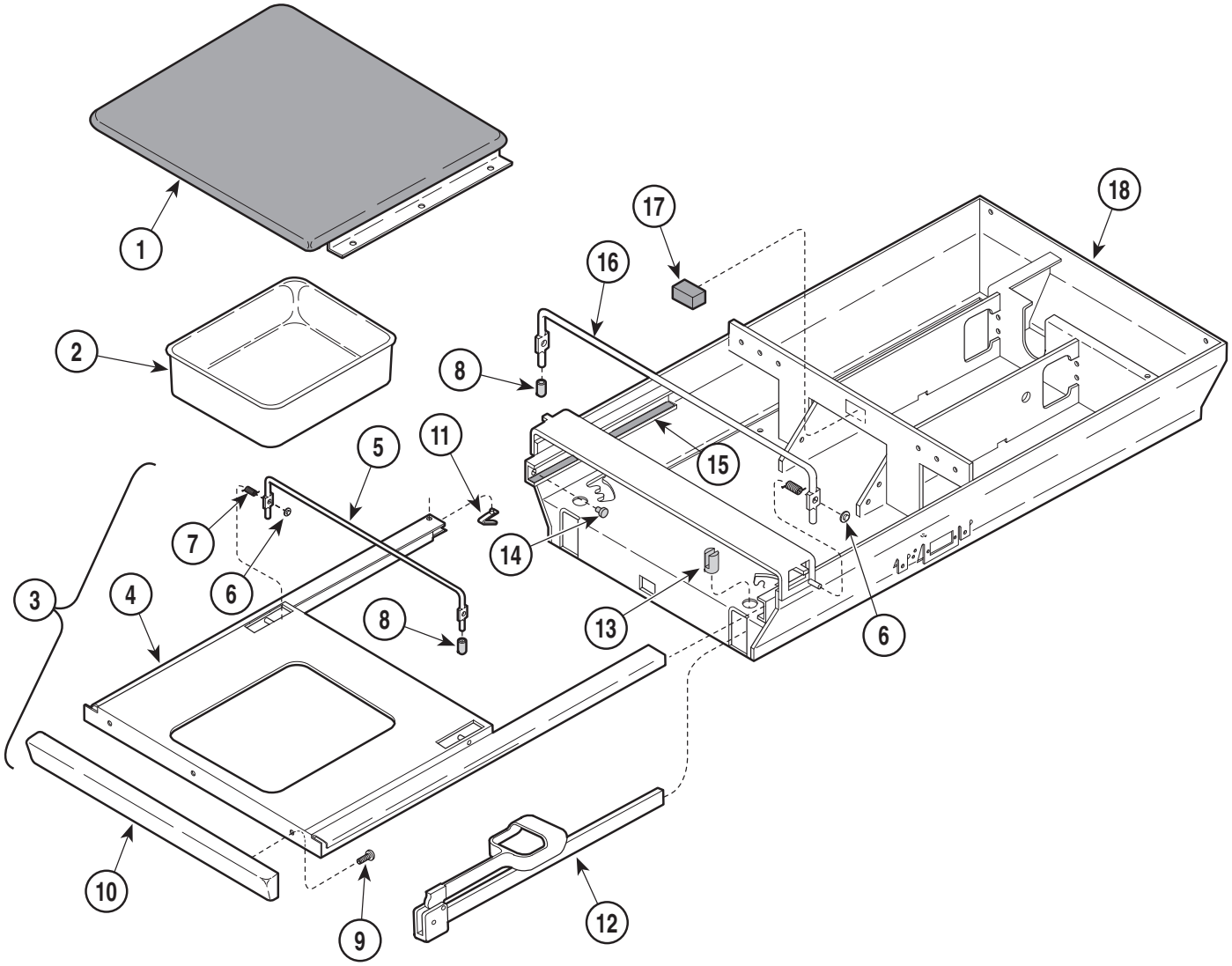
Upper Wrap Components



MA308800

Used On Units With Serial Number BG1000 thru BG1289
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1		Upholstered Footboard (Refer to "Upholstery Components " Elsewhere)	Ref
2	053-0220-00–	Treatment Pan	1
3	029-1112-00	Footrest Shelf Assembly (Includes Items 4 thru 11)	1
4	• 030-0575-00	• Footrest Weldment	1
5	• 057-0217-00	• Footrest Lift	1
6	• 041-0009-00	• Nut	4
7	• 016-0284-00	• R.H. Spring (Shown)	2
	• 016-0284-01	• L.H. Spring	2
8	• 053-0268-00	• Vinyl End Cap	4
9	• 040-0010-48	• Screw	3
10	• 053-0339-00	• Footrest Pull	1
11	• 016-0340-00	• Snap Button	2
12		Stirrup Assembly (Refer to "Stirrup Assembly" Elsewhere)	Ref
13	053-0082-00	Pivot Boss	2
14	053-0001-00	Nylon Stem Bumper	4
15	053-0018-04	Tape	4
16	057-0170-00	Pelvic Lift	1
17	054-0126-00	Footrest Bumper	2
18	030-0523-00	Upper Wrap Weldment	1

Always Specify Model & Serial Number

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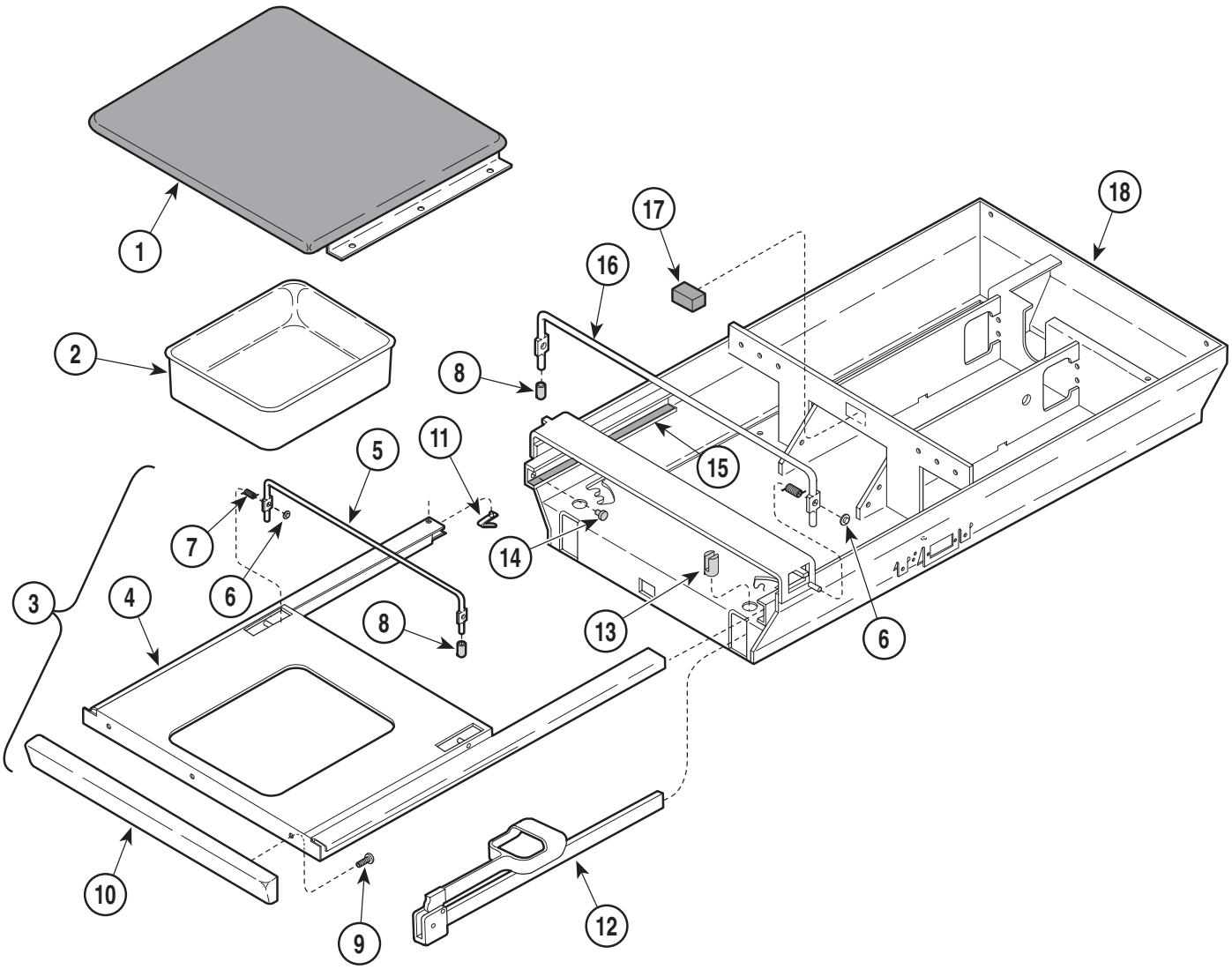
Upper Wrap Components



MA308800

Used On Units With Serial Number BG1290 thru BG1677 and BH1000 thru BH1143

Item	Part No.	Description	Qty.
1		Upholstered Footboard (Refer to "Upholstery Components " Elsewhere)	Ref
2	053-0220-00	Treatment Pan	1
3	029-1112-00	Footrest Shelf Assembly (Includes Items 4 thru 11)	1
4	• 030-0575-00	• Footrest Weldment	1
5	• 057-0217-00	• Footrest Lift	1
6	• 041-0009-00	• Nut	4
7	• 016-0284-00	• R.H. Spring (Shown)	2
	• 016-0284-01	• L.H. Spring	2
8	• 053-0268-00	• Vinyl End Cap	4
9	• 040-0010-48	• Screw	3
10	• 053-0339-00	• Footrest Pull	1
11	• 016-0340-00	• Snap Button	2
12		Stirrup Assembly (Refer to "Stirrup Assembly" Elsewhere)	Ref
13	053-0082-00	Pivot Boss	2
14	053-0001-00	Nylon Stem Bumper	4
15	053-0018-04	Tape	4
16	057-0170-00	Pelvic Lift	1
17	054-0126-00	Footrest Bumper	2
18	030-0523-01	Upper Wrap Weldment	1

Always Specify Model & Serial Number

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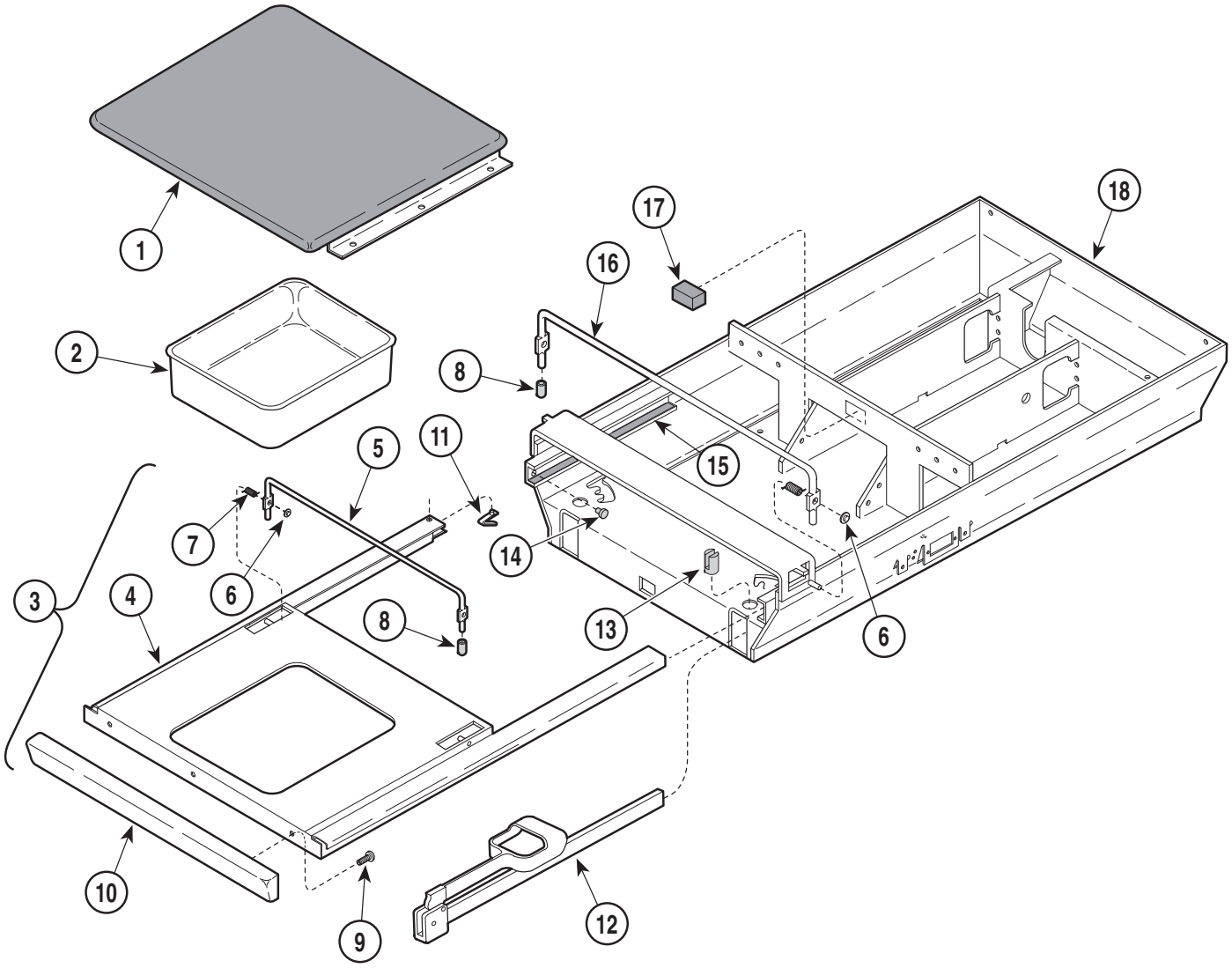
Upper Wrap Components



MA308800

Used On Units With Serial Number BG1678 thru BG2277 and BH1144 thru BH1271

Item	Part No.	Description	Qty.
1		Upholstered Footboard (Refer to "Upholstery Components " Elsewhere)	Ref
2	053-0220-00	Treatment Pan	1
3	029-1112-00	Footrest Shelf Assembly (Includes Items 4 thru 11)	1
4	• 030-0575-00	• Footrest Weldment	1
5	• 057-0217-00	• Footrest Lift	1
6	• 041-0009-00	• Nut	4
7	• 016-0284-00	• R.H. Spring (Shown)	2
	• 016-0284-01	• L.H. Spring	2
8	• 053-0268-00	• Vinyl End Cap	4
9	• 040-0010-48	• Screw	3
10	• 053-0339-00	• Footrest Pull	1
11	• 016-0340-00	• Snap Button	2
12		Stirrup Assembly (Refer to "Stirrup Assembly" Elsewhere)	Ref
13	053-0082-00	Pivot Boss	2
14	053-0001-00	Nylon Stem Bumper	4
15	053-0018-04	Tape	4
16	057-0170-00	Pelvic Lift	1
17	054-0126-00	Footrest Bumper	1
18	030-0688-10	Upper Wrap Weldment	1

Always Specify Model & Serial Number

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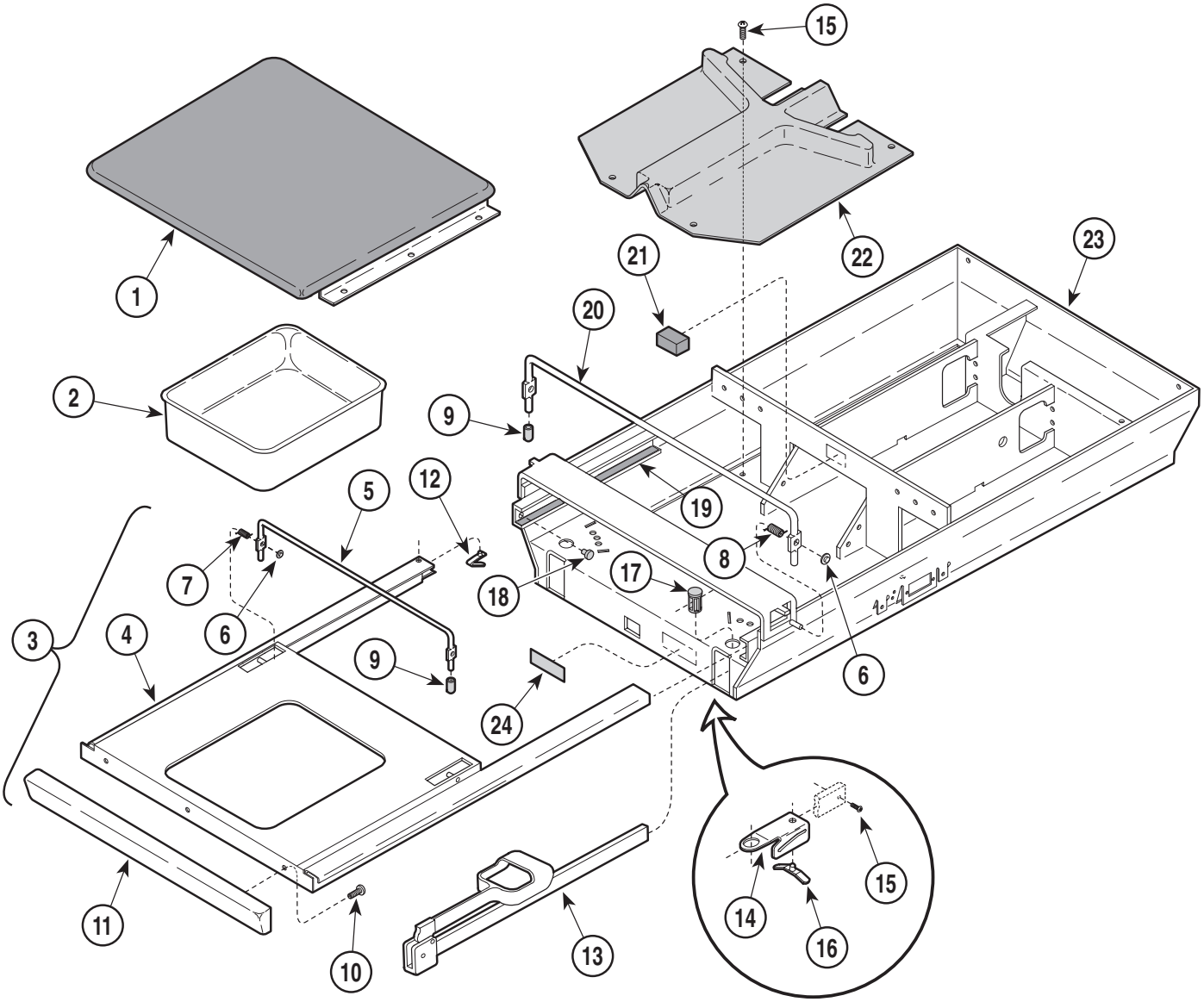
Upper Wrap Components



MA308801

Used On Units With Serial Number BG2278 thru BG2823, BH1272 thru BH1412, and DK1000 thru DK1002

Item	Part No.	Description	Qty.
1		Upholstered Footboard (Refer to "Upholstery Components " Elsewhere)	Ref
2	053-0220-00	Treatment Pan	1
3	029-1112-00	Footrest Shelf Assembly (Includes Items 4 thru 12)	1
4	• 030-0575-00	• Footrest Weldment	1
5	• 057-0217-00	• Footrest Lift	1
6	• 041-0009-00	• Nut	4
7	• 016-0284-00	• R.H. Spring	2
8	• 016-0284-01	• L.H. Spring	2
9	• 053-0268-00	• Vinyl End Cap	4
10	• 040-0010-48	• Screw	3
11	• 053-0339-00	• Footrest Pull	1
12	• 016-0340-00	• Snap Button	2
13		Stirrup Assembly (Refer to "Stirrup Assembly" Elsewhere)	Ref
14	050-1785-00	Guide Bracket	2
15	040-0010-47	Screw	6
16	016-0400-00	Index Spring (Apply Lubricating Oil #S006-00719)	2
17	053-0387-00	Pivot Boss	2
18	053-0001-00	Nylon Stem Bumper	4
19	053-0018-04	Tape	4
20	057-0170-00	Pelvic Lift	1
21	054-0126-00	Footrest Bumper	1
22	053-0380-01	Stirrup Guide	1
23	030-0723-10	Upper Wrap Weldment (Used on Domestic Units Only)	1
	030-0723-12	Upper Wrap Weldment (Used on Export Units Only)	1
24	061-0296-00	Stirrup Instruction Label	1

Always Specify Model & Serial Number

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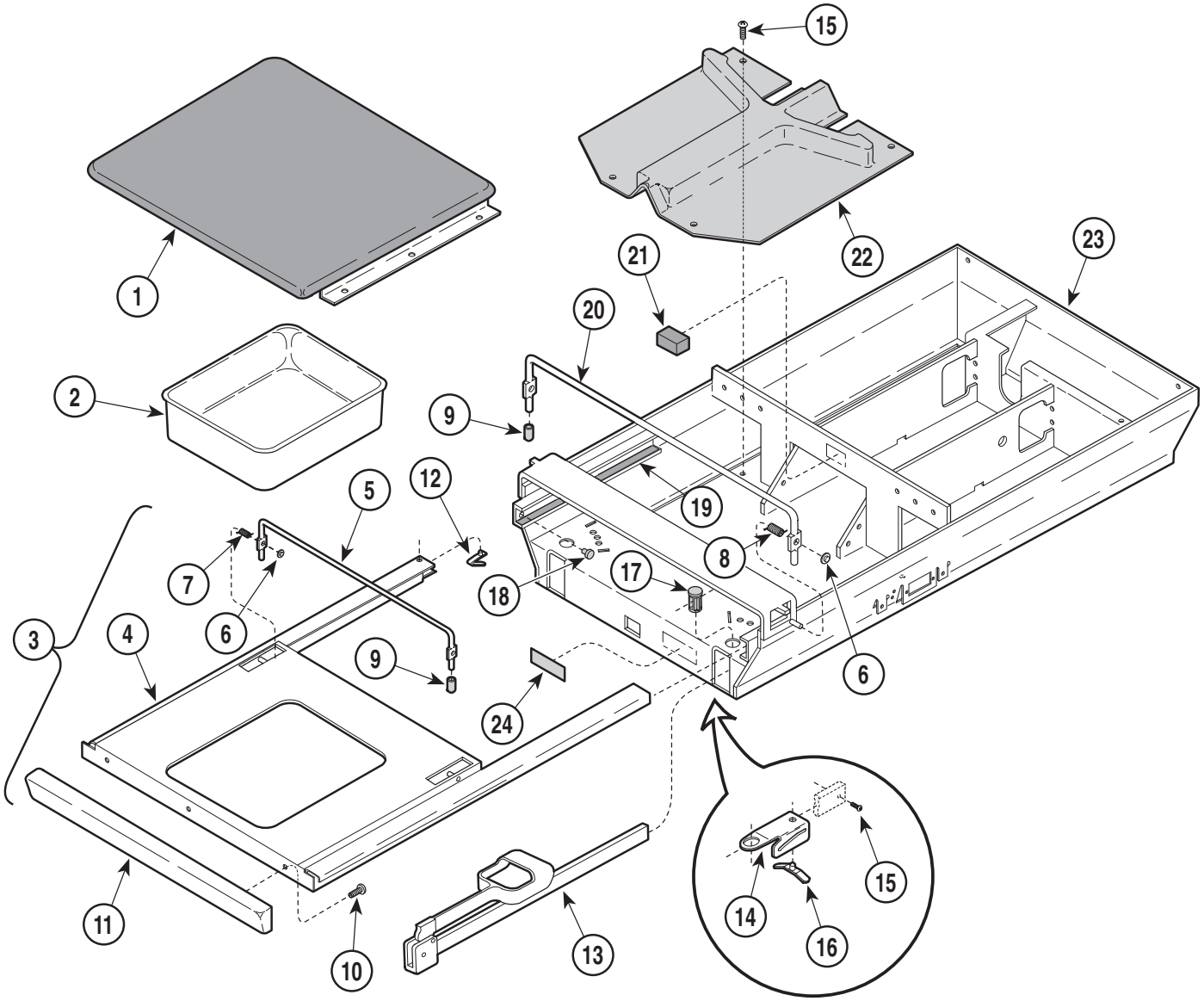
Upper Wrap Components



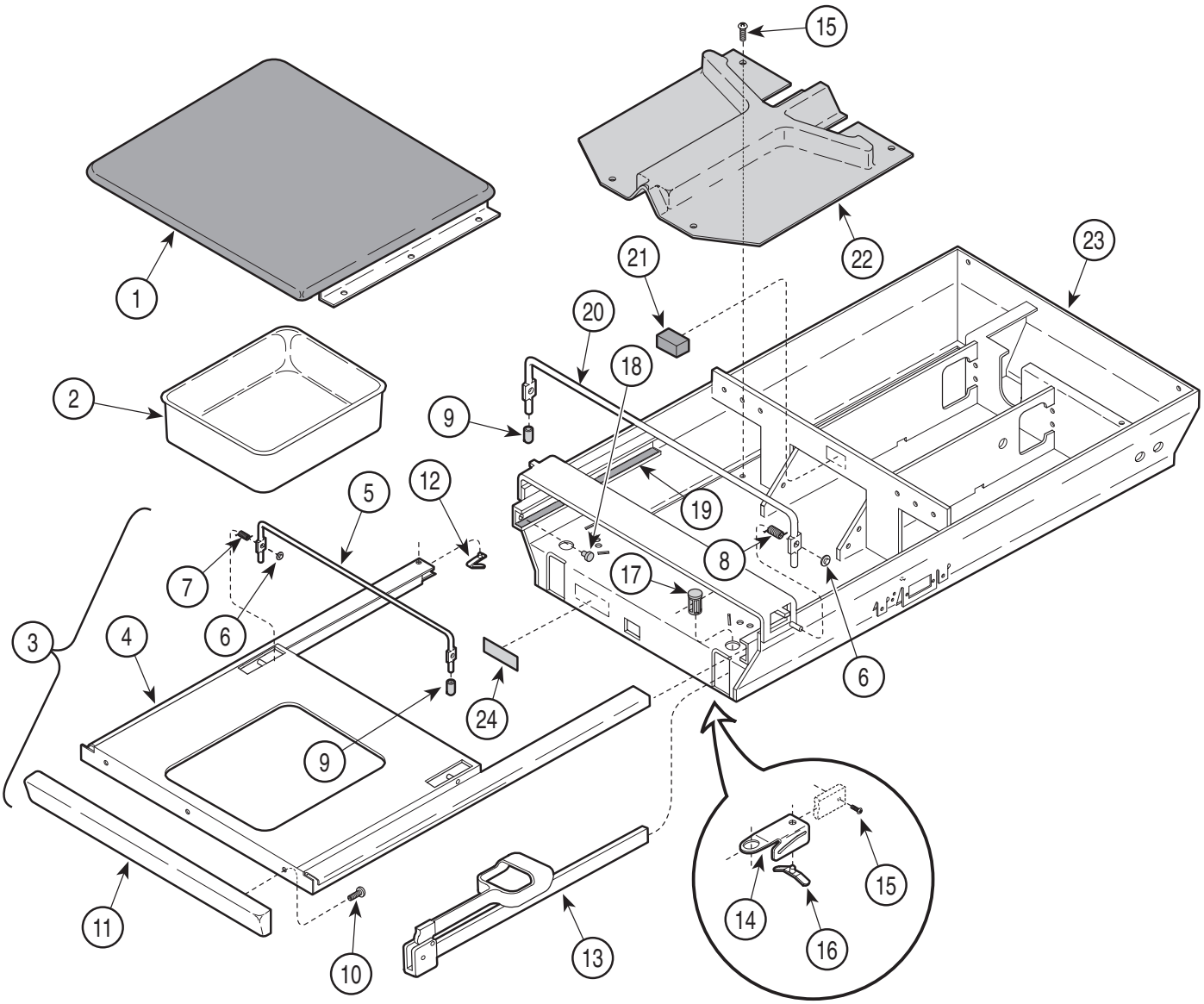
MA308801

Used On Units With Serial Number BG2824, BH1413, DK1003 and DV1000 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1		Upholstered Footboard (Refer to "Upholstery Components " Elsewhere)	Ref
2	053-0220-00	Treatment Pan	1
3	029-1112-00	Footrest Shelf Assembly (Includes Items 4 thru 12)	1
4	• 030-0575-00	• Footrest Weldment	1
5	• 057-0217-00	• Footrest Lift	1
6	• 041-0009-00	• Nut	4
7	• 016-0284-00	• R.H. Spring	2
8	• 016-0284-01	• L.H. Spring	2
9	• 053-0268-00	• Vinyl End Cap	4
10	• 040-0010-48	• Screw	3
11	• 053-0339-00	• Footrest Pull	1
12	• 016-0340-00	• Snap Button	2
13		Stirrup Assembly (Refer to "Stirrup Assembly" Elsewhere)	Ref
14	050-1785-02	Guide Bracket	2
15	040-0010-47	Screw	6
16	016-0400-00	Index Spring (Apply Lubricating Oil #S006-00719)	2
17	053-0387-00	Pivot Boss	2
18	053-0001-00	Nylon Stem Bumper	4
19	053-0018-04	Tape	4
20	057-0170-00	Pelvic Lift	1
21	054-0126-00	Footrest Bumper	1
22	053-0380-01	Stirrup Guide	1
23	030-0723-10	Upper Wrap Weldment (Used on Domestic Units Only)	1
	030-0723-12	Upper Wrap Weldment (Used on Export Units Only)	1
24	061-0296-00	Stirrup Instruction Label	1

Always Specify Model & Serial Number

Upper Wrap Components



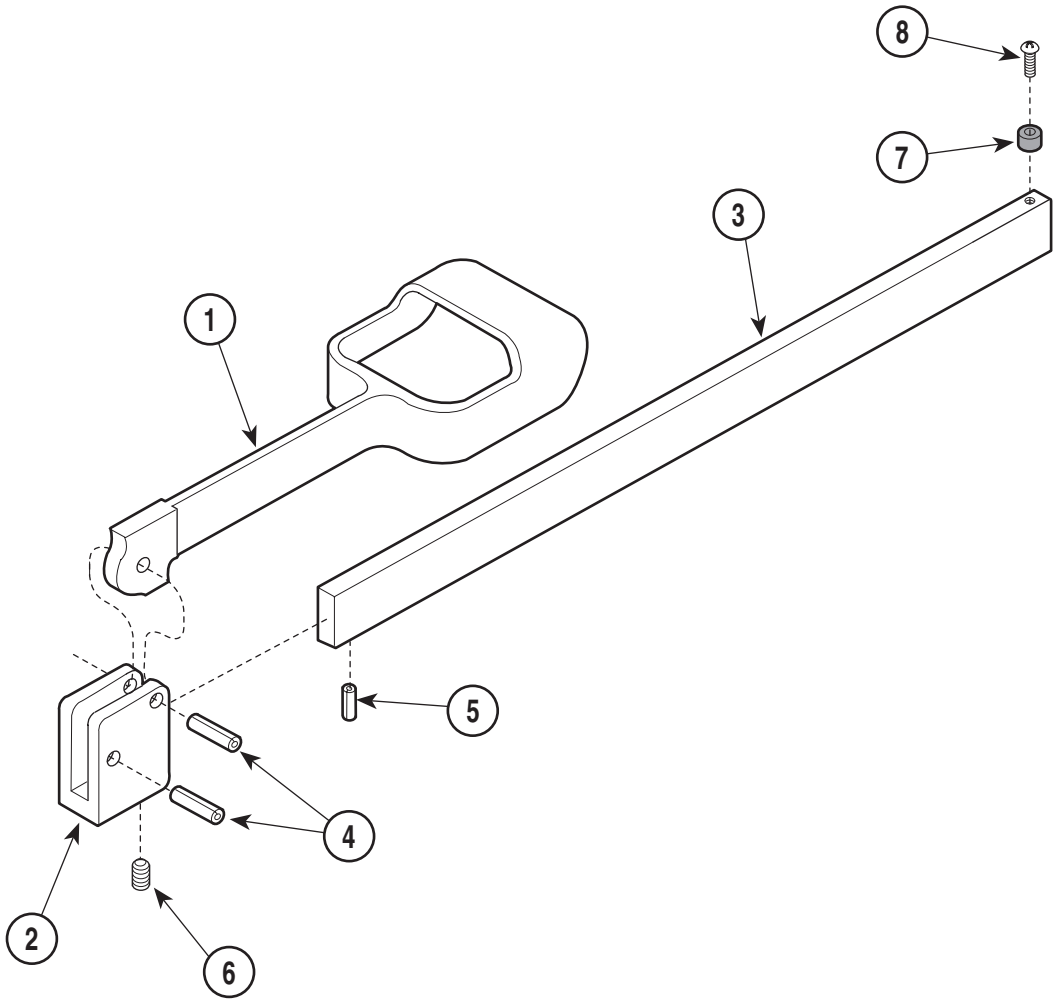
MA462700

Used On Units With Serial Number LE1000, LF1000, and LG1000 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1		Upholstered Footboard (Refer to "Upholstery Components " Elsewhere)	Ref
2	053-0220-01	Treatment Pan	1
	9A70000	Stainless Steel Treatment Pan (Optional)	1
3	029-1112-00	Footrest Shelf Assembly (Includes Items 4 thru 12)	1
4	• 030-0575-00	• Footrest Weldment	1
5	• 057-0217-00	• Footrest Lift	1
6	• 041-0009-00	• Nut	4
7	• 016-0284-00	• R.H. Spring	2
8	• 016-0284-01	• L.H. Spring	2
9	• 053-0268-00	• Vinyl End Cap	4
10	• 040-0010-48	• Screw	3
11	• 053-0339-00	• Footrest Pull	1
12	• 016-0340-00	• Snap Button	2
13		Stirrup Assembly (Refer to "Stirrup Assembly" Elsewhere)	Ref
14	050-5027-00	Guide Bracket	2
15	040-0010-47	Screw	6
16	016-0400-00	Index Spring (Apply Lubricating Oil #S006-00719)	2
17	053-0387-00	Pivot Boss	2
18	053-0001-00	Nylon Stem Bumper	4
19	053-0018-04	Tape	4
20	057-0170-00	Pelvic Lift	1
21	054-0126-00	Footrest Bumper	1
22	053-0380-01	Stirrup Guide	1
23	030-1187-11	Upper Wrap Weldment (Used on Domestic Units Only)	1
	030-1187-10	Upper Wrap Weldment (Shown - Used on Export Units Only)	1
24	061-0296-00	Stirrup Instruction Label (Domestic Units Only)	1

Always Specify Model & Serial Number

Stirrup Assembly



MA268702

Used On Units With Serial Number BG-1000 thru BG2277 and BH-1000 thru BH1271

Item	Part No.	Description	Qty.
	029-0152-00	Stirrup Assembly (Inludes Items 1 Thru 8)	Ref
1	• 020-0001-01	• Vinyl Coated Stirrup	1
2	• 020-0012-00	• Pivot Block	1
3	• 051-0133-00	• Horizontal Bar	1
4	• 042-0001-00	• Roll Pin	2
5	• 042-0001-02	• Roll Pin	1
6	• 040-0250-15	• Set Screw (w/Nylock)	1
7	• 053-0081-00	• Nylon	1
8	• 040-0250-01	• Screw	1

Always Specify Model & Serial Number

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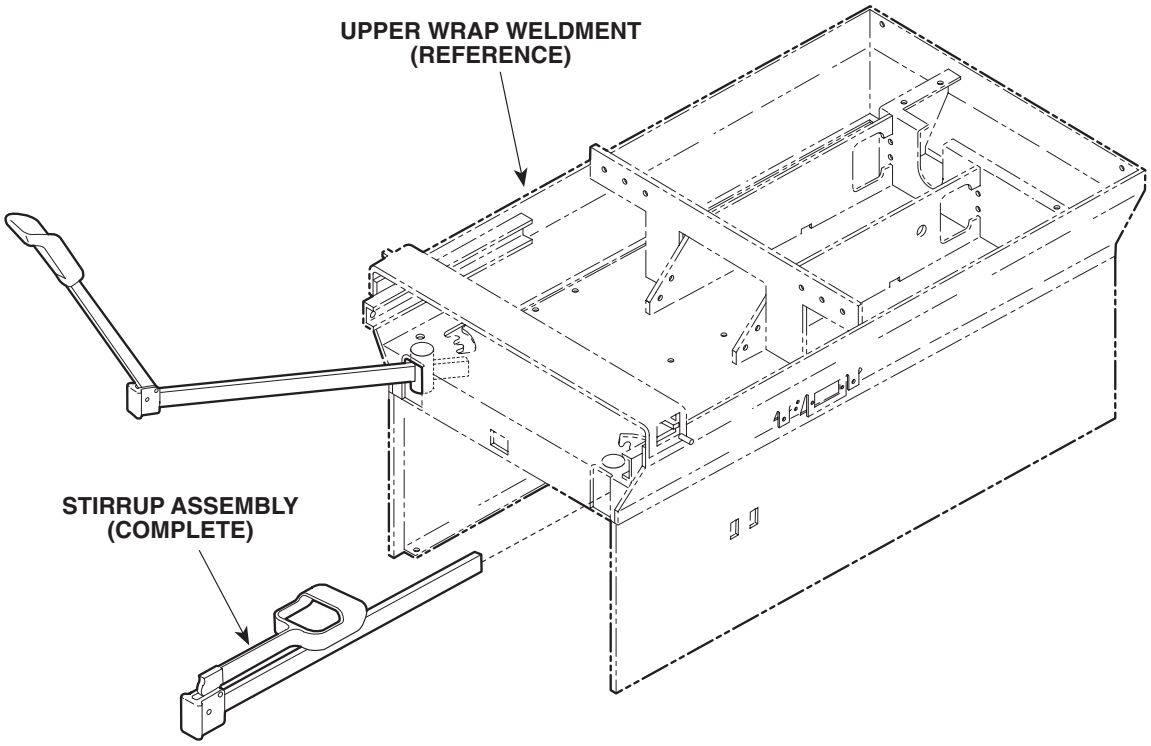
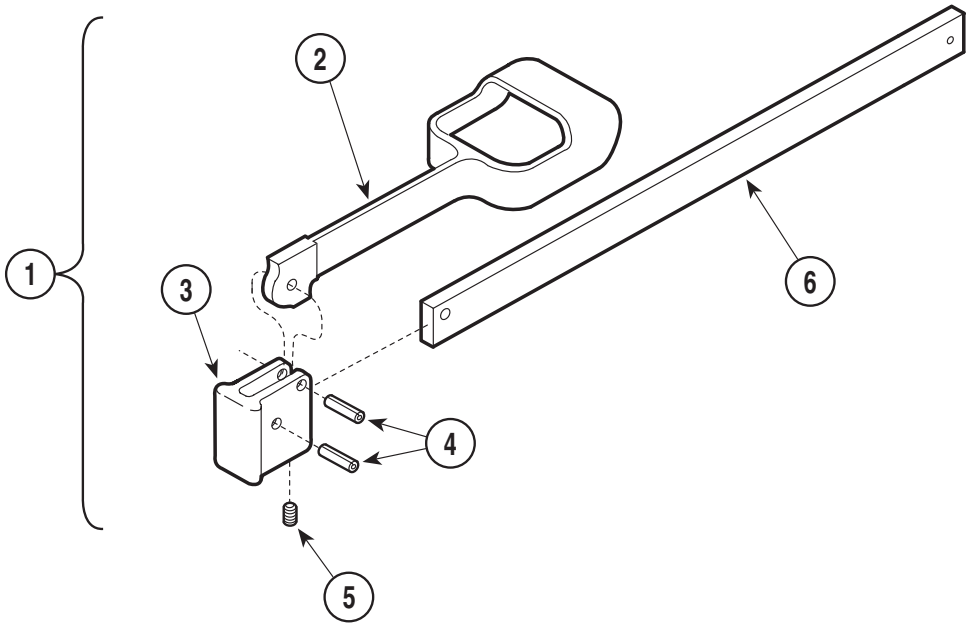
Stirrup Assembly





MA220901

Used On Units With Serial Number BG2278 thru BG2823, BH1272 thru BH1412, and DK1000 thru DK1002

Item	Part No.	Description	Qty.
1	029-1277-01	Stirrup Assembly (Includes Items 2 thru 6)	2
2	• 020-0181-00	• Stirrup	1
3	• 020-0182-00	• Block, Pivot	1
4	• 042-0001-00	• Roll Pin	2
5	• 040-0250-15	• Setscrew	1
6	• 051-0634-02	• Bar, Horizontal	1

Always Specify Model & Serial Number

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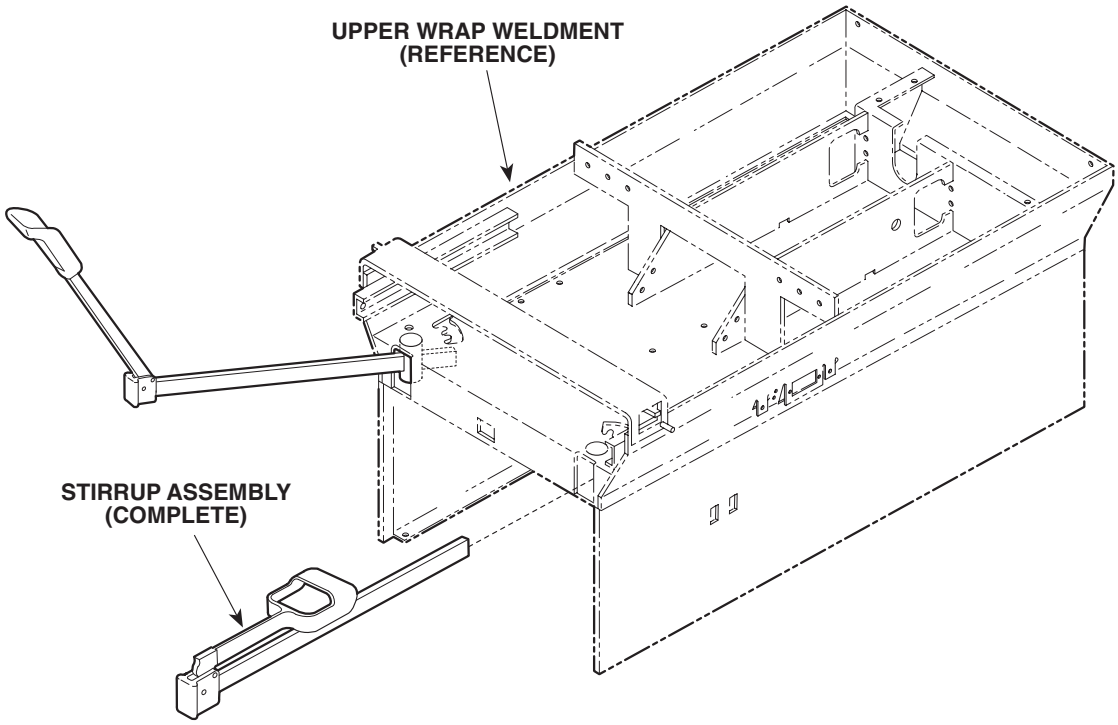
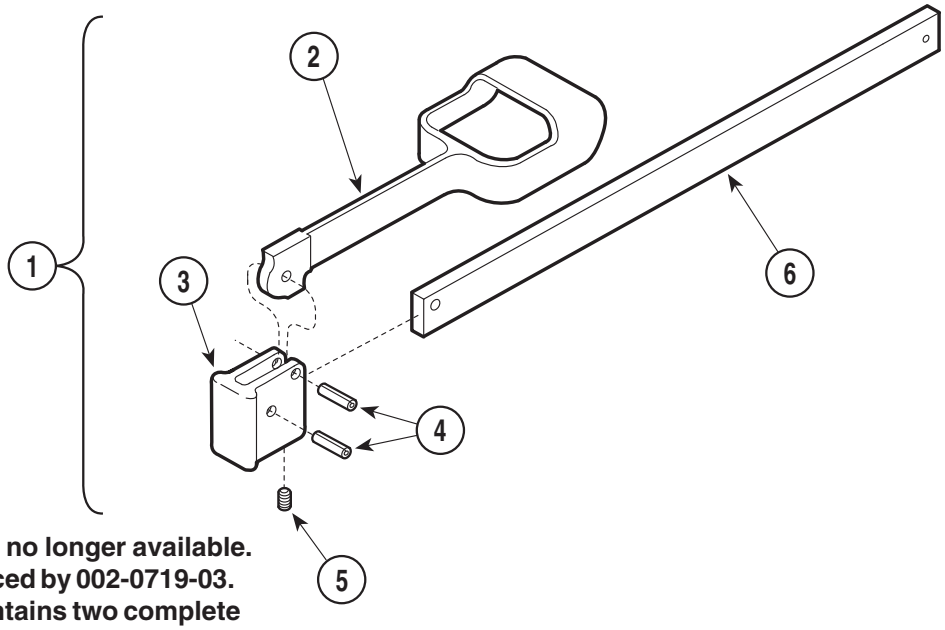
Stirrup Assembly





This assembly is no longer available. It has been replaced by 002-0719-03. Note: This kit contains two complete stirrup assemblies.

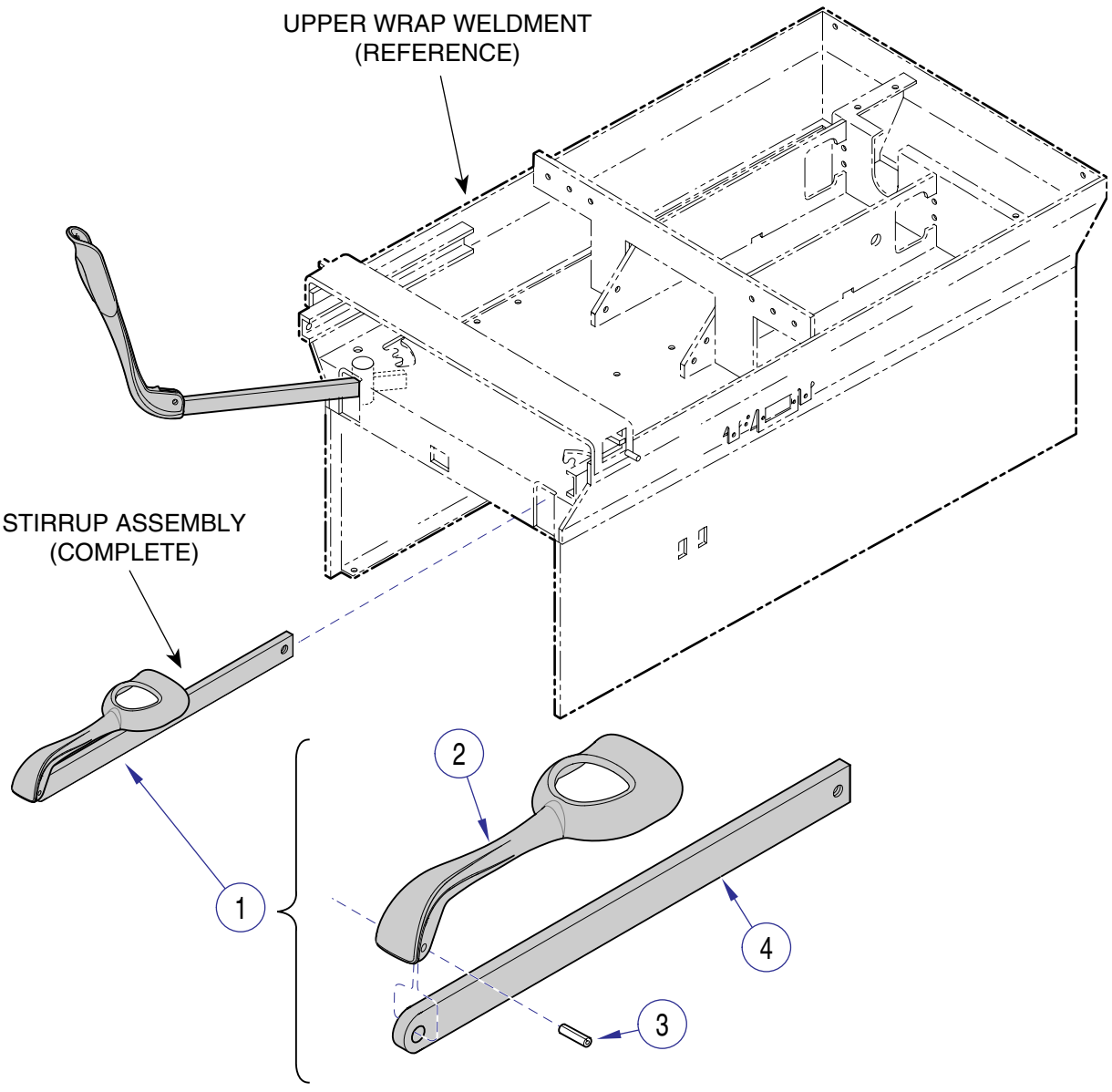
MA220901

Used On Units With Serial Number BG2824, BH1413, DK1003, DV1000 thru Present and LE1000, LF1000 and LG1000 thru LE1223, LF3814 LG1973

Item	Part No.	Description	Qty.
1	029-1397-01	Stirrup Assembly (Includes Items 2 thru 6)	2
2	• 020-0181-00	• Stirrup	1
3	• 020-0182-00	• Block, Pivot	1
4	• 042-0001-00	• Roll Pin	2
5	• 040-0250-15	• Setscrew	1
6	• 051-0668-03	• Bar, Horizontal	1

Always Specify Model & Serial Number

Stirrup Assembly



MA220901

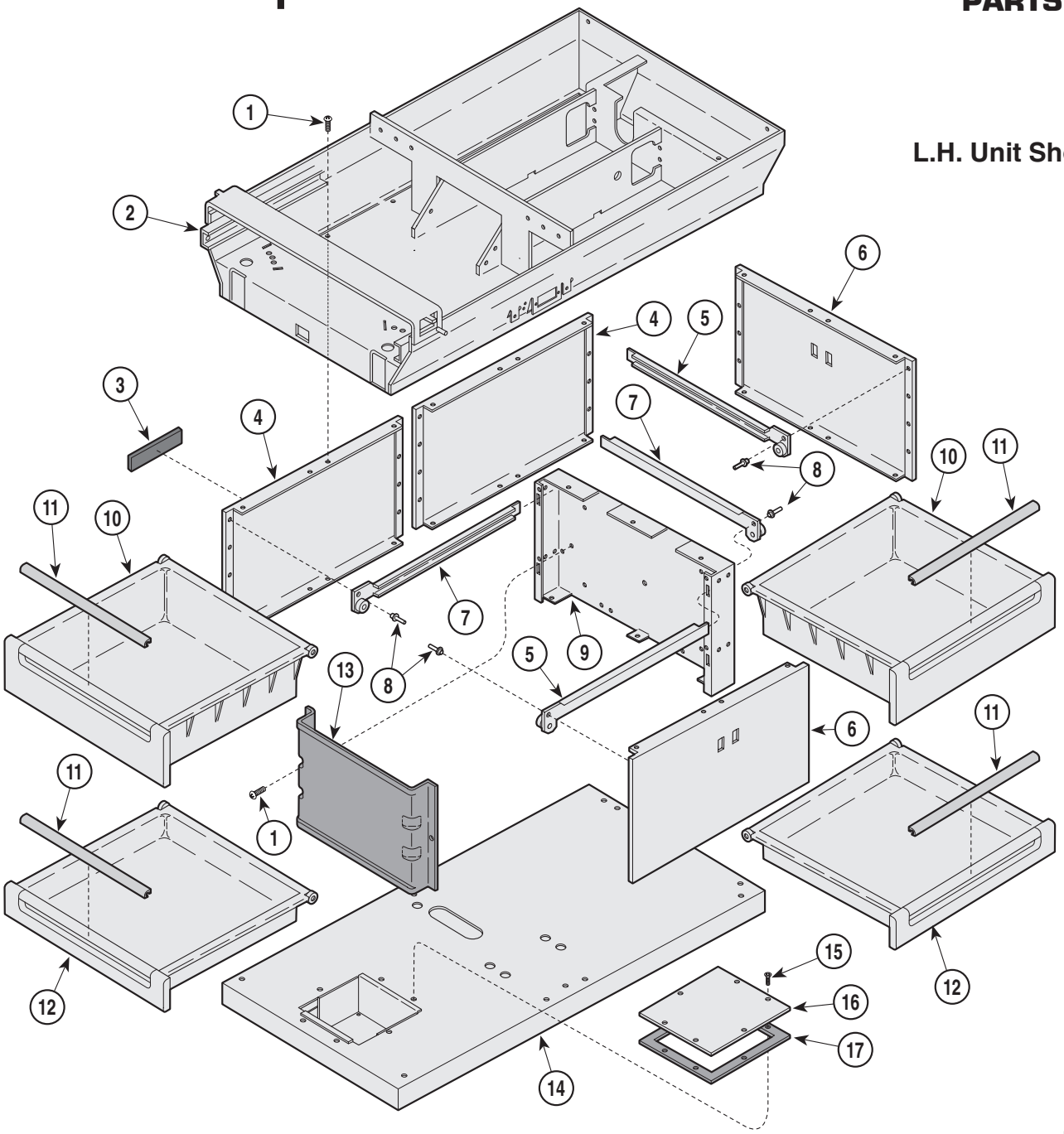
Used On Units With Serial Number LE1224, LF3815 and LG1974 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1	029-2951-01	Stirrup Assembly (Includes Items 2 thru 6)	2
2	• 020-0239-00	• Stirrup	1
3	• 042-0001-00	• Roll Pin	1
4	• 051-1003-01	• Stirrup Bar	1

Always Specify Model & Serial Number

Cabinet Components

L.H. Unit Shown



MA308900

Used On Units With Serial Number BG1000 thru BG3700, and BH1000 thru BH1585

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	30
2		Upper Wrap Weldment(Refer to "Upper Wrap Components" Elsewhere)	Ref
3	053-0297-05	405 Nameplate	1
4	050-1384-00	Side Panel (Without Cutouts)	2
5	029-1264-00	R.H. Slide	4
6	050-1383-00	Side Panel (With Cutouts)	2
7	029-1264-01	L.H. Slide	4
8	042-0010-03	Pop Rivet	10
9	050-1380-00	Center Support	1
10		Large Drawer (Refer to "Drawer Components" Elsewhere)	Ref
11		Drawer Pulls (Refer to "Upholstery Components" Elsewhere)	Ref
12		Small Drawer (Refer to "Drawer Components" Elsewhere)	Ref
13	053-0285-00	Actuator Cover	1
14	030-0521-00	Upper Base Weldment	1
15	040-0010-62	Screw	6
16	050-1381-00	Electrical Box Cover Plate	1
17	053-0294-00	Gasket	1

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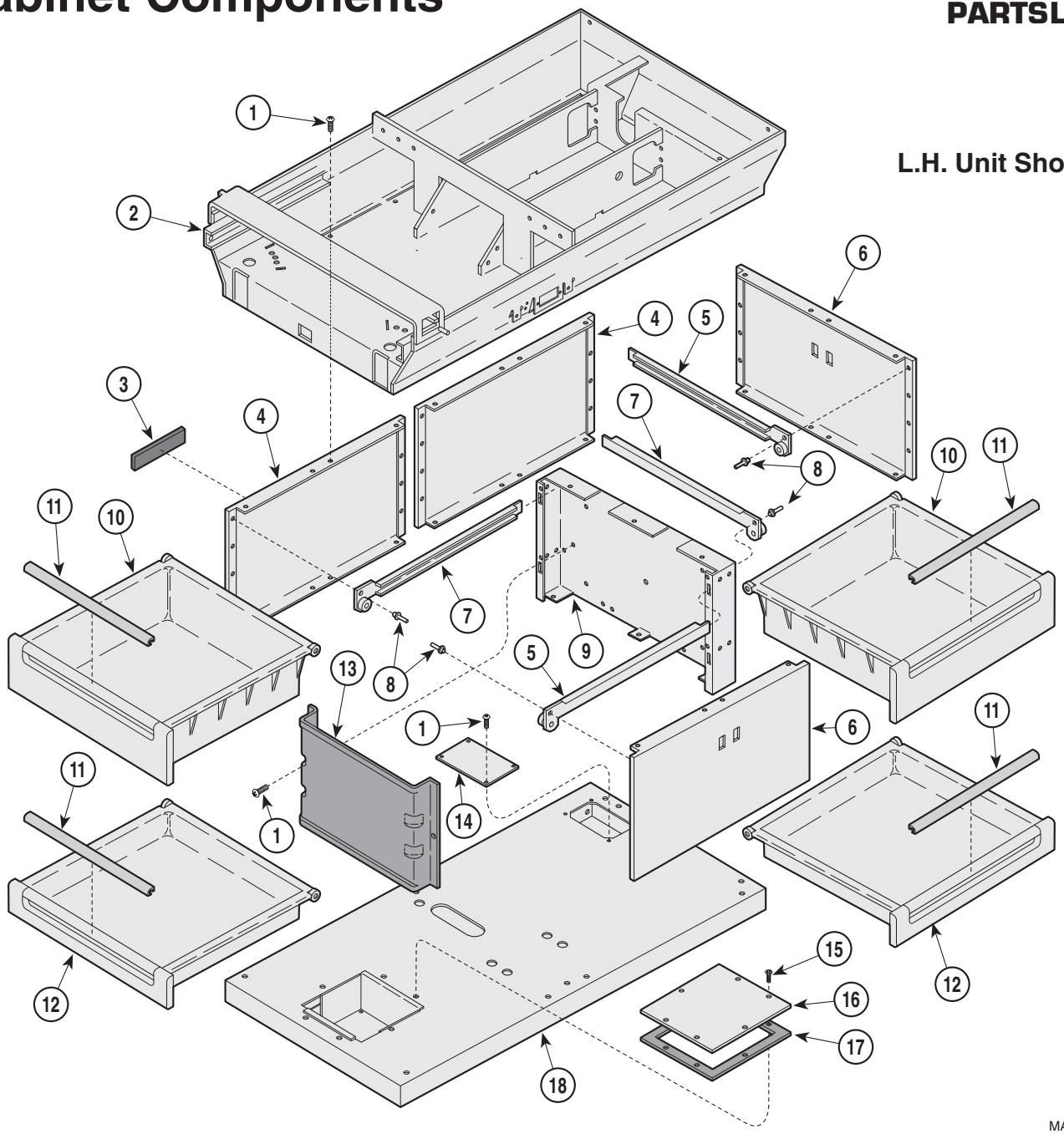
Cabinet Components

L.H. Unit Shown



MA308901

Used On Units With Serial Number BG3701 thru BG3759, BH1598 thru BH1598, DK1000 thru DK1068

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	34
2		Upper Wrap Weldment(Refer to "Upper Wrap Components" Elsewhere)	Ref
3	053-0297-05	405 Nameplate	1
4	050-1384-00	Side Panel (Without Cutouts)	2
5	029-1264-00	R.H. Slide	4
6	050-1383-00	Side Panel (With Cutouts)	2
7	029-1264-01	L.H. Slide	4
8	042-0010-03	Pop Rivet	10
9	050-1380-00	Center Support	1
10		Large Drawer (Refer to "Drawer Components" Elsewhere)	Ref
11		Drawer Pulls (Refer to "Upholstery Components" Elsewhere)	Ref
12		Small Drawer (Refer to "Drawer Components" Elsewhere)	Ref
13	053-0285-00	Actuator Cover	1
14	053-2646-10	Cover Plate	1
15	040-0010-62	Screw	6
16	050-1381-00	Electrical Box Cover Plate	1
17	053-0294-00	Gasket	1
18	030-0892-10	Upper Base Weldment	1

Always Specify Model & Serial Number

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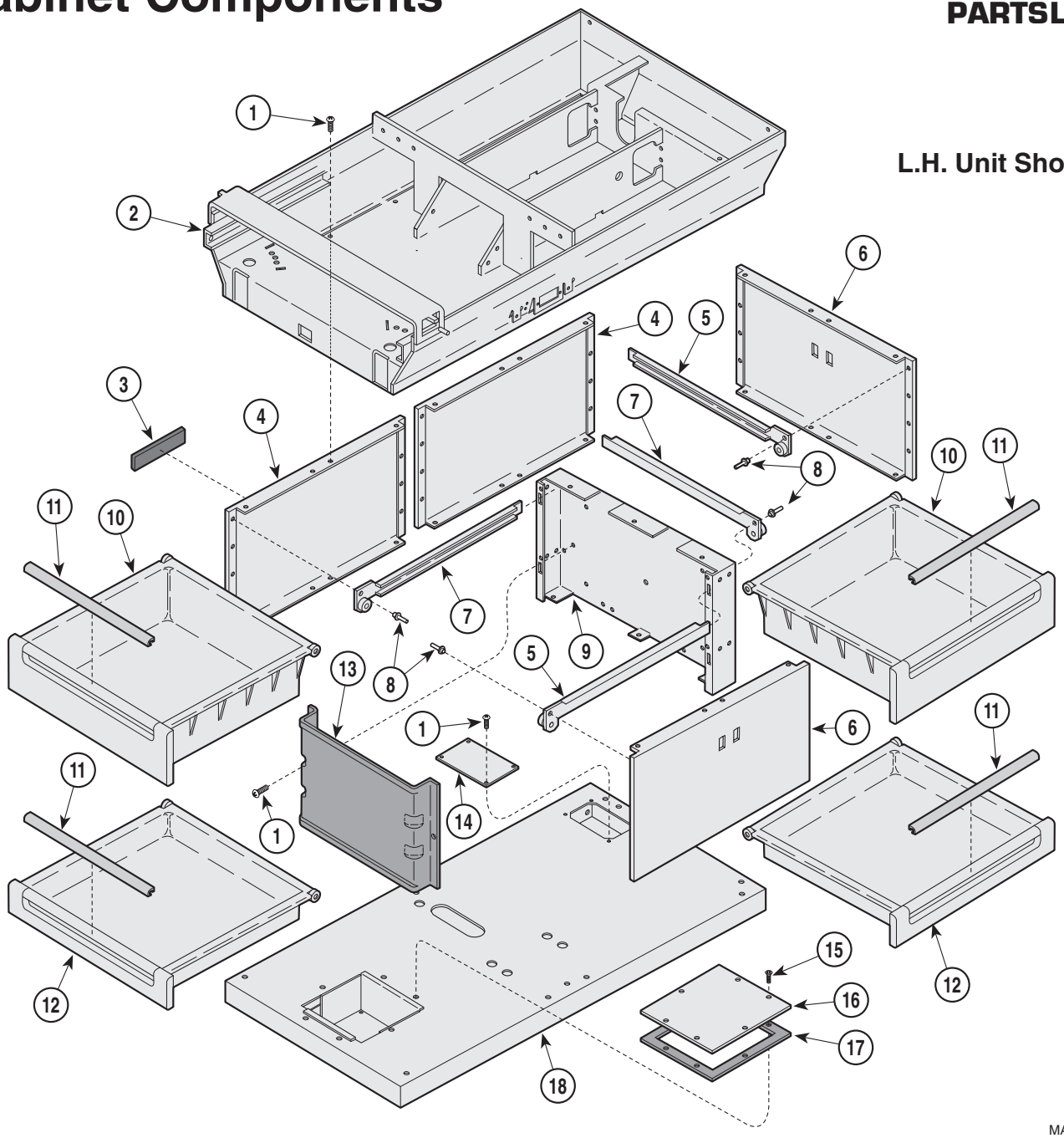
Cabinet Components

L.H. Unit Shown



MA308901

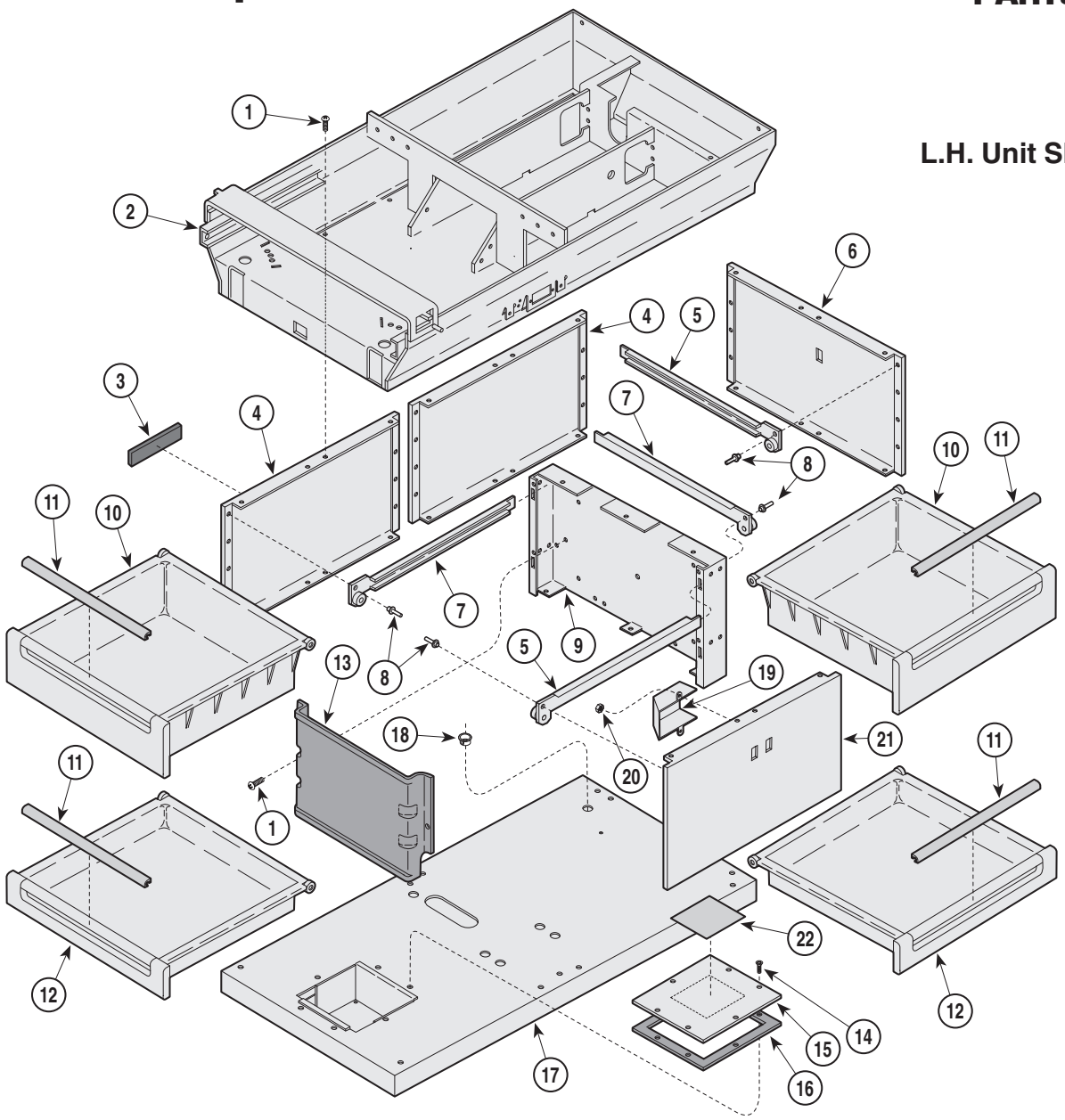
Used On Units With Serial Number BG3760, BH1599, DK1069 and DV1000 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	34
2		Upper Wrap Weldment(Refer to "Upper Wrap Components" Elsewhere)	Ref
3	053-0297-05	405 Nameplate	1
4	050-1384-00	Side Panel (Without Cutouts)	2
5	029-1264-00	R.H. Slide	4
6	050-1383-00	Side Panel (With Cutouts)	2
7	029-1264-01	L.H. Slide	4
8	042-0010-03	Pop Rivet	10
9	050-1380-00	Center Support	1
10		Large Drawer (Refer to "Drawer Components" Elsewhere)	Ref
11		Drawer Pulls (Refer to "Upholstery Components" Elsewhere)	Ref
12		Small Drawer (Refer to "Drawer Components" Elsewhere)	Ref
13	053-0285-00	Actuator Cover	1
14	053-2854-10	Cover Plate	1
15	040-0010-62	Screw	6
16	050-1381-00	Electrical Box Cover Plate	1
17	053-0294-00	Gasket	1
18	030-0928-10	Upper Base Weldment	1

Always Specify Model & Serial Number

Cabinet Components

L.H. Unit Shown



MA467300

Used On Units With Serial Number LE1000, LF1000 and LG1000 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	30
2		Upper Wrap Weldment (Refer to "Upper Wrap Components" Elsewhere)	Ref
3	053-0297-05	405 Nameplate	1
4	050-1384-00	Side Panel (Without Cutouts)	2
5	029-1264-00	R.H. Slide	4
6	030-1147-10	Rear Panel (With Cutout)	1
7	029-1264-01	L.H. Slide	4
8	042-0010-03	Pop Rivet	10
9	050-1380-00	Center Support	1
10		Large Drawer (Refer to "Drawer Components" Elsewhere)	Ref
11		Drawer Pulls (Refer to "Upholstery Components" Elsewhere)	Ref
12		Small Drawer (Refer to "Drawer Components" Elsewhere)	Ref
13	053-0951-00	Actuator Cover	1
14	040-0010-62	Screw	6
15	050-1381-00	Electrical Box Cover Plate	1
16	053-0294-00	Gasket	1
17	030-1223-10	Upper Base Weldment	1
18	053-0068-10	Snap Bushing	1
19	050-4123-10	Disable Switch Enclosure	1
20	041-0006-01	Nut	2
21	030-1146-10	Side Panel (With Cutouts)	1
22	061-0679-00	Fuse Label	1

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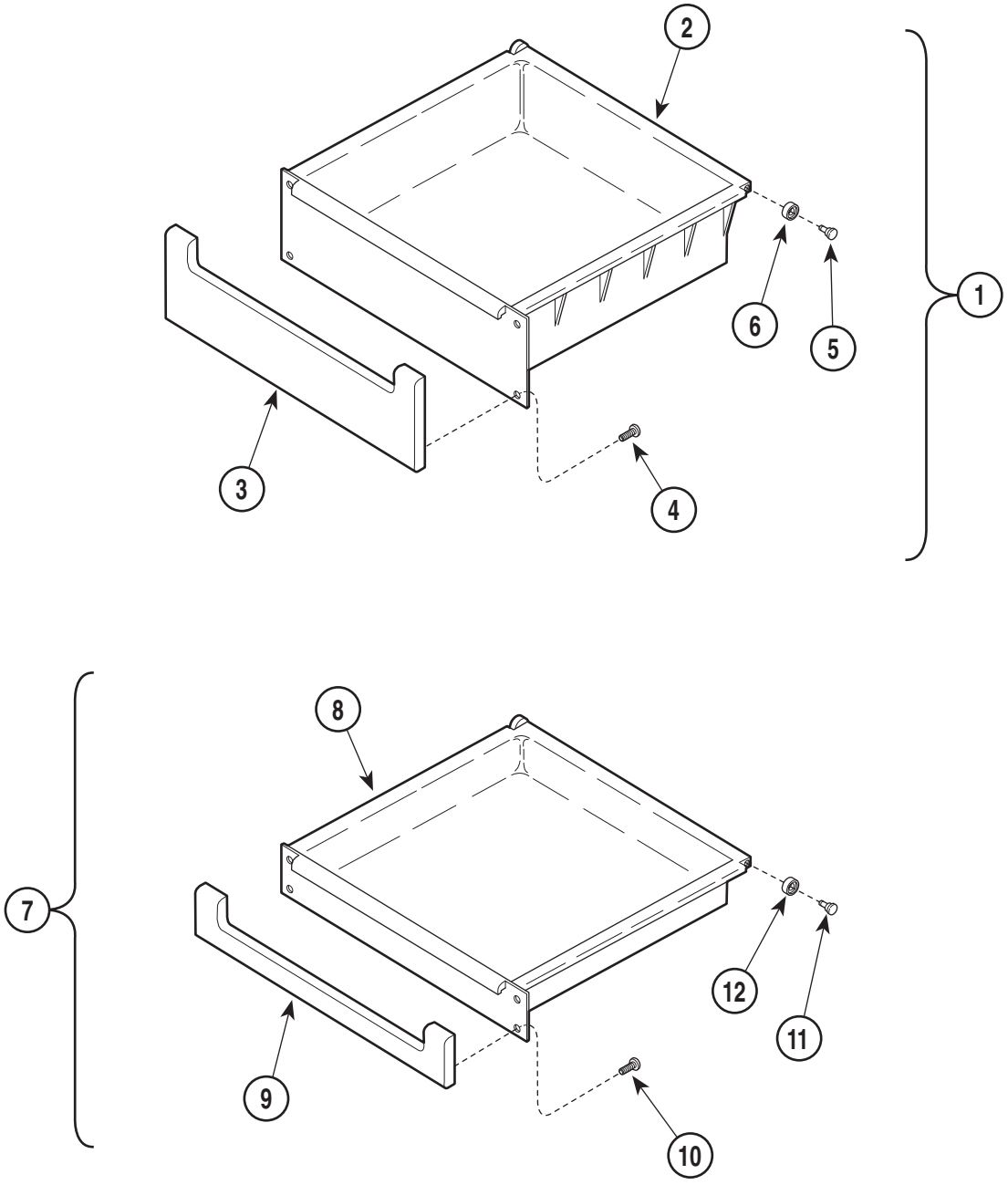
Drawers



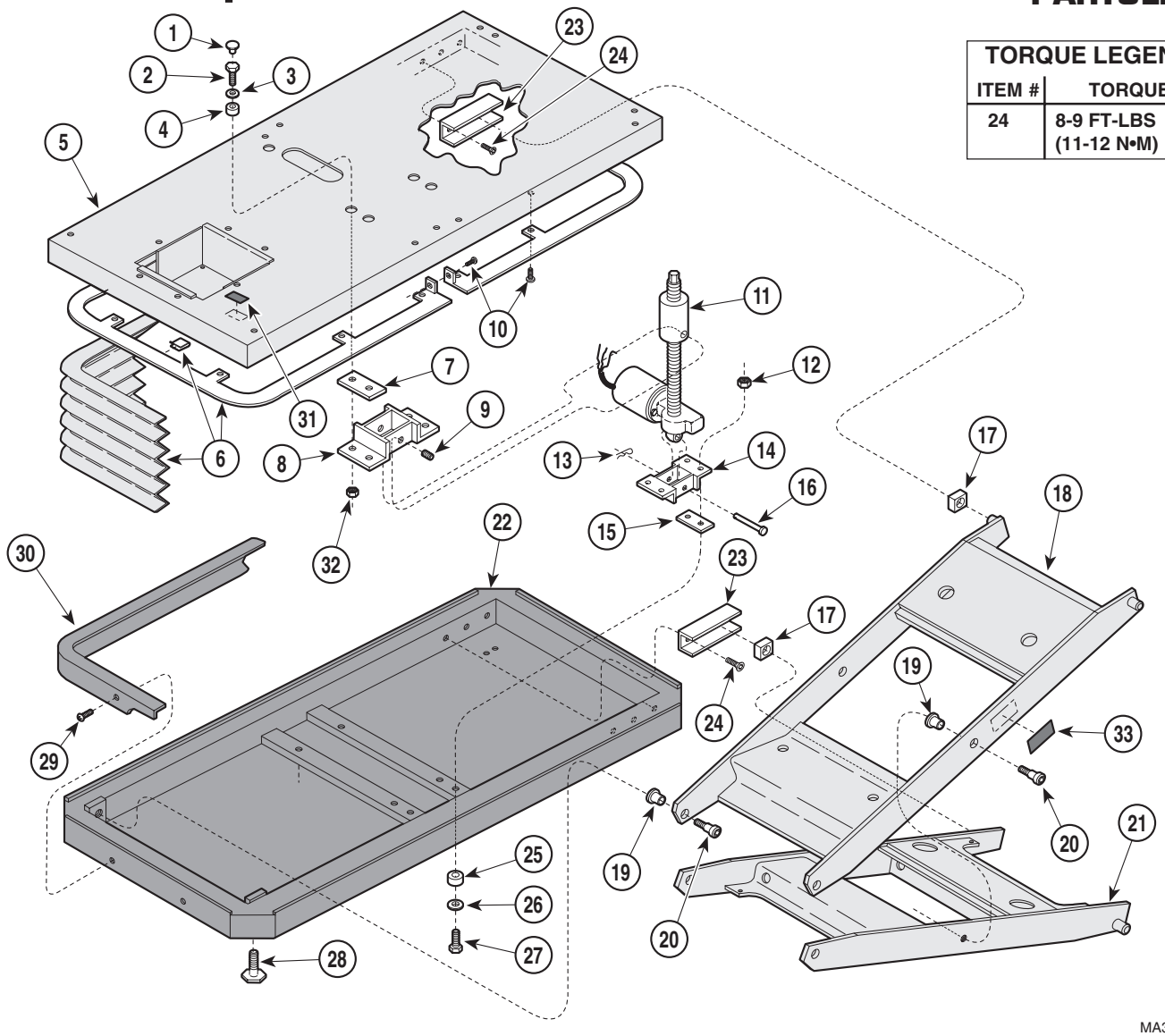
MA268402

Item	Part No.	Description	Qty.	Item	Part No.	Description	Qty.
1	002-0301-00	Large Drawer Assembly (Includes Items 2 thru 6)	1	7	002-0302-00	Small Drawer Assembly (Includes Items 8 thru 12)	1
2	• 053-0202-00	• Large Drawer	1	8	• 053-0201-00	• Small Drawer	1
3	• 053-0338-00	• Large Drawer Front	1	9	• 053-0337-00	• Small Drawer Front	1
4	• 040-0006-00	• Screw	4	10	• 040-0006-00	• Screw	4
5	• 016-0472-00	• Drawer Shaft	2	11	• 016-0472-00	• Drawer Shaft	2
6	• 053-0272-00	• Roller	2	12	• 053-0272-00	• Roller	2

Always Specify Model & Serial Number

Base Components

TORQUE LEGEND	
ITEM #	TORQUE
24	8-9 FT-LBS (11-12 N•M)



MA309400

Used On Units With Serial Number BG1000 thru BG3179, BH1000 thru BH1479, and DK1000 thru DK1015

Item	Part No.	Description	Qty.
1	053-0050-02	Hole Plug	4
2	040-0250-27	Bolt	4
3	045-0001-02	Flatwasher	4
4	053-0127-02	Vibration Mount Bushing	4
5		Upper Base Assembly (Refer to "Cabinet Components" Elsewhere)	Ref
6	029-0678-00	Bellows Assembly	1
7	053-0293-00	Isolator Pad	2
8	030-0518-00	Upper Weldment Hitch	1
9	042-0080-00	Pivot Screw (Apply Adhesive #042-0025-01 (Loctite 262)	2
10	040-0010-47	Screw	14
11		Base Actuator (Refer to "Base Actuator Assembly" Elsewhere)	Ref
12	041-0250-06	Nut	4
13	042-0004-00	Hitch Pin Clip	1
14	030-0517-00	Lower Weldment Hitch	1
15	053-0293-00	Isolator Pad	2
16	042-0005-04	Clevis Pin	1
17	053-0189-00	Slide Bearing	4
18	030-0520-00	Outer Weldment Scissors	1
19	016-0131-04	Flanged Bearing	6
20	042-0014-05	Shoulder Screw (Apply Loctite #042-0025-01)	6
21	030-0519-00	Inner Weldment Scissors	1
22	030-0522-00	Lower Base Weldment (Domestic Units)	1
	030-0522-01	Lower Base Weldment (Export Units)	1
23	021-0018-00	Slide Extrusion	4
24	040-0250-35	Screw	12
25	053-0127-02	Vibration Mount Bushing	4
26	045-0001-02	Flatwasher	4
27	040-0250-27	Bolt	4
28	016-0001-00	Leveling Screw	4
29	040-0010-10	Screw	6
30	050-1435-00	Bellows Retainer Trim	2
31	061-0233-00	Fuse Label	1
32	041-0250-06	Nut	4
33	061-0045-00	Caution Label	2

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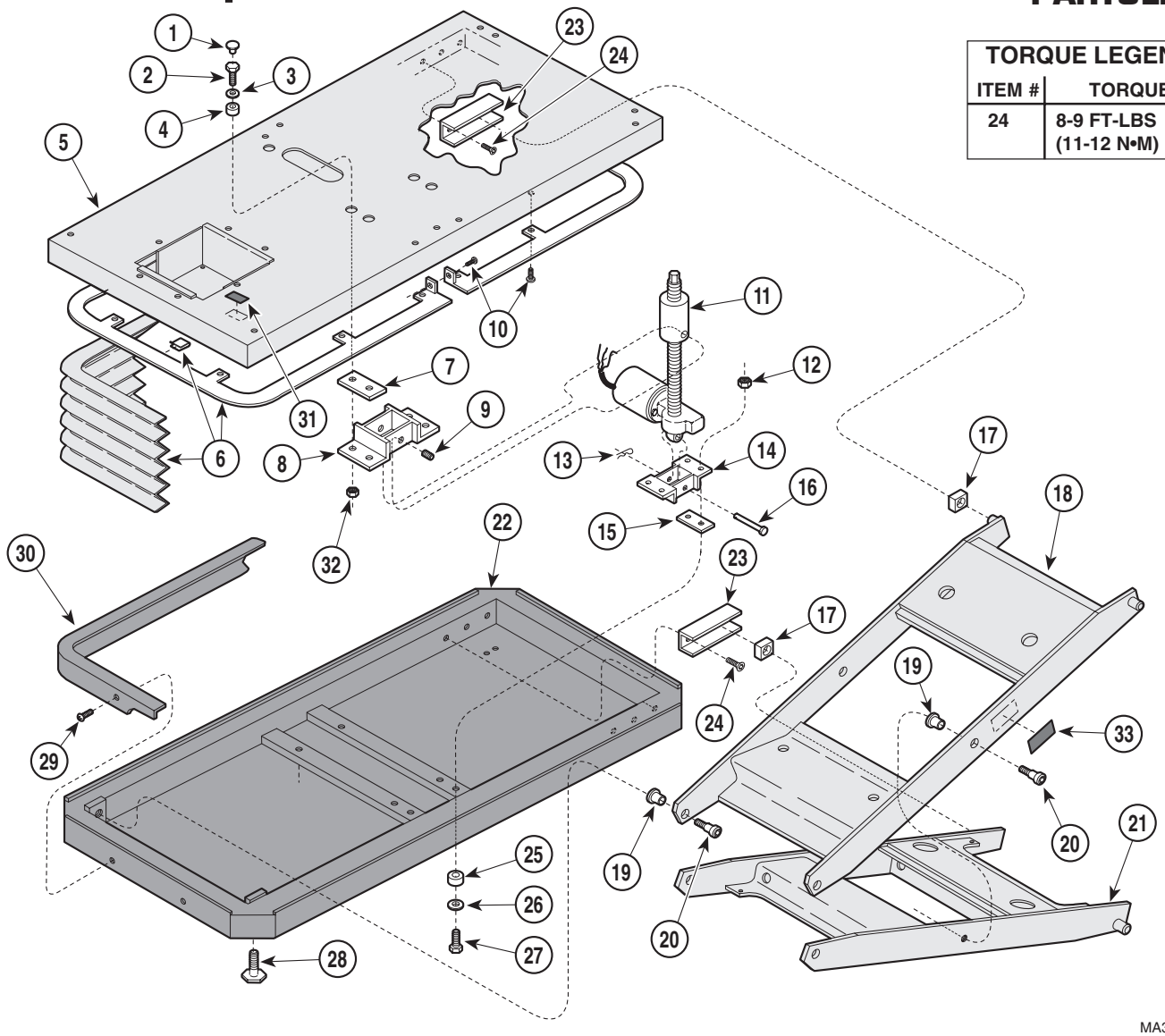
Base Components

TORQUE LEGEND	
ITEM #	TORQUE
24	8-9 FT-LBS (11-12 N•M)



MA309400

Used On Units With Serial Number BG3180 thru BG3780, BH1480 thru BH1585, and DK1016 thru DK1068

Item	Part No.	Description	Qty.
1	053-0050-02	Hole Plug	4
2	040-0250-27	Bolt	4
3	045-0001-02	Flatwasher	4
4	053-0127-02	Vibration Mount Bushing	4
5		Upper Base Assembly (Refer to "Cabinet Components" Elsewhere)	Ref
6	029-0678-00	Bellows Assembly	1
7	053-0293-00	Isolator Pad	2
8	030-0518-00	Upper Weldment Hitch	1
9	042-0080-00	Pivot Screw (Apply Adhesive #042-0025-01 (Loctite 262)	2
10	040-0010-47	Screw	14
11		Base Actuator (Refer to "Base Actuator Assembly" Elsewhere)	Ref
12	041-0250-06	Nut	4
13	042-0004-00	Hitch Pin Clip	1
14	030-0517-00	Lower Weldment Hitch	1
15	053-0293-00	Isolator Pad	2
16	042-0005-04	Clevis Pin	1
17	053-0189-00	Slide Bearing	4
18	030-0520-00	Outer Weldment Scissors	1
19	016-0131-04	Flanged Bearing	6
20	042-0014-05	Shoulder Screw (Apply Loctite #042-0025-01)	6
21	030-0519-00	Inner Weldment Scissors	1
22	030-0522-00	Lower Base Weldment (Domestic Units)	1
	030-0522-01	Lower Base Weldment (Export Units)	1
23	021-0018-00	Slide Extrusion	4
24	040-0250-35	Screw	12
25	053-0127-02	Vibration Mount Bushing	4
26	045-0001-02	Flatwasher	4
27	040-0250-27	Bolt	4
28	016-0001-00	Leveling Screw	4
29	040-0010-10	Screw	6
30	050-1435-02	Bellows Retainer Trim	2
31	061-0233-00	Fuse Label	1
32	041-0250-06	Nut	4
33	061-0045-00	Caution Label	2

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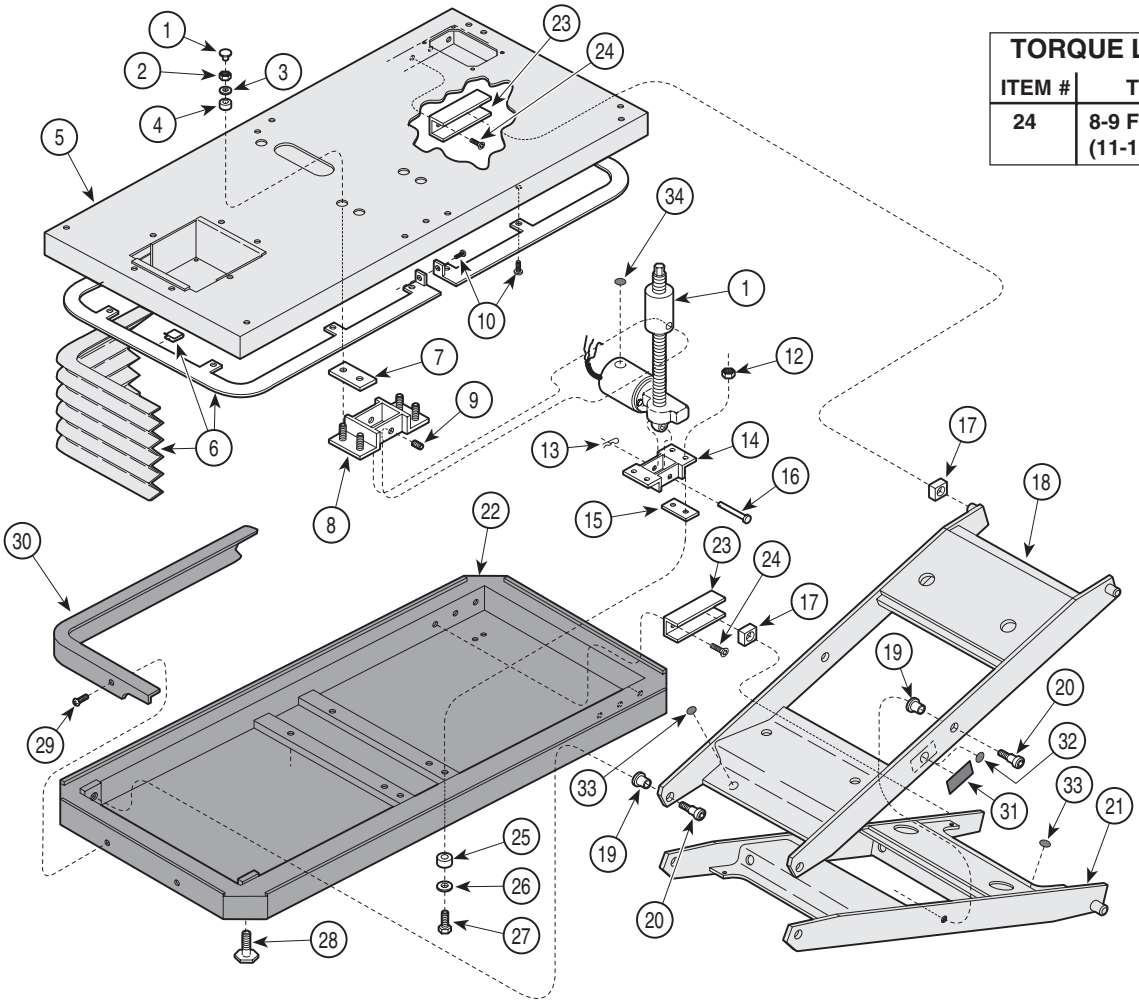
Base Components

TORQUE LEGEND	
ITEM #	TORQUE
24	8-9 FT-LBS (11-12 N•M)



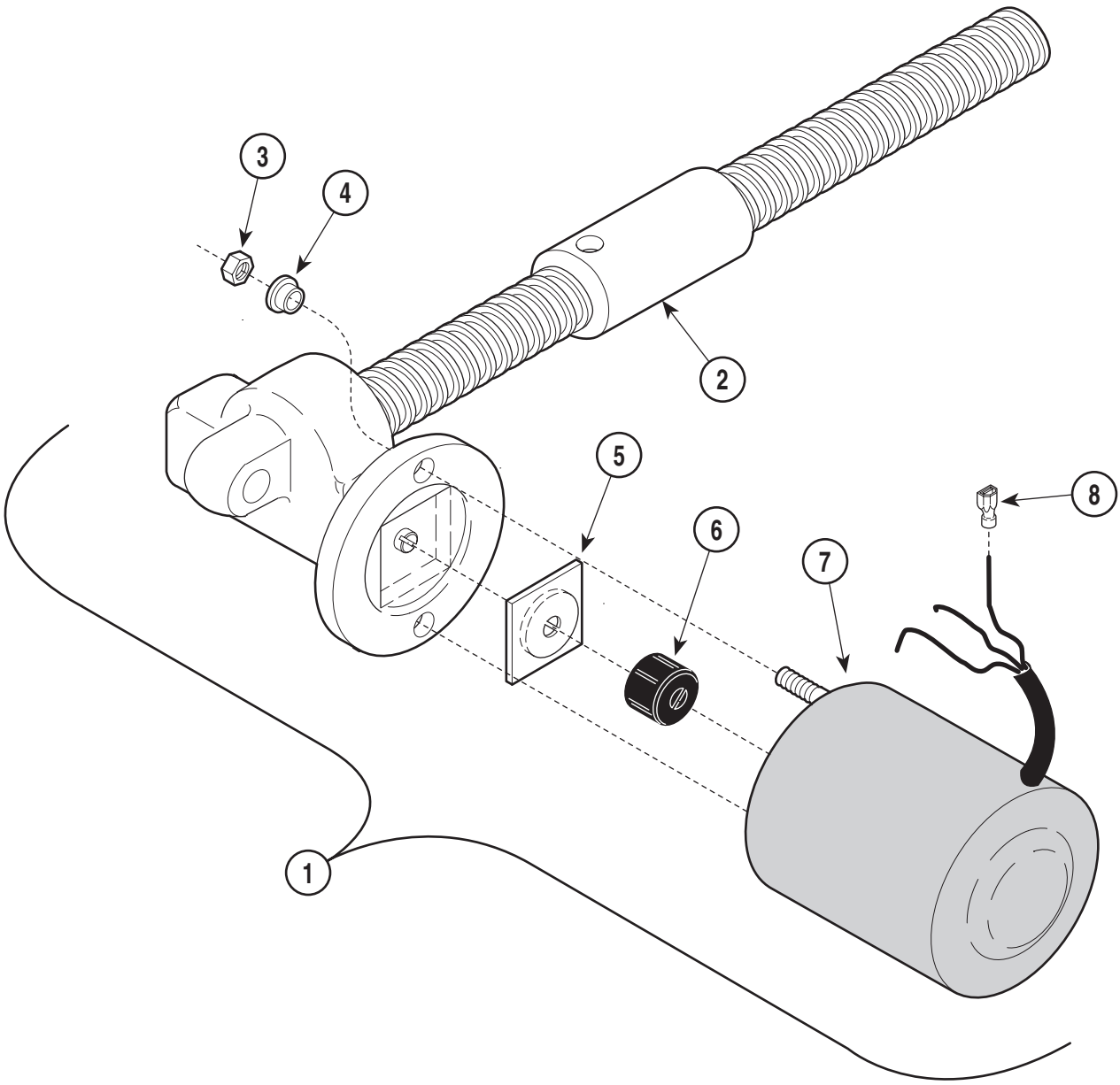
MA462800

Used On Units With Serial Number BG3781, BH1586,DK1069, DV1000 LE1000, LF1000 and LG1000 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1	053-0050-02	Hole Plug	4
2	041-0250-01	Nut	4
3	045-0001-02	Flatwasher	4
4	053-0127-02	Vibration Mount Bushing	4
5		Upper Base Assembly (Refer to "Cabinet Components" Elsewhere)	Ref
6	029-0678-00	Bellows Assembly	1
7	053-0293-00	Isolator Pad	2
8	030-0891-10	Upper Weldment Hitch	1
9	042-0080-00	Pivot Screw (Apply Adhesive #042-0025-01 (Loctite 262)	2
10	040-0010-47	Screw	14
11		Base Actuator (Refer to "Base Actuator Assembly" Elsewhere)	Ref
12	041-0250-06	Nut	4
13	042-0004-00	Hitch Pin Clip	1
14	030-0517-00	Lower Weldment Hitch	1
15	053-0293-00	Isolator Pad	2
16	042-0005-04	Clevis Pin	1
17	053-0189-00	Slide Bearing	4
18	030-0520-00	Outer Weldment Scissors	1
19	016-0131-04	Flanged Bearing	6
20	042-0014-05	Shoulder Screw (Apply Loctite #042-0025-01)	6
21	030-0519-00	Inner Weldment Scissors	1
22	030-0893-00	Lower Base Weldment (Domestic Units w/ prefixes BG and BH)	1
	030-0893-01	Lower Base Weldment (Non-CE Export)	1
	030-1148-01	Lower Base Weldment (Domestic Units w/ prefixes LF and LG)	1
	030-1148-00	Lower Base Weldment (CE Export)	1
23	021-0025-01	Slide Extrusion - R.H.	2
	021-0025-02	Slide Extrusion - L.H.	2
24	040-0250-35	Screw	12
25	053-0127-02	Vibration Mount Bushing	4
26	045-0001-02	Flatwasher	4
27	040-0250-27	Bolt	4
28	016-0001-00	Leveling Screw	4
29	040-0010-10	Screw	6
30	050-1435-03	Bellows Retainer Trim	2
31	061-0045-00	Caution Label (Domestic Units)	2
32	061-0654-00	Caution Label (CE Export Units)	2
33	061-0653-00	Earth (Ground) Label (CE Export)	2
34	061-0650-00	Dangerous Voltage Label (CE Export)	1

Always Specify Model & Serial Number

Base Actuator Assembly



MA310200

Item	Part No.	Description	Qty.
1	002-0344-00	Actuator Assembly - 115 Volt (prefixes BG, BH and DV) (Includes Items 2 thru 8)	1
	029-0682-00	Actuator Assembly - 115 Volt (prefixes LF and LG) (Includes Items 2 thru 8)	1
	029-0682-01	Actuator Assembly - 230 Volt (prefixes DK and LE) (Includes Items 2 thru 8)	1
2	• 016-0230-02	• Actuator (Less Motor)	1
3	• 041-0010-01	• Nut	2
4	• 053-0198-00	• Shoulder Washer	2
5	• 016-0237-00	• Actuator Brake	1
6	• 016-0509-00	• Motor Coupler	1
7	• 002-0574-00	• Motor - 115 Volt (Less Terminals)	1
	• 002-0574-02	• Motor - 230 Volt (Less Terminals)	1
8	• 015-0312-00	• Terminal	3

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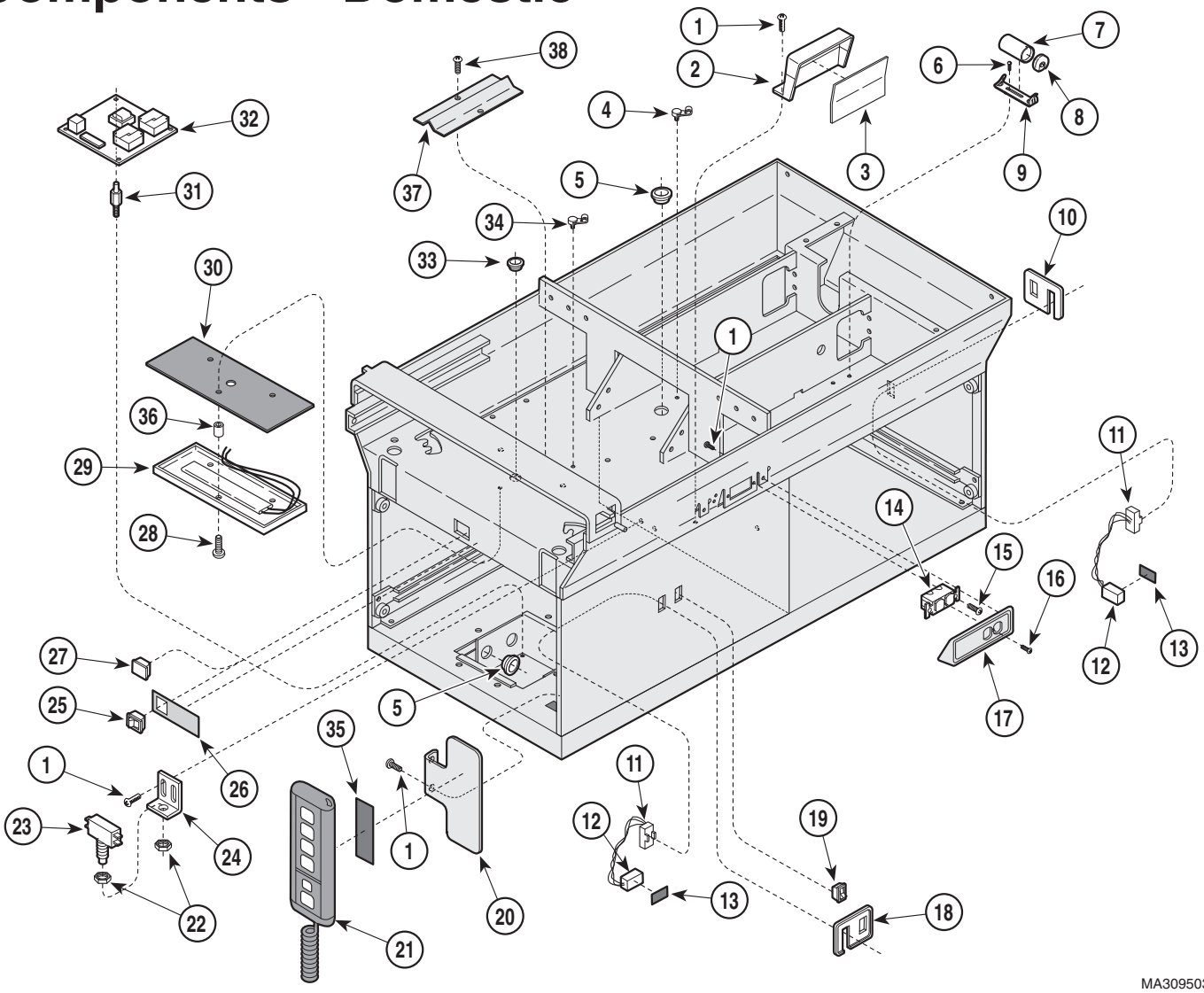
Upper Base Electrical Components - Domestic



MA309503

Used On Units With Serial Number BG1000 thru BG1677 and BH1000 thru BH1143

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	8
2	050-1212-00	Receptacle Box	1
3	053-0092-00	Fishpaper Insulator	1
4	015-0007-04	Wrap-N-Tap Clamp	4
5	053-0068-09	Snap Bushing	6
6	040-0010-62	Screw	2
7	015-0437-02	Capacitor	1
8	015-0413-00	Capacitor Cap	1
9	015-0412-00	Capacitor Bracket	1
10	053-0282-00	Control Cover Plate	1
11	015-0524-00	Handset Jack	2
12	015-0540-00	Modular Coupler	2
13	053-0083-00	Foam Tape (2 x 1-1/2")	AR
14	015-0083-01	Duplex Receptacle	1
15	040-0006-13	Screw	2
16	040-0006-23	Screw	1
17	~~053-0234-00~~	Receptacle Cover	1
18	053-0281-00	Disable Control Plate	1
19	015-0543-00	Switch	1
20	050-1386-00	Hand Control Bracket	1
21	029-0681-00	Hand Control (Includes Item 35)	1
22	041-0375-09	Nut	2
23	015-0422-00	Limit Switch	1
24	050-1385-00	Limit Switch Bracket	1
25	015-0650-00	Heater Switch (Units With Heater)	1
26	061-0219-00	Label (Units With Heater)	1
27	053-0350-00	Plug (Units Without Heater)	1
28	040-0010-35	Screw (Units With Heater)	3
29	029-0056-02	Heater Plate Assy. (Units With Heater)	1
30	053-0137-01	Insulation	1
31	053-0295-00	Standoff	4
32	002-0347-01	PC Board Assembly	1
33	053-0068-00	Snap Bushing	2
34	015-0007-00	Wrap-N-Tap Clamp	1
35	053-0131-13	Velcro Hook Tape	1
36	053-0138-06	Rolled Spacer	3
37	050-1709-10	Heater wire Cover	1
38	040-0010-00	Screw	2

Always Specify Model & Serial Number

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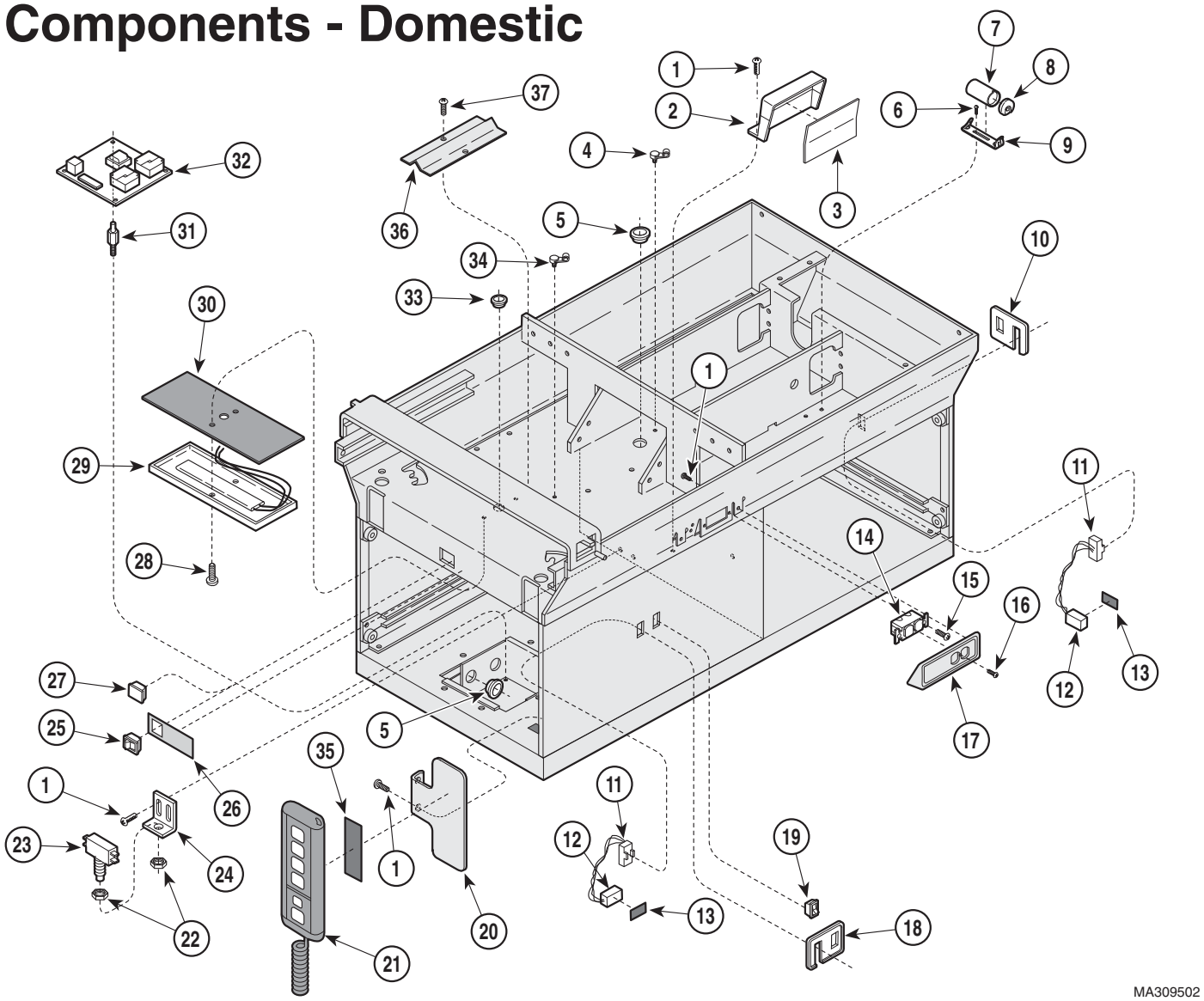
Upper Base Electrical Components - Domestic



MA309502

Used On Units With Serial Number BG1678 thru BG2289 and BH1144 thru BH1273

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	8
2	050-1212-00	Receptacle Box	1
3	053-0092-00	Fishpaper Insulator	1
4	015-0007-04	Wrap-N-Tap Clamp	4
5	053-0068-09	Snap Bushing	6
6	040-0010-62	Screw	2
7	015-0437-02	Capacitor	1
8	015-0413-00	Capacitor Cap	1
9	015-0412-00	Capacitor Bracket	1
10	053-0282-00	Control Cover Plate	1
11	015-0524-00	Handset Jack	2
12	015-0540-00	Modular Coupler	2
13	053-0083-00	Foam Tape (2 x 1-1/2")	AR
14	015-0083-01	Duplex Receptacle	1
15	040-0006-13	Screw	2
16	040-0006-23	Screw	1
17	~~053-0234-00~~	Receptacle Cover	1
18	053-0281-00	Disable Control Plate	1
19	015-0543-00	Switch	1
20	050-1386-00	Hand Control Bracket	1
21	029-0681-00	Hand Control (Includes Item 35)	1
22	041-0375-09	Nut	2
23	015-0422-00	Limit Switch	1
24	050-1385-00	Limit Switch Bracket	1
25	015-0650-00	Heater Switch (Units With Heater)	1
26	061-0219-00	Label (Units With Heater)	1
27	053-0350-00	Plug (Units Without Heater)	1
28	040-0010-35	Screw (Units With Heater)	3
29	029-0056-02	Heater Plate Assy. (Units With Heater)	1
30	053-0137-01	Insulation	1
31	053-0295-00	Standoff	4
32	002-0347-01	PC Board Assembly	1
33	053-0068-00	Snap Bushing	2
34	015-0007-00	Wrap-N-Tap Clamp	1
35	053-0131-13	Velcro Hook Tape	1
36	050-1709-10	Heater wire Cover	1
37	040-0010-00	Screw	2

Always Specify Model & Serial Number

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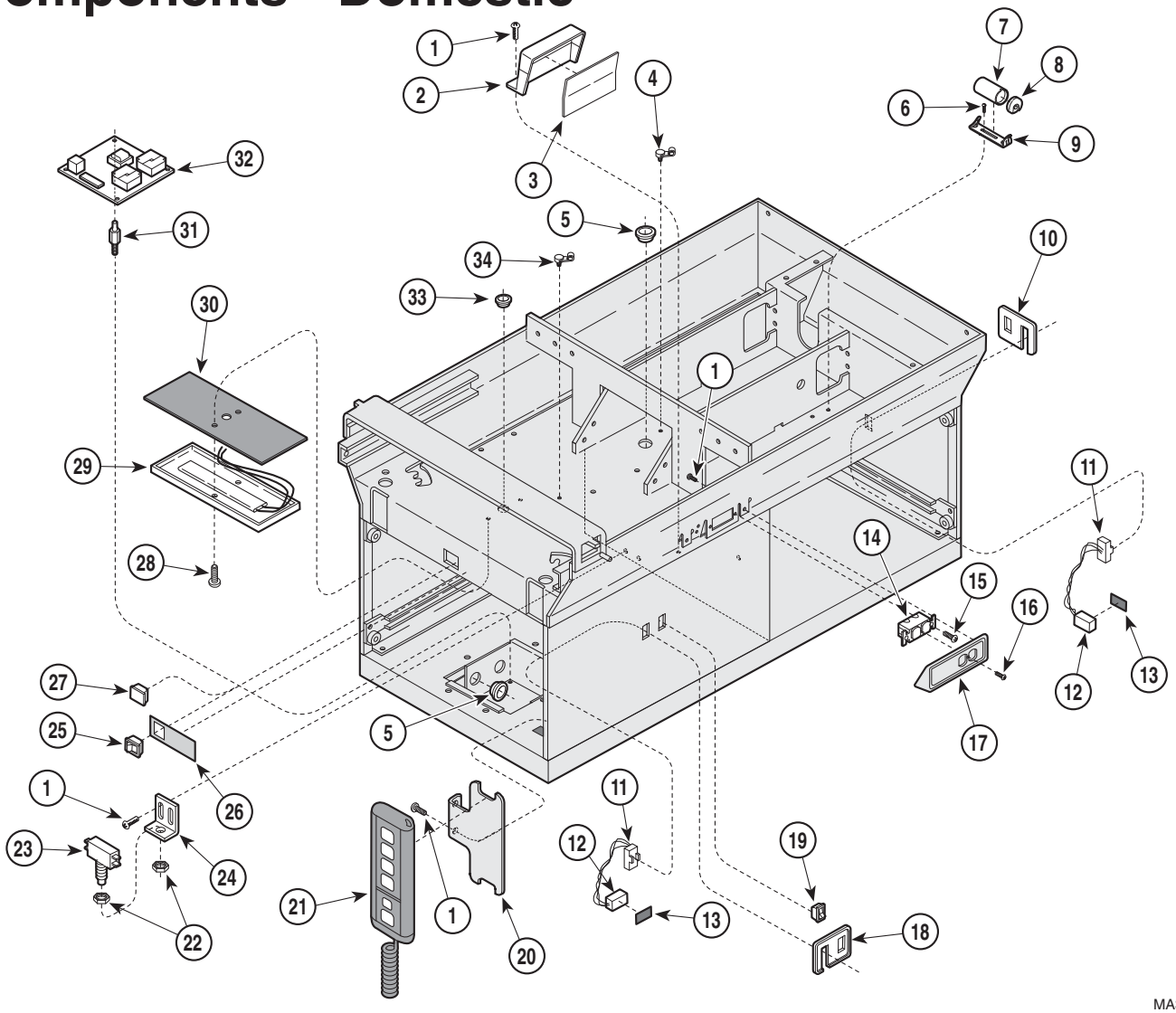
Upper Base Electrical Components - Domestic



MA309501

Used On Units With Serial Number BG2290 and BH1274 thru Present
Used On Units With Serial Number V2200 Thru Present

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	8
2	050-1212-00	Receptacle Box	1
3	053-0092-00	Fishpaper Insulator	1
4	015-0007-04	Wrap-N-Tap Clamp	4
5	053-0068-09	Snap Bushing	6
6	040-0010-62	Screw	2
7	015-0437-02	Capacitor	1
8	015-0413-00	Capacitor Cap	1
9	015-0412-00	Capacitor Bracket	1
10	053-0282-00	Control Cover Plate	1
11	015-0524-00	Handset Jack	2
12	015-0540-00	Modular Coupler	2
13	053-0083-00	Foam Tape (2 x 1-1/2")	AR
14	015-0083-01	Duplex Receptacle	1
15	040-0006-13	Screw	2
16	040-0006-23	Screw	1
17	~~053-0234-00~~	Receptacle Cover	1
18	053-0281-00	Disable Control Plate	1
19	015-0543-00	Switch	1
20	050-1877-10	Hand Control Bracket	1
21	002-0409-00	Hand Control Assembly	1
22	041-0375-09	Nut	2
23	015-0422-00	Limit Switch	1
24	050-1385-00	Limit Switch Bracket	1
25	015-0650-00	Heater Switch (Units With Heater)	1
26	061-0219-00	Label (Units With Heater)	1
27	053-0350-00	Plug (Units Without Heater)	1
28	040-0010-35	Screw (Units Without Heater)	2
29	002-0554-00	Heater Plate Assy. (Units With Heater [Includes Items 28 and 30])	1
30	053-0362-00	Heat Shield	1
31	053-0295-00	Standoff	4
32	002-0347-01	PC Board Assembly	1
33	053-0068-00	Snap Bushing	2
34	015-0007-00	Wrap-N-Tap Clamp	1

Always Specify Model & Serial Number

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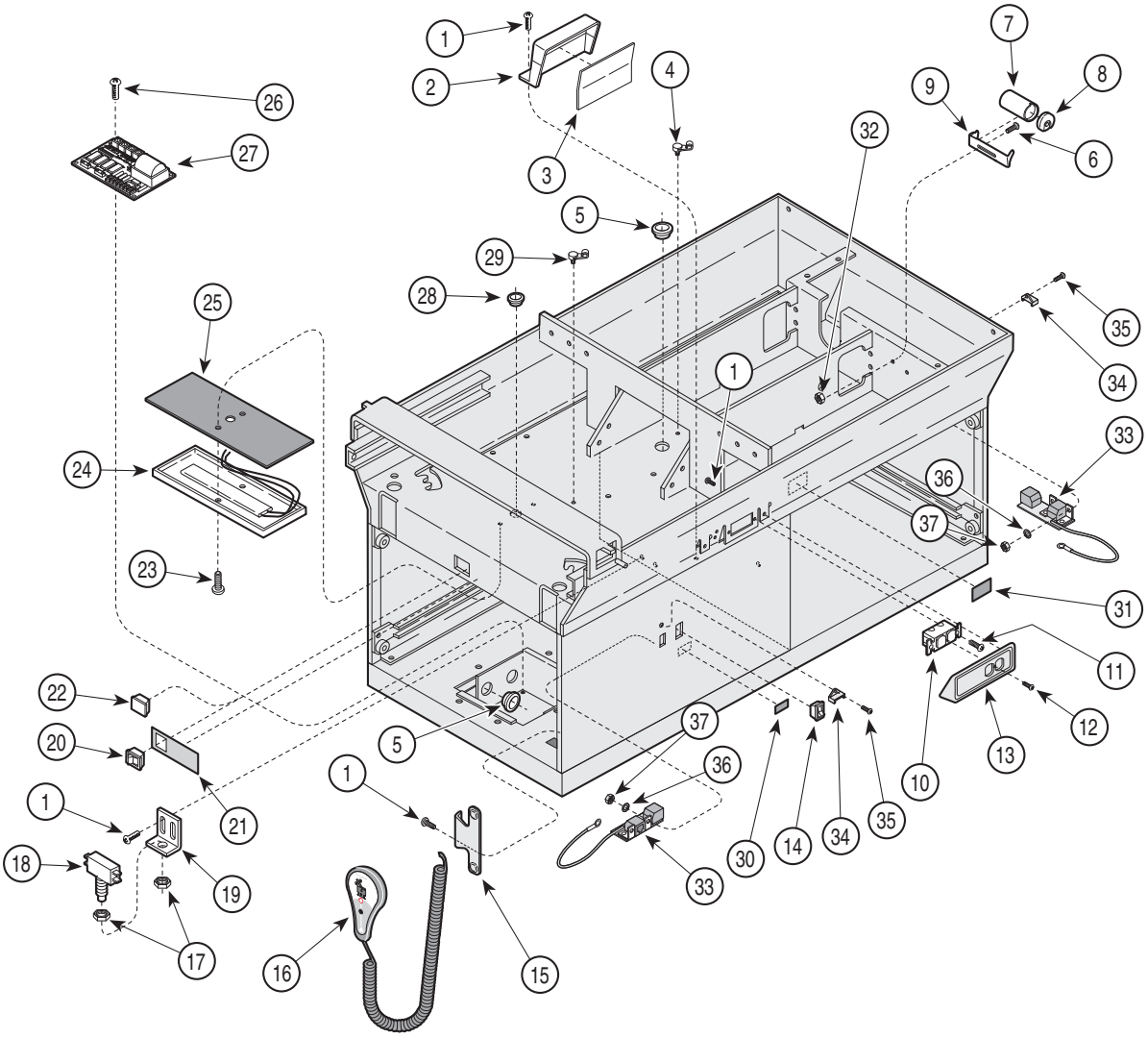
Upper Base Electrical Components - Domestic



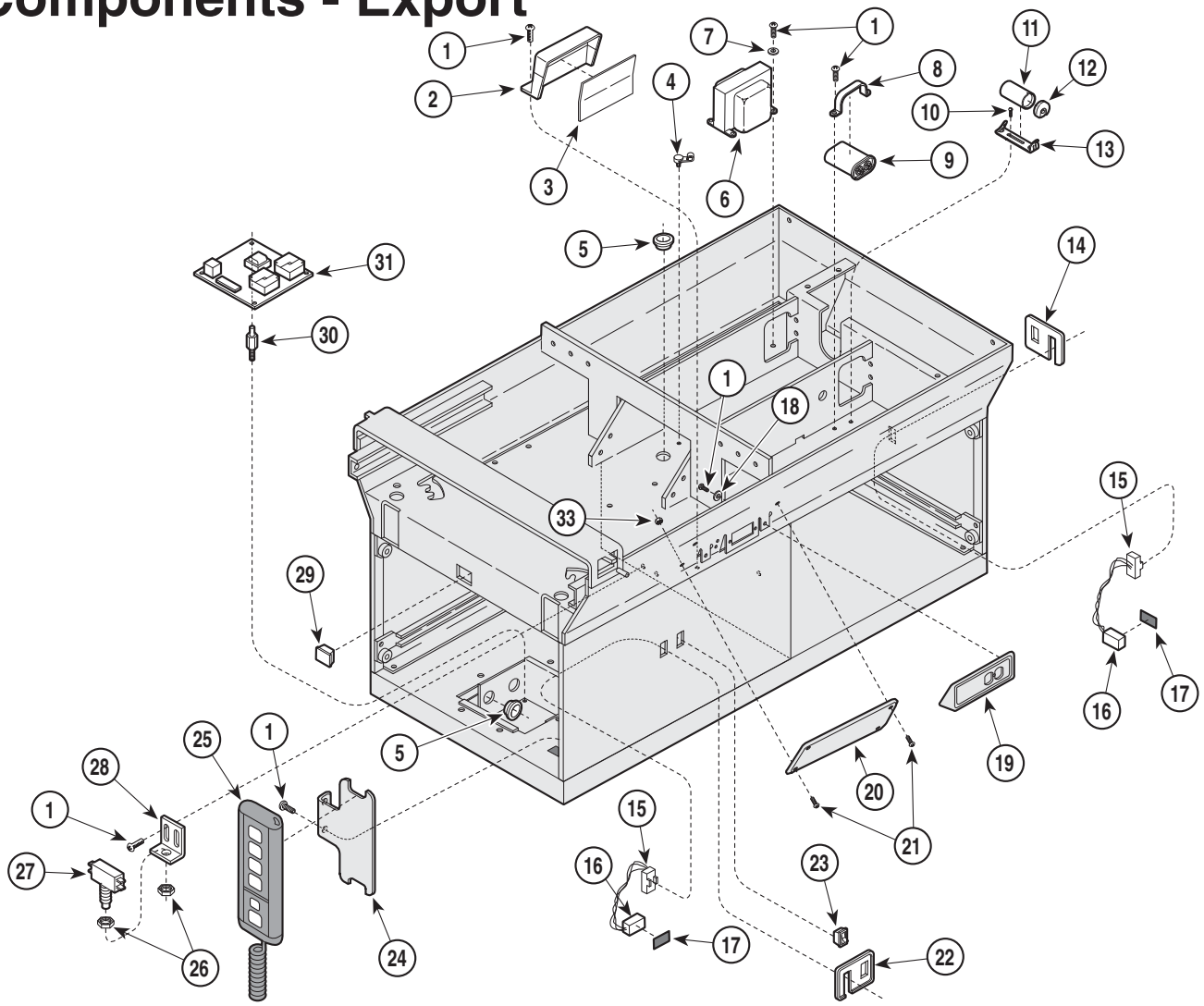
MA462900

Used On Units With Serial Number LF100 and LG1000 Thru Present

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	8
2	050-1212-00	Receptacle Box	1
3	053-0092-02	Fishpaper Insulator	1
4	015-0007-04	Wrap-N-Tap Clamp	4
5	053-0068-09	Snap Bushing	6
6	040-0010-62	Screw	2
7	015-0437-02	Capacitor	1
8	015-0413-00	Capacitor Cap	1
9	015-0412-00	Capacitor Bracket	1
10	015-0083-01	Duplex Receptacle	1
11	040-0006-13	Screw	2
12	040-0006-23	Screw	1
13	~~053-0234-00~~	Receptacle Cover	1
14	015-0543-00	Switch	1
15	050-4005-10	Hand Control Bracket	1
16	029-2223-00	Hand Control Assembly	1
17	041-0375-09	Nut	2
18	015-0422-00	Limit Switch	1
19	050-1385-00	Limit Switch Bracket	1
20	015-0650-00	Heater Switch (Units With Heater)	1
21	061-0219-00	Label (Units With Heater)	1
22	053-0350-00	Plug (Units Without Heater)	1
23	040-0010-35	Screw (Units Without Heater)	2
24	002-0554-00	Heater Plate Assy. (Units With Heater [Includes Items 28 and 30])	1
25	053-0362-00	Heat Shield	1
26	040-0006-14	Screw	4
27	015-1167-00	PC Board Assembly	1
28	053-0068-00	Snap Bushing	2
29	015-0007-00	Wrap-N-Tap Clamp	1
30	061-0701-00	Control Disable Label	1
31	061-0628-00	Caution Label (Units w/o Heater)	1
32	041-0010-02	Nut	2
33	015-1173-00	Hand Control Inlet Board	2
34	016-0750-00	Inlet Cover	2
35	040-0008-79	Screw	2
36	045-0001-45	Washer	4
37	041-0006-01	Nut	4

Always Specify Model & Serial Number

Upper Base Electrical Components - Export



MA309600

Used On Units With Serial Number DK1000 and DV1000 thru Present
Used On Units With Serial Number V2200 thru Present

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	12
2		Receptacle Box	Ref
3		Fishpaper Insulator	Ref
4	015-0007-04	Wrap-N-Tap Clamp	4
5	053-0068-09	Snap Bushing	6
6	029-1599-00	Transformer (100 Volt Units Only)	1
7	045-0001-08	Lockwasher	4
8	015-0724-00	Capacitor Clamp (230 Volt Units Only)	1
9	015-0723-00	Capacitor (230 Volt Units Only)	1
10	040-0010-62	Screw	2
11	015-0437-02	Capacitor (100 Volt Units Only)	1
12	015-0413-00	Capacitor Cap (100 Volt Units Only)	1
13	015-0412-00	Capacitor Bracket (100 Volt Units Only)	1
14	053-0282-00	Control Cover Plate	1
15	015-0524-00	Handset Jack	2
16	015-0540-00	Modular Coupler	2
17	053-0083-00	Foam Tape (2 x 1-1/2")	AR
18	045-0001-18	Lockwasher	2
19		Receptacle Cover ([230 Volt Units Only] Refer to "Receptacle Assembly" Elsewhere)	Ref
20	~~053-0234-00~~	Receptacle Cover (100 Volt Units Only)	1
21	040-0008-27	Screw	4
22	053-0281-00	Disable Control Plate	1
23	015-0543-00	Switch	1
24	050-1877-10	Hand Control Bracket	1
25	002-0409-00	Hand Control Assembly	1
26	041-0375-09	Nut	2
27	015-0422-00	Limit Switch	1
28	050-1385-00	Limit Switch Bracket	1
29	053-0350-00	Plug	1
30	053-0295-00	Standoff	4
31	015-0696-01	PC Board Assembly (230 V. Units "DK")	1
	002-0347-01	PC Board Assembly (100 V. Units "DV")	1
32	041-0008-01	Nut	4

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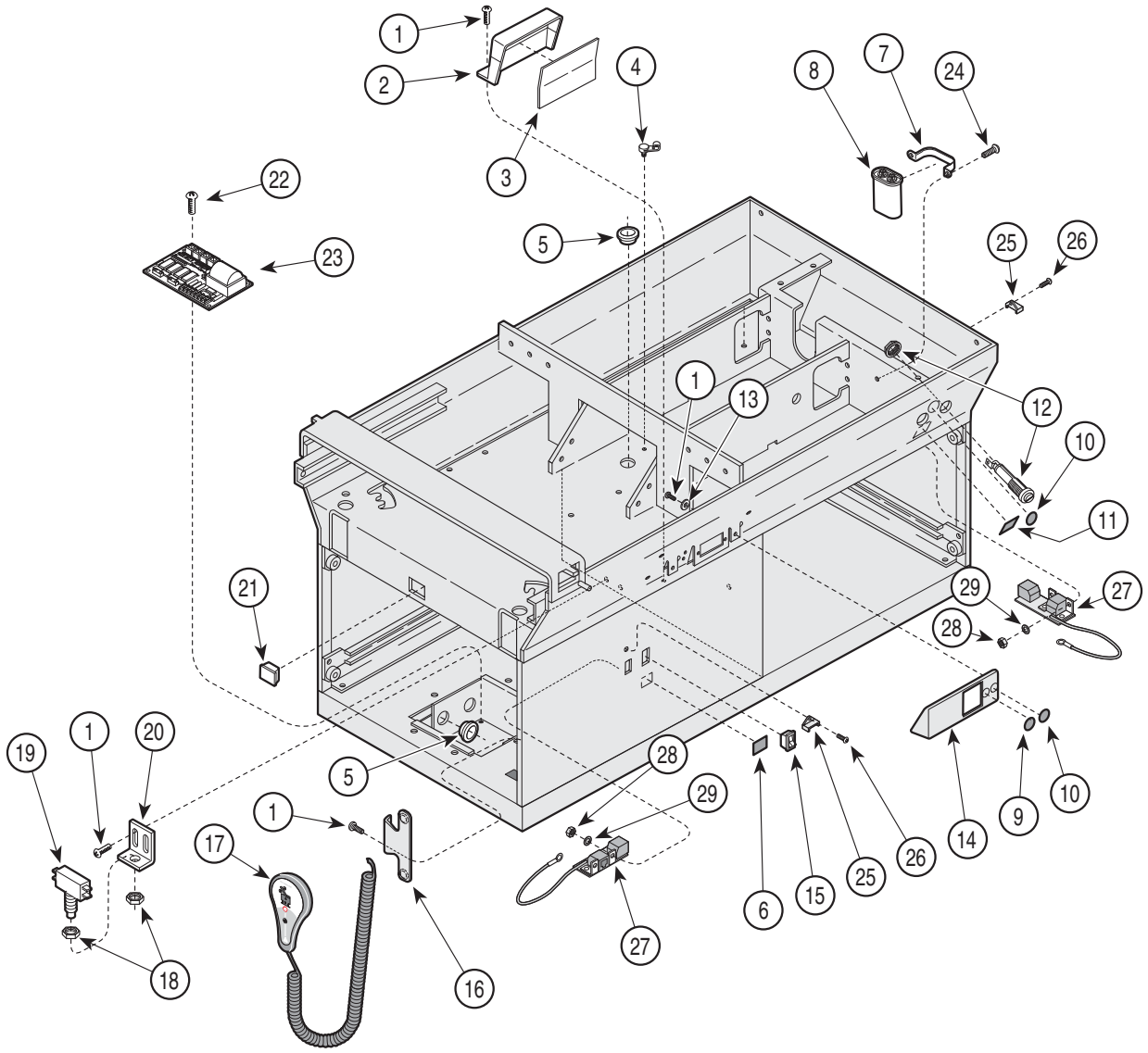
Upper Base Electrical Components - CE Export



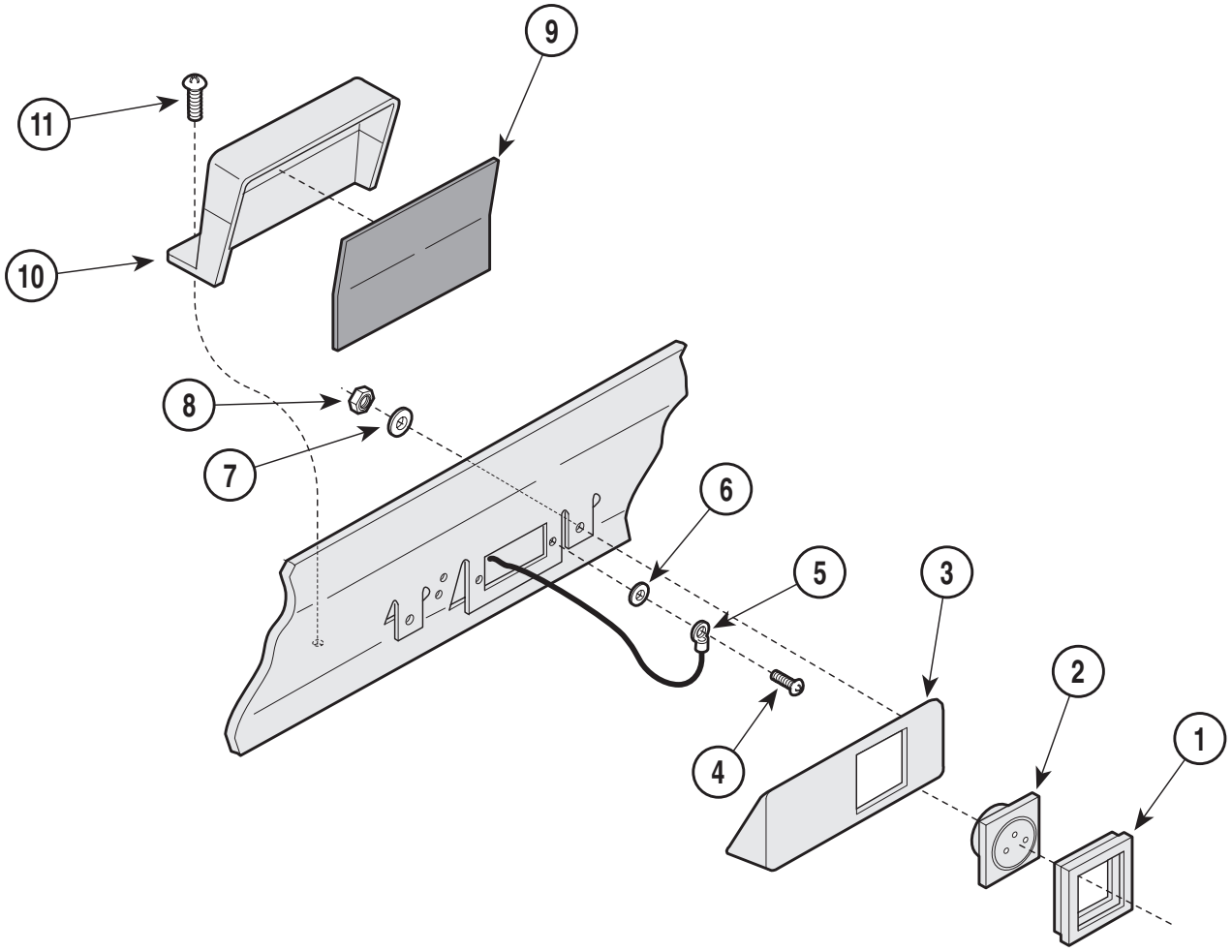
MA463000

Used On Units With Serial Number LE1000 thru Present
Used On Units With Serial Number V2200 thru Present

Item	Part No.	Description	Qty.
1	040-0010-47	Screw	6
2		Receptacle Box	Ref
3		Fishpaper Insulator	Ref
4	015-0007-04	Wrap-N-Tap Clamp	4
5	053-0068-09	Snap Bushing	6
6	061-0677-00	Control Disable Label	1
7	015-0724-00	Capacitor Clamp (230 Volt Units Only)	1
8	015-0723-00	Capacitor (230 Volt Units Only)	1
9	061-0650-00	Dangerous Voltage Label	1
10	061-0654-00	Caution Label	2
11	061-0691-00	Supply Fuse Label	2
12	015-1237-00	Fuse Holder	2
13	045-0001-18	Lockwasher	2
14		Receptacle Cover (Refer to "Receptacle Assembly" Elsewhere)	Ref
15	015-0543-00	Switch	1
16	050-4005-10	Hand Control Bracket	1
17	029-2223-01	Hand Control Assembly	1
18	041-0375-09	Nut	2
19	015-0422-00	Limit Switch	1
20	050-1385-00	Limit Switch Bracket	1
21	053-0350-00	Plug	1
22	040-0006-14	Screw	4
23	015-1167-01	PC Board Assembly	1
24	040-0010-125	Screw	2
25	016-0750-00	Inlet Cover	2
26	040-0008-79	Screw	2
27	015-1173-00	Hand Control Inlet Board	2
28	041-0006-01	Nut	4
29	045-0001-45	Washer	4

Always Specify Model & Serial Number

Receptacle Assembly



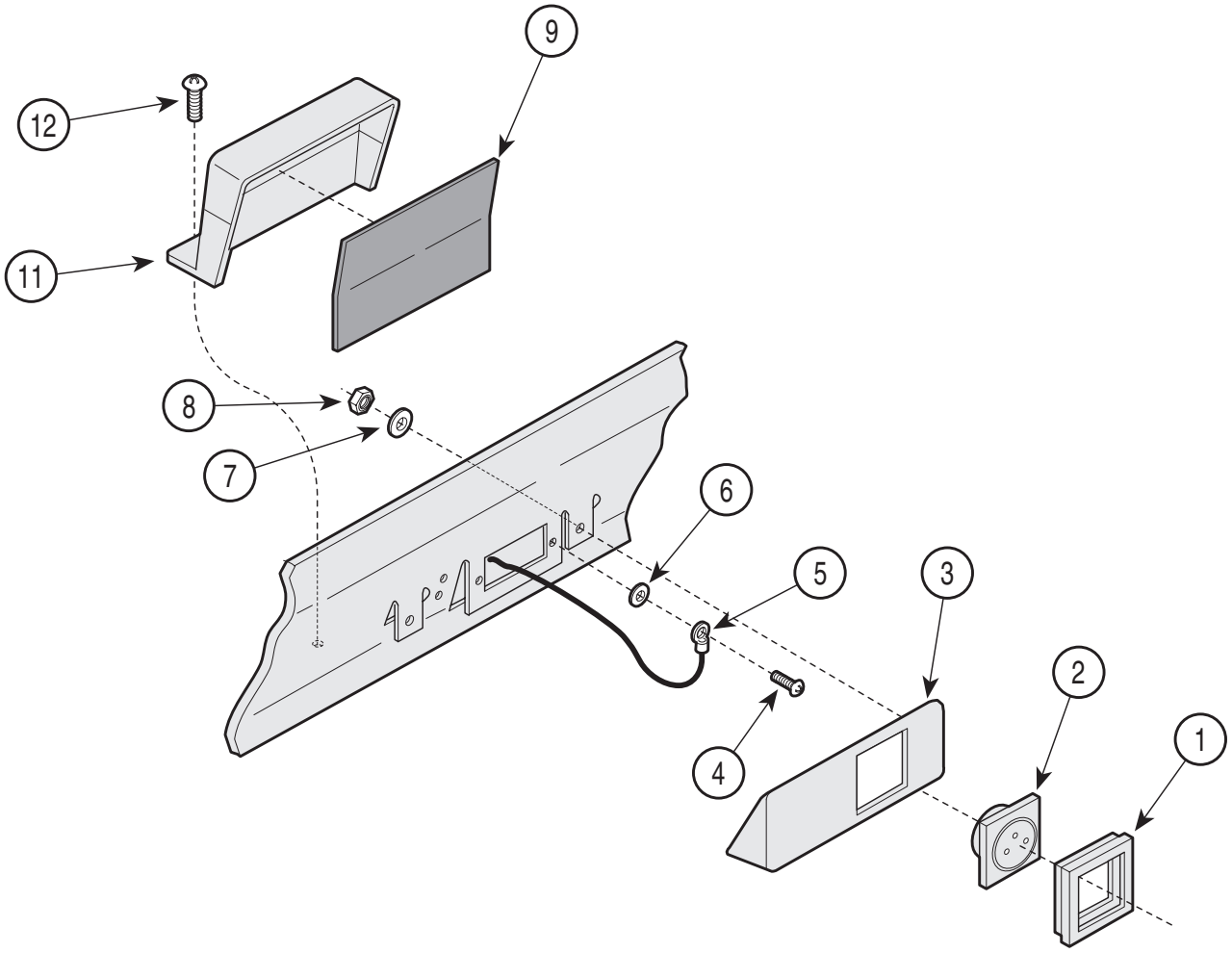
MA311700

Used On Units With Serial Number DK1000 and DV1000 thru Present
Used On Units With Serial Number V2200 thru Present

Item	Part No.	Description	Qty.
	9A159001	Receptacle Assembly - Belgium (Includes Items 1 thru 10)	1
	9A159002	Receptacle Assembly - Europe (Includes Items 1 thru 10)	1
	9A159003	Receptacle Assembly - United Kingdom (Includes Items 1 thru 10)	1
	9A159004	Receptacle Assembly - Italian (Includes Items 1 thru 10)	1
	9A159005	Receptacle Assembly - Swiss (Includes Items 1 thru 10)	1
	9A159006	Receptacle Assembly - Australian (Includes Items 1 thru 10)	1
1	• 015-0704-00	• Receptacle Bezel (Used on Belgium, Europe, United Kingdom and Australian Models Only)	1
	• 015-0704-01	• Receptacle Bezel (Used on Italian and Swiss Models Only)	2
2	• 015-1294-00	• Europe Receptacle	1
	• 015-1294-01	• French/Belgium Receptacle (Shown)	1
	• 015-1294-02	• United Kingdom Receptacle	1
	• 015-1294-03	• Italian Receptacle	2
	• 015-0703-04	• Swiss Receptacle	2
	• 015-1294-05	• Australian Receptacle	1
3	• 030-0758-10	• Receptacle Cover Weldment	1
4	• 040-0010-47	• Screw	1
5	•	• Jumper Wire (Refer to "Wiring Diagram" Elsewhere [Section 5])	Ref
6	• 045-0001-31	• Lockwasher	1
7	• 045-0001-18	• Lockwasher	2
8	• 041-0010-01	• Nut	2
9	• 015-0092-02	• Fishpaper Insulator	1
10	• 050-1212-00	• Receptacle Box	1
11	040-0010-47	• Screw	2

Always Specify Model & Serial Number

Receptacle Assembly



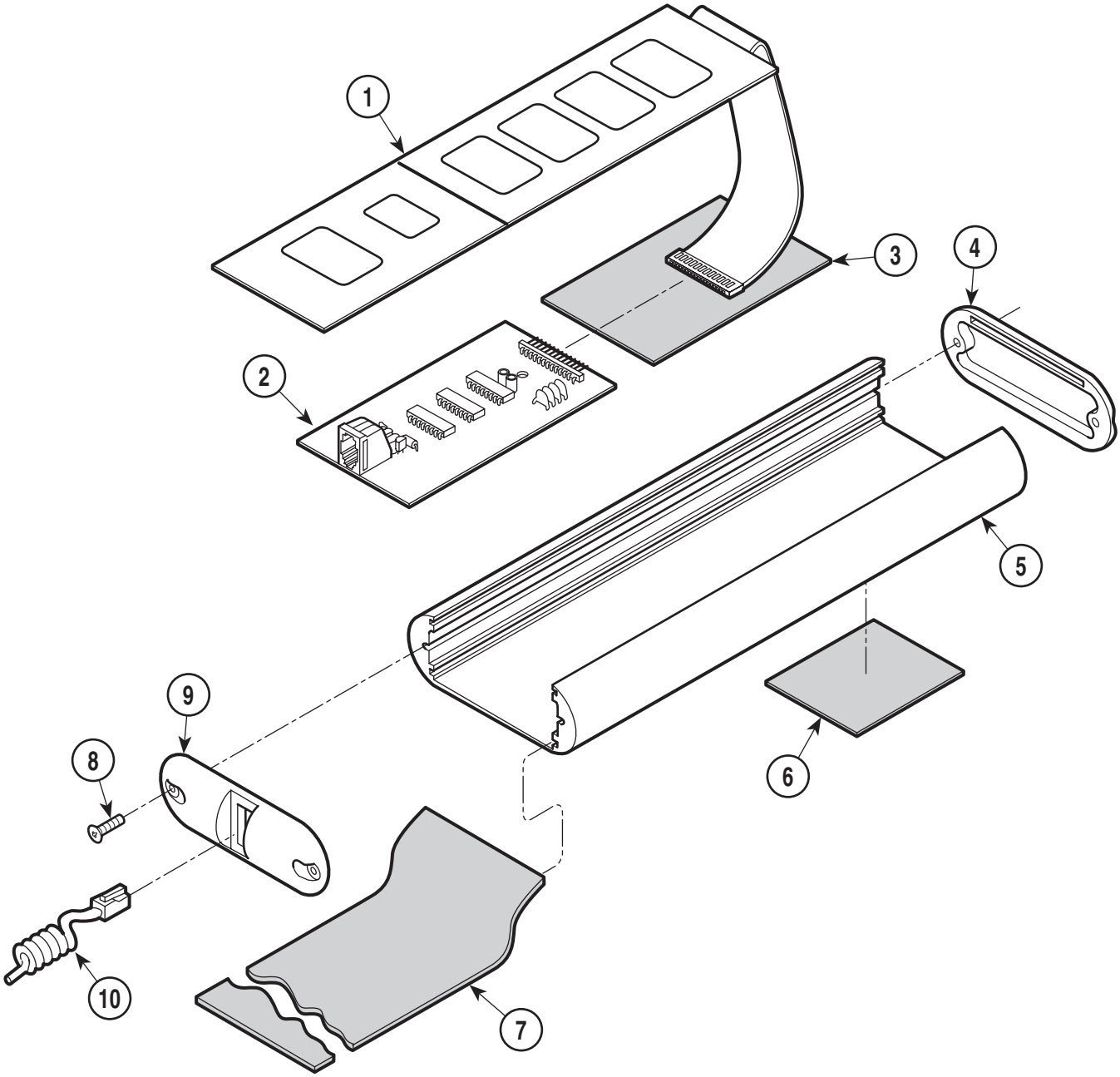
MA472600

Used On Units With Serial Number LE1000 thru Present
Used On Units With Serial Number V2200 thru Present

Item	Part No.	Description	Qty.
	9A249001	Receptacle Assembly - Belgium (Includes Items 1 thru 10)	1
	9A249002	Receptacle Assembly - Europe (Includes Items 1 thru 10)	1
	9A249003	Receptacle Assembly - United Kingdom (Includes Items 1 thru 10)	1
	9A249004	Receptacle Assembly - Italian (Includes Items 1 thru 10)	1
	9A249006	Receptacle Assembly - Australian (Includes Items 1 thru 10)	1
1	• 015-0704-00	• Receptacle Bezel (Used on Belgium, Europe, United Kingdom and Australian Models Only)	1
	• 015-0704-01	• Receptacle Bezel (Used on Italian Models Only)	2
2	• 015-1294-00	• Europe Receptacle	1
	• 015-1294-01	• French/Belgium Receptacle (Shown)	1
	• 015-1294-02	• United Kingdom Receptacle	1
	• 015-1294-03	• Italian Receptacle	2
	• 015-1294-05	• Australian Receptacle	1
3	• 030-0758-10	• Receptacle Cover Weldment	1
4	• 040-0010-47	• Screw	1
5	•	• Jumper Wire (Refer to "Wiring Diagram" Elsewhere [Section 5])	Ref
6	• 045-0001-31	• Lockwasher	1
7	• 045-0001-18	• Lockwasher	2
8	• 041-0010-01	• Nut	2
9	• 015-0092-02	• Fishpaper Insulator	1
10	•	• Cordset (Not Shown - Refer to "Packaged Cordset Assembly" Elsewhere)	Ref
11	050-1212-00	Receptacle Box	1
12	040-0010-47	Screw	2

Always Specify Model & Serial Number

Hand Control Assembly



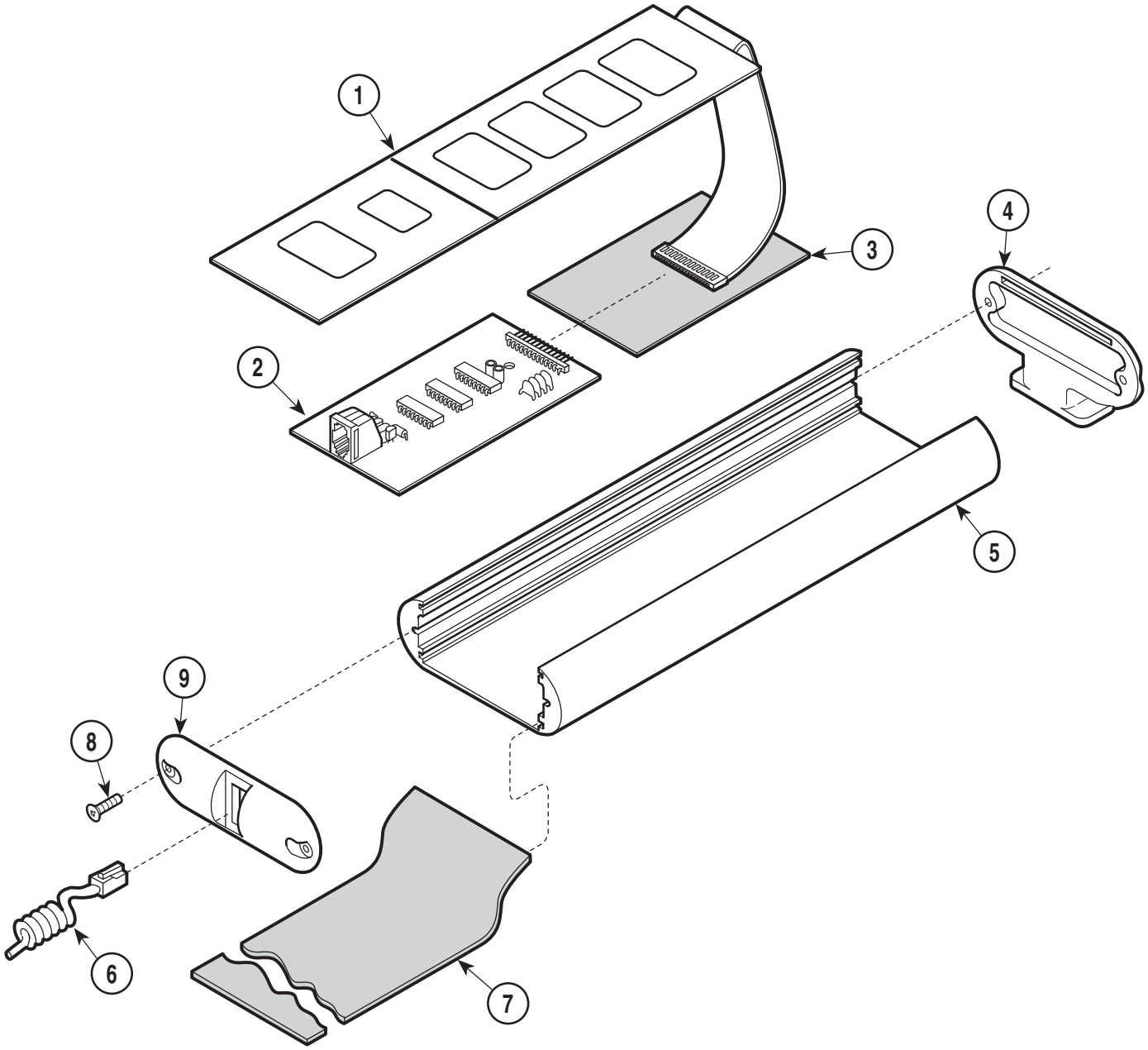
MA310000

Used on units with Serial Number BG-1000 thru BG-2289, BH-1000 thru BH-1273 and DK-1000 thru DK-1002

Item	Part No.	Description	Qty.	Item	Part No.	Description	Qty.
	029-0681-00	Hand Control (Includes Items 1 thru 11)	1	6	• 053-0131-00	• Velcro	1
1	• 015-0528-00	• Hand Control Panel	1	7	• 053-0092-04	• Fishpaper Insulator	1
2	• 002-0347-06	• Hand Control P.C. Board Kit	1	8	• 040-0006-08	• Screw	4
3	• 053-0253-00	• Locating Plate	1	9	• 053-0256-00	• Bottom End Cap	1
4	• 053-0257-00	• Top End Cap	1	10	• 015-0505-03	• Coil Cord	1
5	• 021-0016-00	• Hand Control Tube	1	11	• 053-0105-13	• Velcro (Not Shown)	1

Always Specify Model & Serial Number

Hand Control Assembly



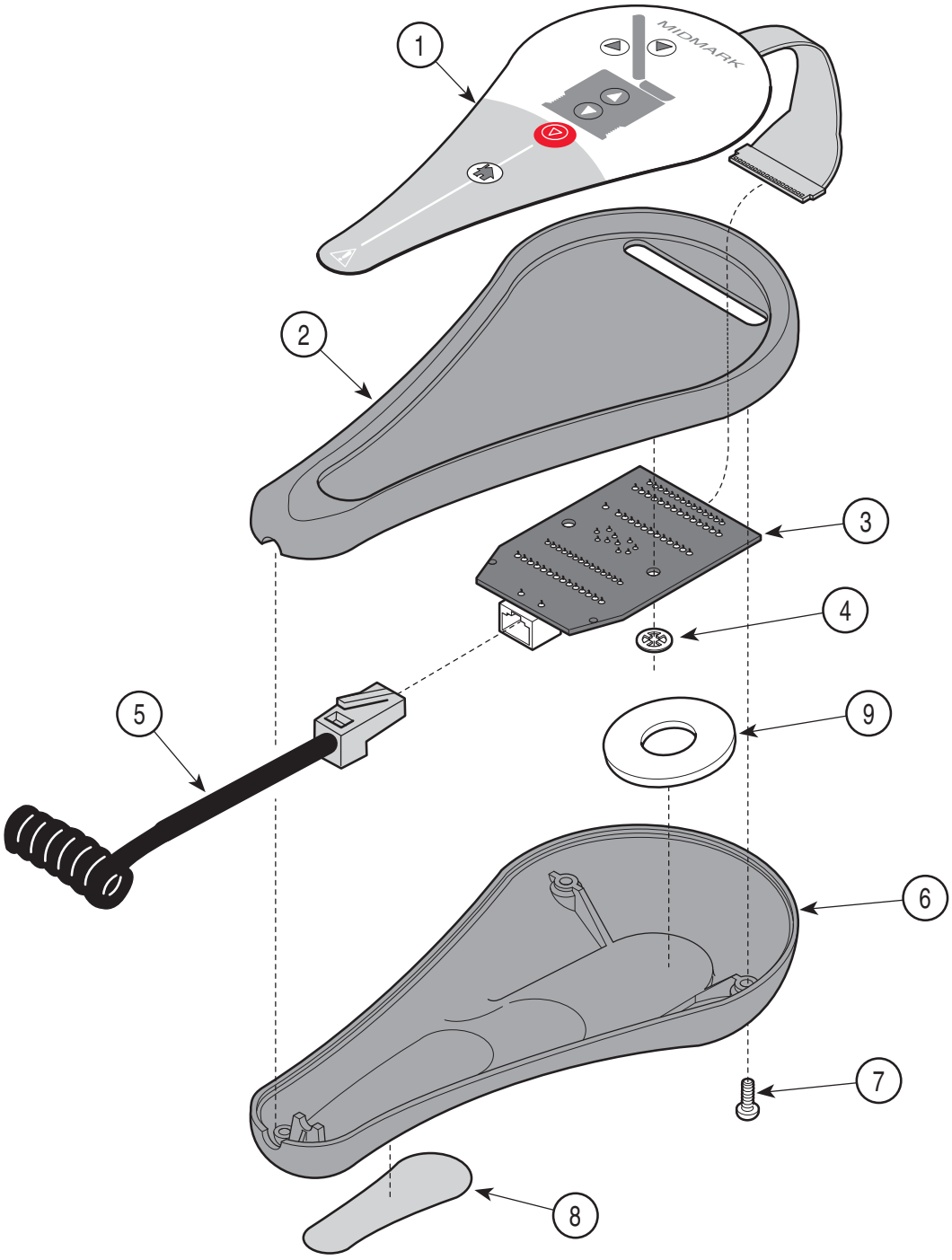
MA310001

Used on units with Serial Number BG-2290, BH-1274 & DK-1003 thru Present

Item	Part No.	Description	Qty.	Item	Part No.	Description	Qty.
	002-0409-00	Hand Control (Includes Items 1 thru 9)	1	5	• 021-0016-00	• Hand Control Tube	1
1	• 015-0528-00	• Hand Control Panel	1	6	• 015-0505-03	• Coil Cord	1
2	• 002-0347-06	• Hand Control P.C. Board Kit	1	7	• 053-0092-04	• Fishpaper Insulator	1
3	• 053-0253-00	• Spacer Plate	1	8	• 040-0006-08	• Screw	4
4	• 053-0412-00	• Top End Cap	1	9	• 053-0256-00	• Bottom End Cap	1

Always Specify Model & Serial Number

Hand Control Assembly



MA463600

Used on units with Serial Number LE1000 thru LE 1204, LF1000 thru LF 3440, and LG1000 thru LG1759

Item	Part No.	Description	Qty.
	002-0624-00	Hand Control (Domestic) (Includes Items 1 thru 9)	1
	002-0624-01	Hand Control (CE Export) (Includes Items 1 thru 9)	1
1	• 015-1243-00	• Membrane Switch Panel	1
2	• 053-0867-00	• Hand Control Top	1
3	• 015-1291-00	• Interface P.C. Board	1
4	• 042-0159-01	• Retaining Ring	2
5	• 015-0839-00	• Cord	1
6	• 053-0868-00	• Hand Control Bottom	1
7	• 042-0168-00	• Screw	4
8	• 061-0648-00	• UL Label	1
9	• 045-0001-89	• Washer	1

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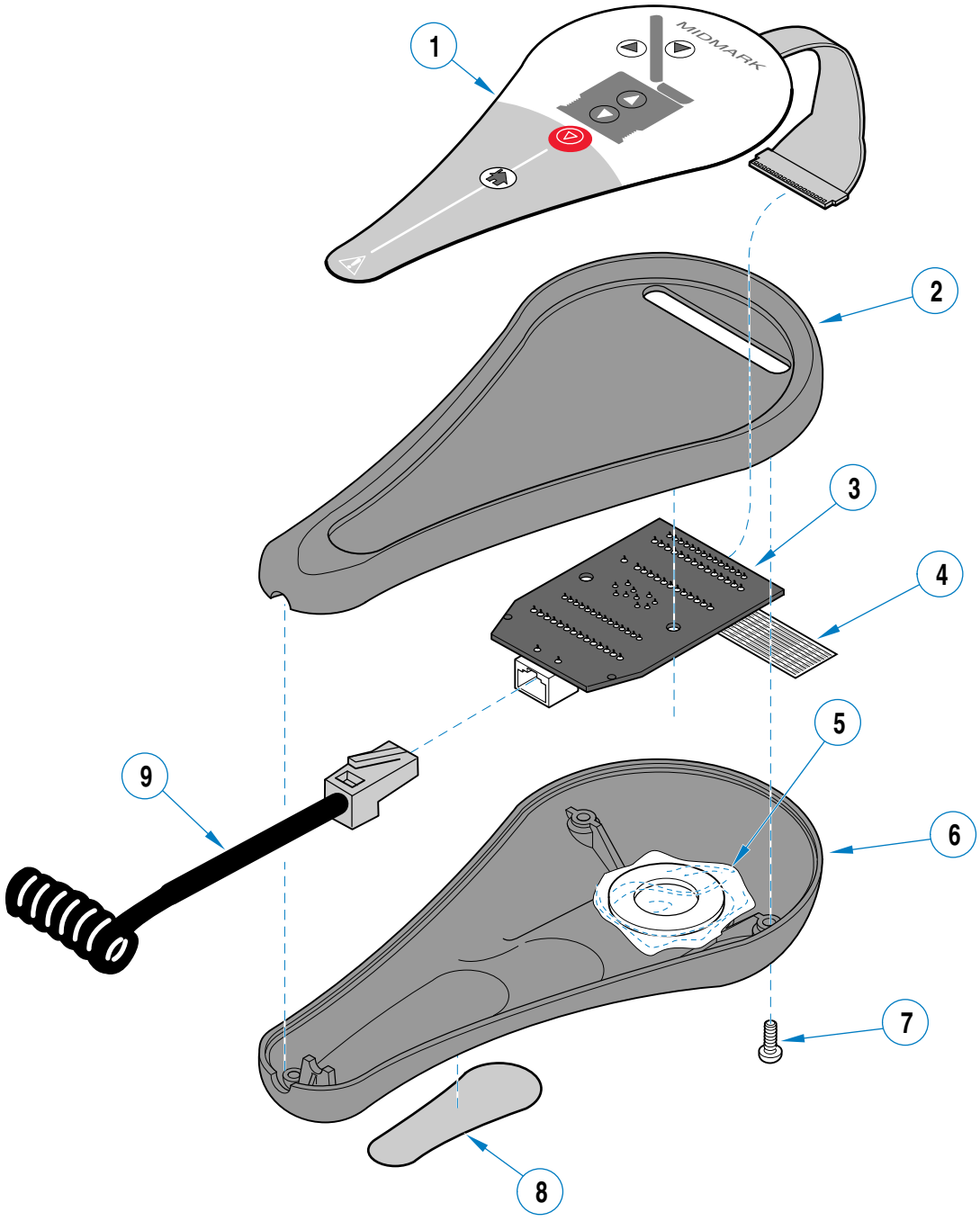
Hand Control Assembly



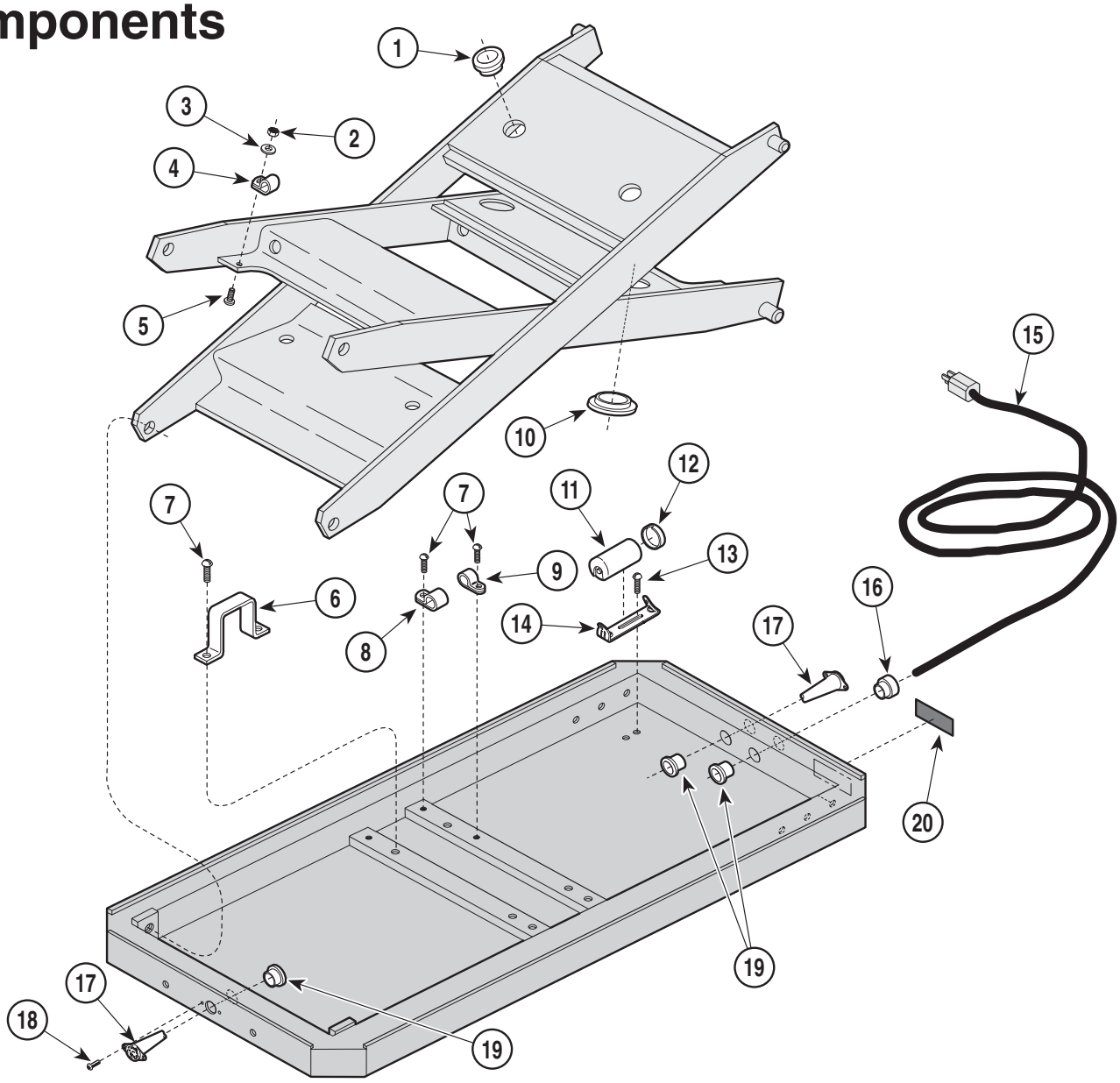
MA463601i

Used on units with Serial Number LE1205, LF3441 and LG1760 thru Present
Used On Units With Serial Number V2200 thru Present

Item	Part No.	Description	Qty.
	002-0624-00	Hand Control (Domestic) (Includes Items 1 thru 9)	1
	002-0624-01	Hand Control (CE Export) (Includes Items 1 thru 9)	1
1	• 015-1243-00	• Membrane Switch Panel	1
2	•	• Hand Control Top	1
3	•	• Interface P.C. Board	1
4	• 175593	• Retaining Ring	2
5	• 045-0001-89	• Washer	1
6	• 053-0868-00	• Hand Control Bottom	1
7	• 042-0168-00	• Screw	4
8	• 061-0648-00	• UL Label	1
9	• 015-0839-00	• Cord	1

Always Specify Model & Serial Number

Lower Base Electrical Components



MA309700

Used on units with Serial Number BG1000 and BH1000 thru Present
Used On Units With Serial Number V2200 thru Present

Item	Part No.	Description	Qty.
1	053-0068-11	Snap Bushing	7
2	041-0010-00	Nut	4
3	045-0001-31	Lockwasher	6
4	015-0501-00	Nylon Cable Clamp	2
5	040-0010-12	Screw	4
6	050-1424-00	Switch Contact Bracket	1
7	040-0010-47	Screw	8
8	015-0001-00	Wire Clip	4
9	015-0371-00	Cable Clamp	1
10	053-0068-05	Snap Bushing	1
11	015-0437-02	Capacitor	1
12	015-0413-00	Capacitor Cap	1
13	040-0010-52	Screw	2
14	015-0412-00	Capacitor Bracket	1
15	015-0066-06	Power Cord	1
16	015-0002-01	Strain Relief Bushing	1
17		Footswitch Plug (Refer to "Wiring Diagram" [Section 5] Elsewhere)	Ref
18	040-0006-06	Screw	4
19	053-0068-08	Snap Bushing	3
20	061-0295-00	Cord Tag	1
21	015-0007-04	Wrap-N-Tap Clamp (Not Shown)	3
22	015-0013-00	Wire Tie (Not Shown)	3

Always Specify Model & Serial Number

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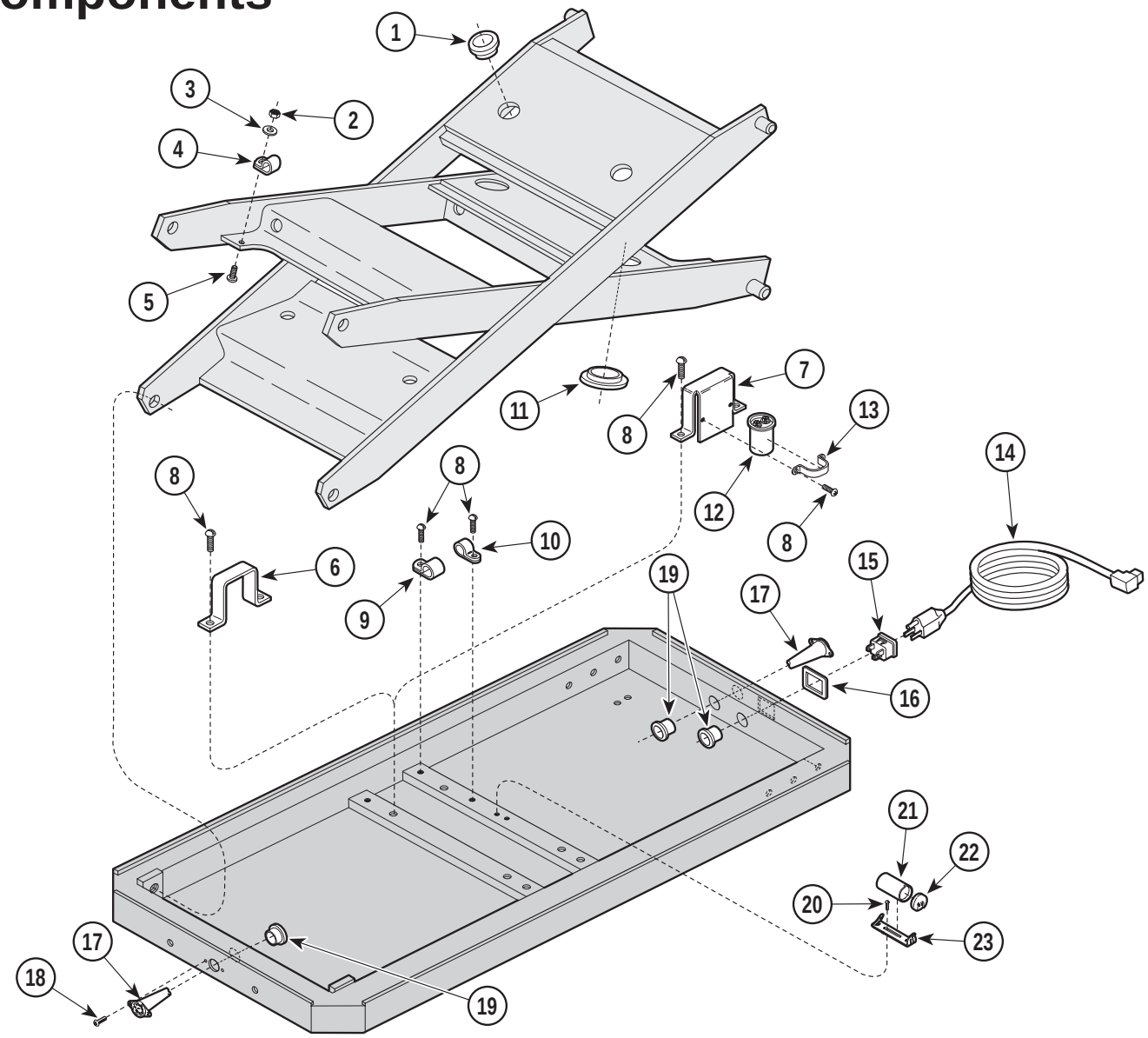
Lower Base Electrical Components



MA309800

Used on units with Serial Number DK1000 and DV1000 thru Present

Item	Part No.	Description	Qty.
1	053-0068-11	Snap Bushing	7
2	041-0010-00	Nut	4
3	045-0001-31	Lockwasher	6
4	015-0501-00	Nylon Cable Clamp	2
5	040-0010-12	Screw	4
6	050-1424-00	Switch Contact Bracket (100 Volt Units Only)	1
7	050-2141-10	Switch Contact Bracket (230 Volt Units Only)	1
8	040-0010-47	Screw	8
9	015-0001-00	Wire Clip	4
10	015-0371-00	Cable Clamp	1
11	053-0068-05	Snap Bushing	1
12	015-0438-03	Capacitor (230 Volt Units Only)	1
13	015-0461-00	Capacitor Clamp (230 Volt Units Only)	1
14	015-0066-00	Power Cord	1
15	015-0639-01	AC Connector Receptacle	1
16	050-2230-00	Receptacle Shim	1
17		Footswitch Plug (Refer to "Wiring Diagram" [Section 5] Elsewhere)	Ref
18	040-0006-06	Screw	4
19	053-0068-08	Snap Bushing	3
20	040-0010-62	Screw (100 Volt Units Only)	2
21	015-0437-02	Capacitor (100 Volt Units Only)	1
22	015-0413-00	Capacitor Cap (100 Volt Units Only)	1
23	015-0412-00	Capacitor Bracket (100 Volt Units Only)	1
24	015-0007-04	Wrap-N-Tap Clamp (Not Shown)	3
25	015-0013-00	Wire Tie (Not Shown)	3

Always Specify Model & Serial Number

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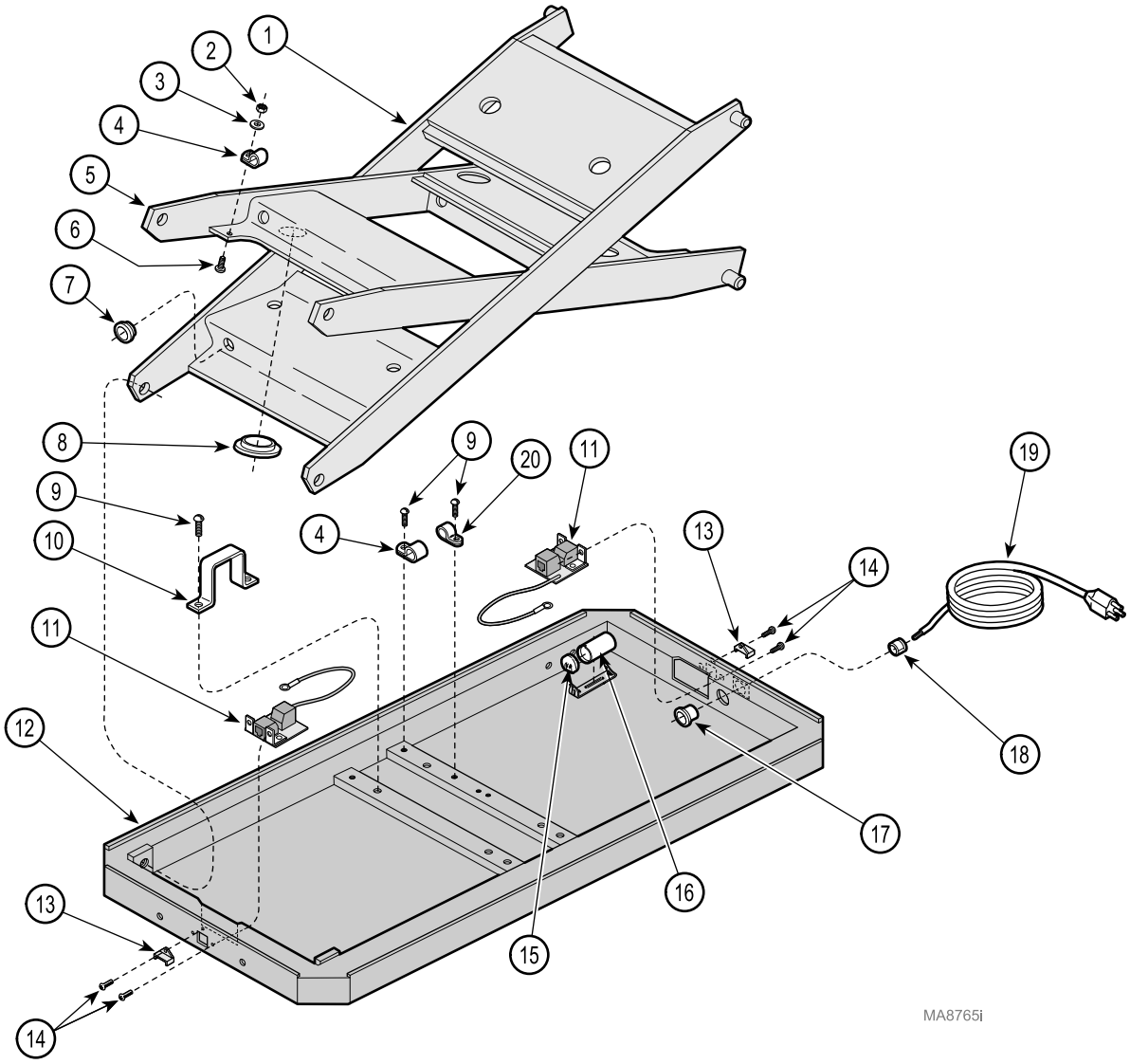
Lower Base Electrical Components 115 Volt



Used on units with Serial Number LF1000 and LG1000 thru Present
Used on Units With Serial Number V2200 thru Present

Item	Part No.	Description	Qty.
1		Outer Weldment Scissors (Refer to "Base Components" elsewhere)	1
2	041-0010-00	Nut	6
3	045-0001-31	Lockwasher	6
4	015-0001-00	Wire Clip	4
5		Inner Weldment Scissors (Refer to "Base Components" elsewhere)	1
6	040-0010-12	Screw	6
7	053-0068-11	Snap Bushing	10
8	053-0068-05	Snap Bushing	1
9	040-0010-47	Screw	4
10	050-1424-00	Switch Contact Bracket	1
11	015-1221-00	Foot Control Inlet Board	2
12		Lower Base Weldment (Refer to "Base Components" elsewhere)	1
13	016-0750-00	Inlet Cover	2
14	040-0008-79	Screw	6
15	015-0413-00	Capacitor Cap	1
16	015-0437-02	Capacitor	1
17	053-0068-08	Snap Bushing	1
18	015-0002-01	Strain Relief Bushing	1
19	015-0066-06	Power Cord	1
20	015-0371-00	Wire Clip	1
21	015-0013-00	Cable Tie (Not Shown)	1
22	015-0007-04	Wrap-N-Tap Clamp (Not Shown)	3
23	015-0013-02	Wire Tie (Not Shown)	3

Always Specify Model & Serial Number

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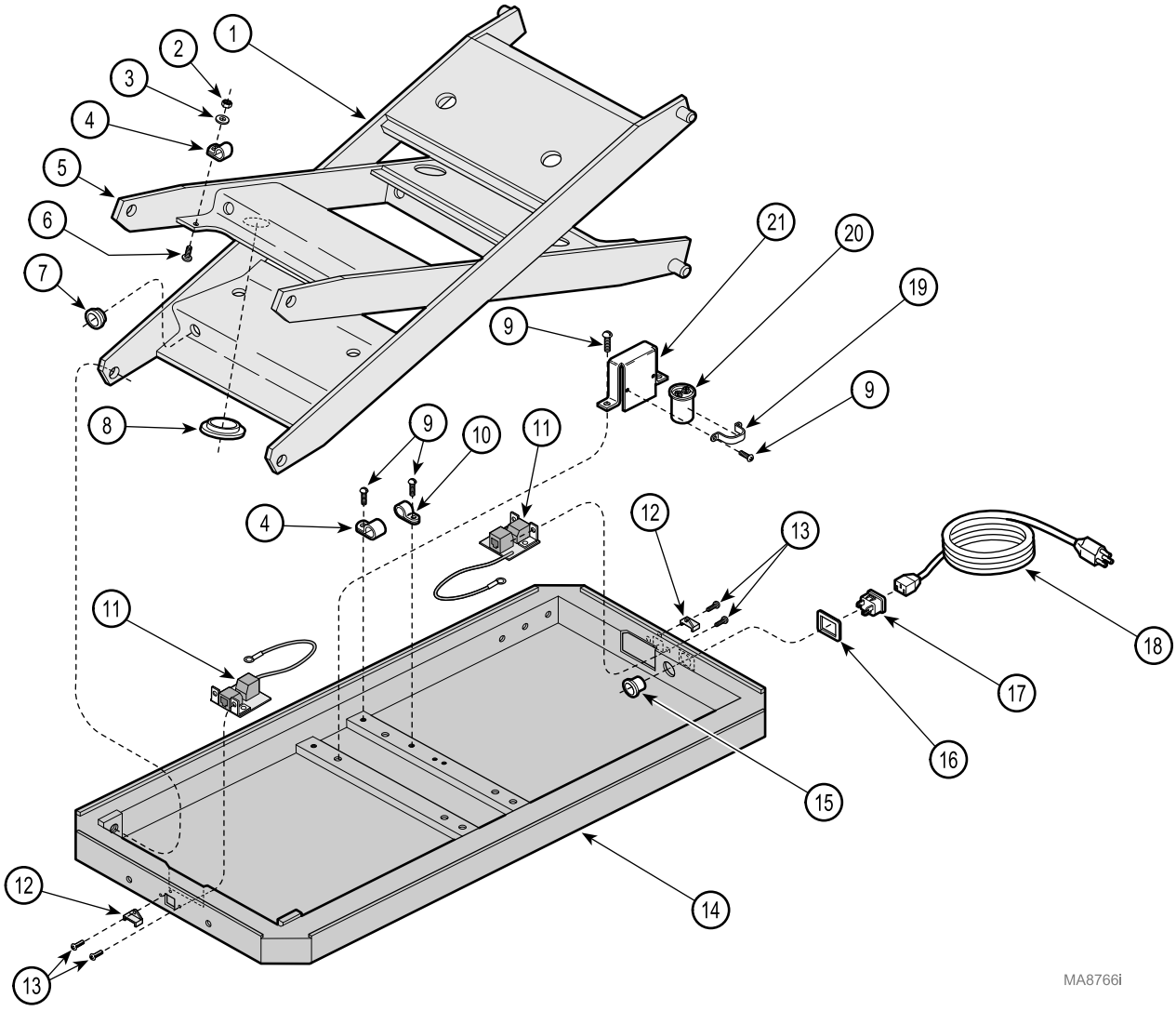
Lower Base Electrical Components 220 Volt



Used on units with Serial Number LE1000 thru Present
Used on Units With Serial Number V2200 thru Present

Item	Part No.	Description	Qty.
1		Outer Weldment Scissors (Refer to "Base Components" elsewhere)	1
2	041-0010-00	Nut	6
3	045-0001-31	Lockwasher	6
4	015-0001-00	Wire Clip	4
5		Inner Weldment Scissors (Refer to "Base Components" elsewhere)	1
6	040-0010-12	Screw	6
7	053-0068-11	Snap Bushing	10
8	053-0068-05	Snap Bushing	1
9	040-0010-47	Screw	6
10	015-0371-00	Wire Clip	1
11	015-1221-00	Foot Control Inlet Board	2
12	016-0750-00	Inlet Cover	2
13	040-0008-79	Screw	6
14		Lower Base Weldment (Refer to "Base Components" elsewhere)	1
15	053-0068-08	Snap Bushing	1
16	050-2230-00	Receptacle Shim	1
17	015-0639-01	AC Connector Receptacle	1
18	9A15200x	Power Cord	1
19	015-0461-00	Capacitor Clamp	1
20	015-0438-03	Capacitor	1
21	050-2141-10	Switch Contact Bracket	1
22	015-0013-00	Cable Tie (Not Shown)	1
23	015-0007-04	Wrap-N-Tap Clamp (Not Shown)	3
24	015-0013-02	Wire Tie (Not Shown)	3

Always Specify Model & Serial Number

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COMMENTS

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FAX ORDERING FORM

(SERVICE PARTS ONLY)

NOTES:

- ALL **BLOCKED** AREAS MUST BE COMPLETED.
- USE FOR NON-WARRANTY FAX ORDERS ONLY. WARRANTY ORDERS MUST BE TELEPHONED IN (1-800-MIDMARK).

ATTENTION: SERVICE DEPARTMENT FAX#: 877-249-1793

ACCT #: ______________ P.O. #: ______________ DATE: ______________

NAME: ______________

ADDRESS: ______________

CITY, ST.: ______________

CONTACT: ______________

PHONE: ______________

SHIP TO: ______________

____

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☐ NON-EMERGENCY ORDER - TO SHIP WITHIN 72 HOURS IF PART(S) IN STOCK.

☐ EMERGENCY ORDER - TO SHIP WITHIN 24 HOURS IF PART(S) IN STOCK (IF ORDER IS RECEIVED BEFORE 1:00 P.M. E.S.T.).

SEND NOTIFICATION IF PARTS ARE NOT AVAILABLE TO SHIP WITHIN 24 HOURS VIA E-MAIL OR FAX TO: ______________

METHOD OF SHIPMENT

UPS	FED EX	OTHER
☐ NEXT DAY A.M.	☐ NEXT DAY A.M.	______________
☐ NEXT DAY P.M.	☐ NEXT DAY P.M.	
☐ 2ND DAY	☐ 2ND DAY	
☐ GROUND	☐ ECONOMY	

QTY.	PART #	DESCRIPTION (SPECIFY COLOR OF ITEM IF APPLICABLE)	COLOR CODE	PRICE/PER
			TOTAL COST: $	

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