

Installation
Operation
Maintenance
Troubleshooting
Version Dec/17



7000BY / Biscayne

Congratulations!

All of us at Summit Dental Systems want you to know that your Biscayne Chair has been built with the finest materials available.

The assembly and testing was completed by technicians devoted to making SDS products perform to all prescribed specifications.

Our five year limited warranty is just one of the ways we express our confidence that you will be completely satisfied with your purchase.

We appreciate your support and look forward to meeting your future professional needs through our expanding product line.

Cesar Coral

President

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Important Information

Technical Specifications

Power Inlet:	115 VAC, 60 Hz or 220 VAC, 50 Hz 115V – 12Amp MDA Time Delay
Fuse:	220v/230v – 8Amp MDL Time Delay
PC Board:	Inlet 115 VAC or 220 VAC Outlet 15VDC
Motor Pump:	115 VAC, 60 Hz or 220 VAC, 50 Hz A duty cycle operation ON/OFF 1/13
Hydraulic Piston Base:	Working Pressure 25 Kg/cm ²
Hydraulic Piston Back:	Working Pressure 15 Kg/cm ²

Unpacking the Chair

Pay careful attention when unpacking the chair and its accessories. Damage caused by mishandling the equipment during unpacking or installation is not covered under warranty.

New Owner

Please read, sign and submit the warranty registration form that is located at the end of this manual. Failure to return this form may void the warranty.

Serial Number

The product label can be located by raising the base of the chair all the way up and looking underneath the Lower Elevation Cover.

Storage and Transportation

Storage/Transportation	Temperature: -20°F to 122°F (-29°C to 50°C) Relative humidity: 10 – 95%
Operating Temperature	Temperature: 50°F to 104°F (10°C to 40°C) Relative humidity: 10 – 95%
Indoor Use	Altitude up to 2,000 m (6,563') Installation category II Pollution degree 2

Classifications

- According to the type of protection against electric shock: CLASS I.
- According to the mode of operation: ON/OFF 1/13.
- According to the degree of protection against electric shock: NO APPLIED PARTS.
- According to the degree of protection against ingress of water: ORDINARY (IPX0) PROTECTION.

According to the degree of safety of application in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide: - EQUIPMENT NOT SUITABLE FOR USE IN THE PRESENCE OF A FLAMABLE ANAESTHETIC MIXTURE WITH AIR OR WITH OXYGEN OR NITROUS OXIDE.

ADVISORY NOTICES

This equipment should only be installed by a specialized technician authorized by Summit Dental Systems, and not doing so could result in loss of warranty.

To guarantee the safe functioning of your equipment, use only the Summit Dental Systems assembly configurations (Dental Chair, Delivery Units, Assistant's Instrumentation, and Dental Light) supplied by Summit Dental Systems authorized Dealers/Technical Assistance.

Medical Devices is for professional use only. It must be operated and utilized by specialized professional (certified professional, according to the legislation of the country) and following the instructions of the manual.

No modification of this equipment is allowed, unless authorized by the manufacturer.

No parts of this device can be serviced when it is in use with a patient.

When placing the chair in its final position, check to insure the protective vinyl strip is properly in place on the base plate riser. Adequate space should be provided for its normal operation for the configuration in which the chair will be used.

WARNINGS

CAUTION! HEAVY EQUIPMENT!



Two (2) or more persons should be involved in removing the chair from the pallet and setting it gently on the ground to its final position.

Handle only from the steel base, metal seat frame, and the armrest brackets. Do not handle by any plastic part as they may crack! Plastics damaged in this manner are not covered under warranty.

To void risk of electric shock, this equipment must be connected to a supply mains with protective earth.

The mains plug should remain accessible when the chair is installed. DO NOT position the chair making it difficult to disconnect the power plug from the mains.

Turn power off before servicing. To complete power off the chair you must unplug the equipment from the power source. All electrical work replacement should be done with equipment unplugged from outlet.

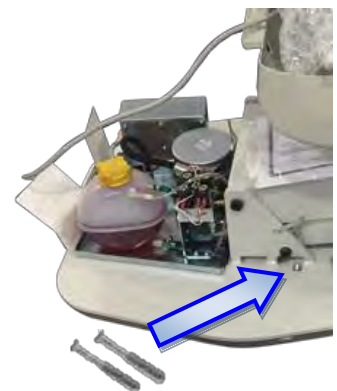
The use of Accessories, transducers, and cables other than those specified by the manufacturer, may result in increased Emissions or decreased Immunity of the Chairs.

Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual.

Portable/Mobile RF communications equipment can affect Medical Electrical Equipment.


SDS recommend having the dental chair fixed to the floor:

Base is pierced for fastening it with 2 holes located on the side of the bearings “outside” covered by the finishing cover of the motor.



Guidance and manufacturer's declaration – electromagnetic emissions		
The Biscayne Chair is intended for use in the electromagnetic environment specified below. The customer or the user of the Biscayne Chair should assure that it is used in such an environment.		
EMISSION TEST	COMPLIANCE	ELECTROMAGNETIC ENVIRONMENT GUIDANCE
RF Emissions CISPR 11	Group 1	The Biscayne Chair uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment. The Biscayne Chair is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
RF Emissions CISPR 11	Class B	
Harmonic Emissions IEC 61000-3-2	Class A	
Voltage Fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration – electromagnetic immunity			
The Biscayne Chair is intended for use in the electromagnetic environment specified below. The customer or the user of the Biscayne Chair should assure that it is used in such an environment.			
IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT GUIDANCE
Electrostatic Discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	± 1 kV differential mode ± 2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5% U_T (> 95% dip in U_T) for 0,5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles < 5% U_T (> 95% dip in U_T) for 5 sec	< 5% U_T (> 95% dip in U_T) for 0,5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles < 5% U_T (> 95% dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Biscayne Chair requires continued operation during power mains interruptions, it is recommended that the Biscayne Chair be powered from an uninterrupted power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: U_T is the a.c. mains voltage prior to application of that test level.			

Guidance and manufacturer's declaration – electromagnetic immunity			
The Biscayne Chair is intended for use in the electromagnetic environment specified below. The customer or the user of the Biscayne Chair should assure that it is used in such an environment.			
IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT GUIDANCE
			Portable and mobile RF communications equipment should be used no closer to any part of the Biscayne Chair, including cables, than the recommended separation distance calculated from equation applicable to the frequency of the transmitter.
			Recommended separation distance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	$d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	$d = 2.3 \sqrt{P}$ 800 MHz to 2,5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters as determined by an electromagnetic site survey ^a should be less than the compliance level in each frequency range ^b . Interference may occur in the vicinity of equipment marked with the following symbol
			

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.












NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and peoples.

^a Fields strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateurs radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To access the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Biscayne Chair is used exceeds the applicable RF compliance level above, the Biscayne Chair should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the Biscayne Chair.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distance between portable and mobile RF communications equipment and the Biscayne Chair			
The Biscayne Chair is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Biscayne Chair can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Biscayne Chair as recommended below, according to the maximum output power of the communications equipment.			
	SEPARATION DISTANCE ACCORDING TO FREQUENCY OF TRANSMITTER m		
RATED MAXIMUM OUTPUT POWER OF TRANSMITTER W	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2,5 GHz $d = 2.3 \sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected By absorption and reflection from structures, objects and people.			

Product Symbols

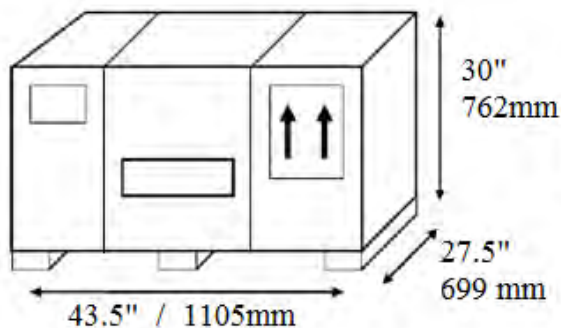
Symbol	Description	Symbol	Description
	European Authorized Representative		Caution. Failure to follow instructions could result in damage to product or minor injury.
	Manufacturer of equipment.		Type B applied part.
	Date of manufacture.		Electrical and electronic waste. Do not dispose of with domestic waste.
	Serial Number.		Protective earth (ground).
	Model Number (Catalog Number).		Functional earth (ground).
	CE Mark - Conforms to applicable European Directives (refer to Declaration of Conformity).		

Questions?

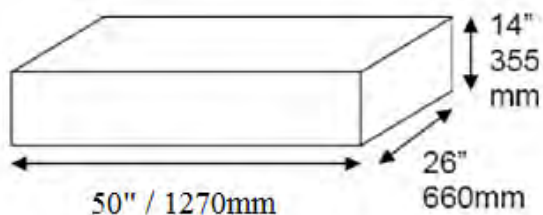
Read this manual carefully. If you have any questions, please call Summit Dental Systems Technical Service at 1-800.275.3368 (USA) or (954) 730-3636 (outside USA).

Weight & Dimensions

Shipping Information

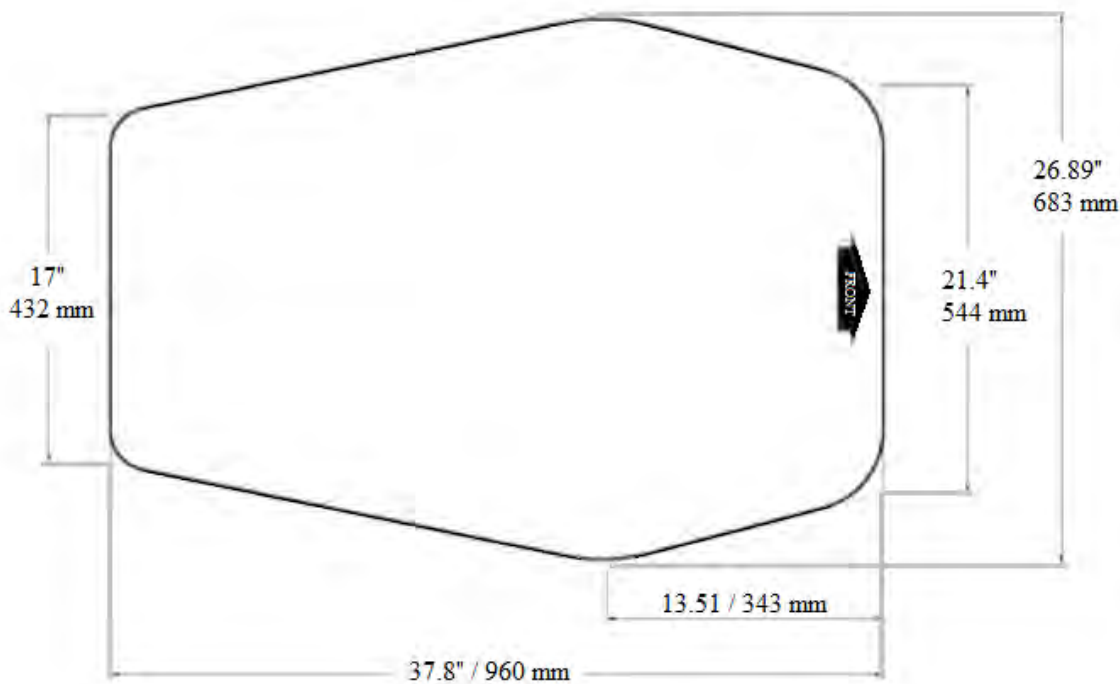


BISCAYNE CHAIR
Weight 358 Lb / 162 Kg

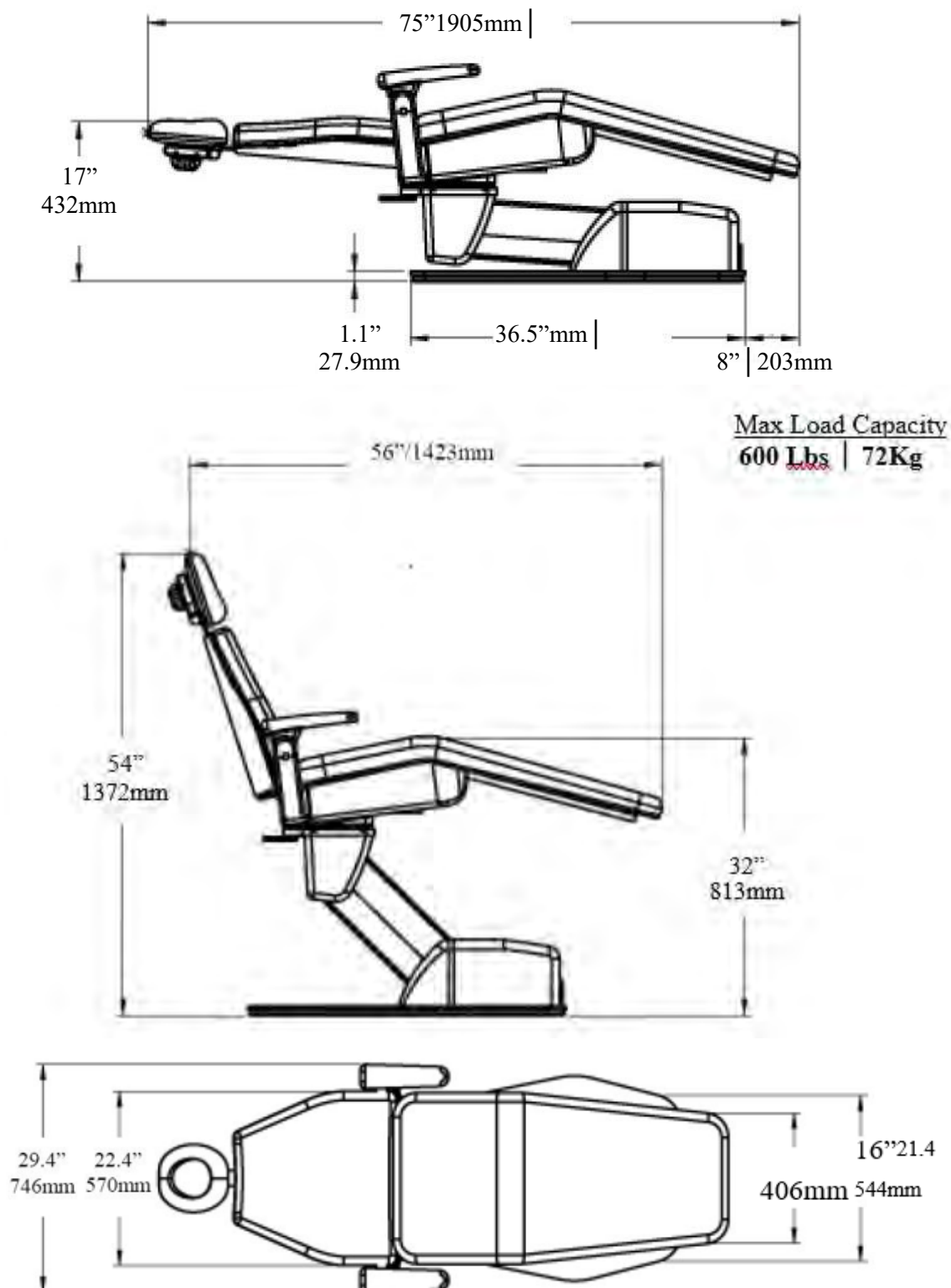


Upholstery Set
BISCAYNE CHAIR
Shipping Weight 45 Lbs / 20.45 Kg

Footprint



General Dimension



Operator's Instructions

Headrest Operation – Knob Type

Refer to Figure 1a & 2

1. The height of the headrest is adjusted by pulling upward or pushing downward on the headrest. When the desired position is obtained, the headrest will remain in place until repositioning is required.
2. Articulation of the headrest is adjusted by turning the knob clockwise (1) located behind the headrest. When headrest is in the desired position, tighten the knob by turning is counter clockwise.

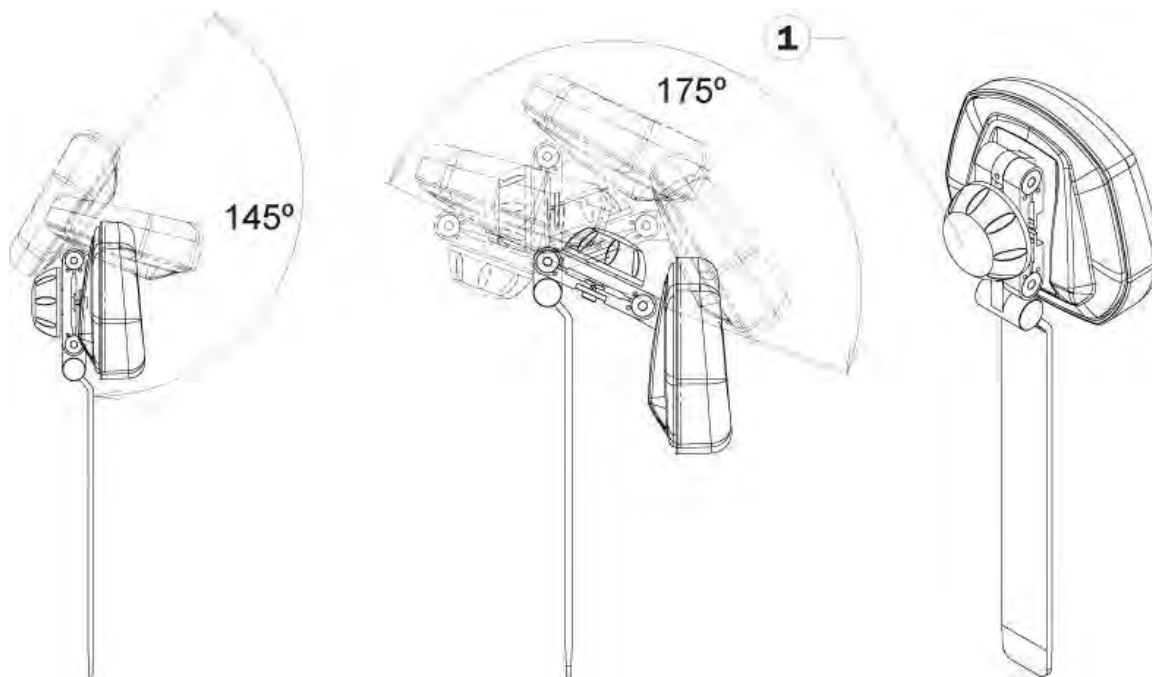


Figure 1a

Figure to illustrate movement, may not show actual/right model.

Headrest Operation – Pinch Type

Refer to Figure 1b & 2

1. Press the top of pinch button to rotate the pillow only
2. Press the bottom of pinch button to rotate the base only
3. Press the middle of pinch button to rotate the base and pillow at same time
4. Release the pinch button to lock the position

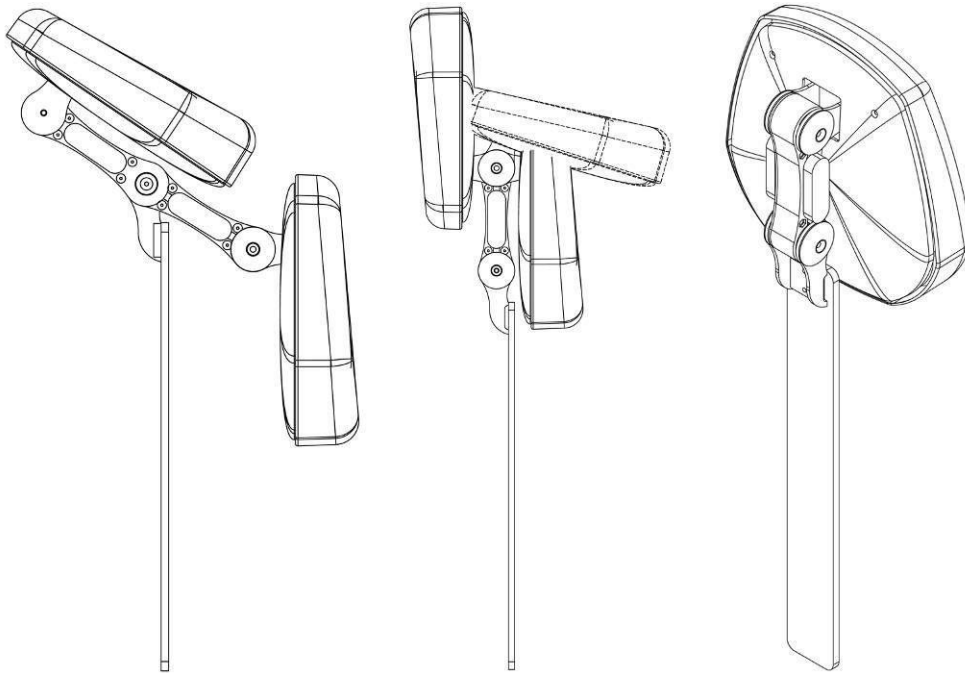


Figure 1b

Figure to illustrate movement, may not show actual/right model.

To regulate the height of the support headrest, move upward or downward (A friction brake will hold the Headrest assembly securely in place).

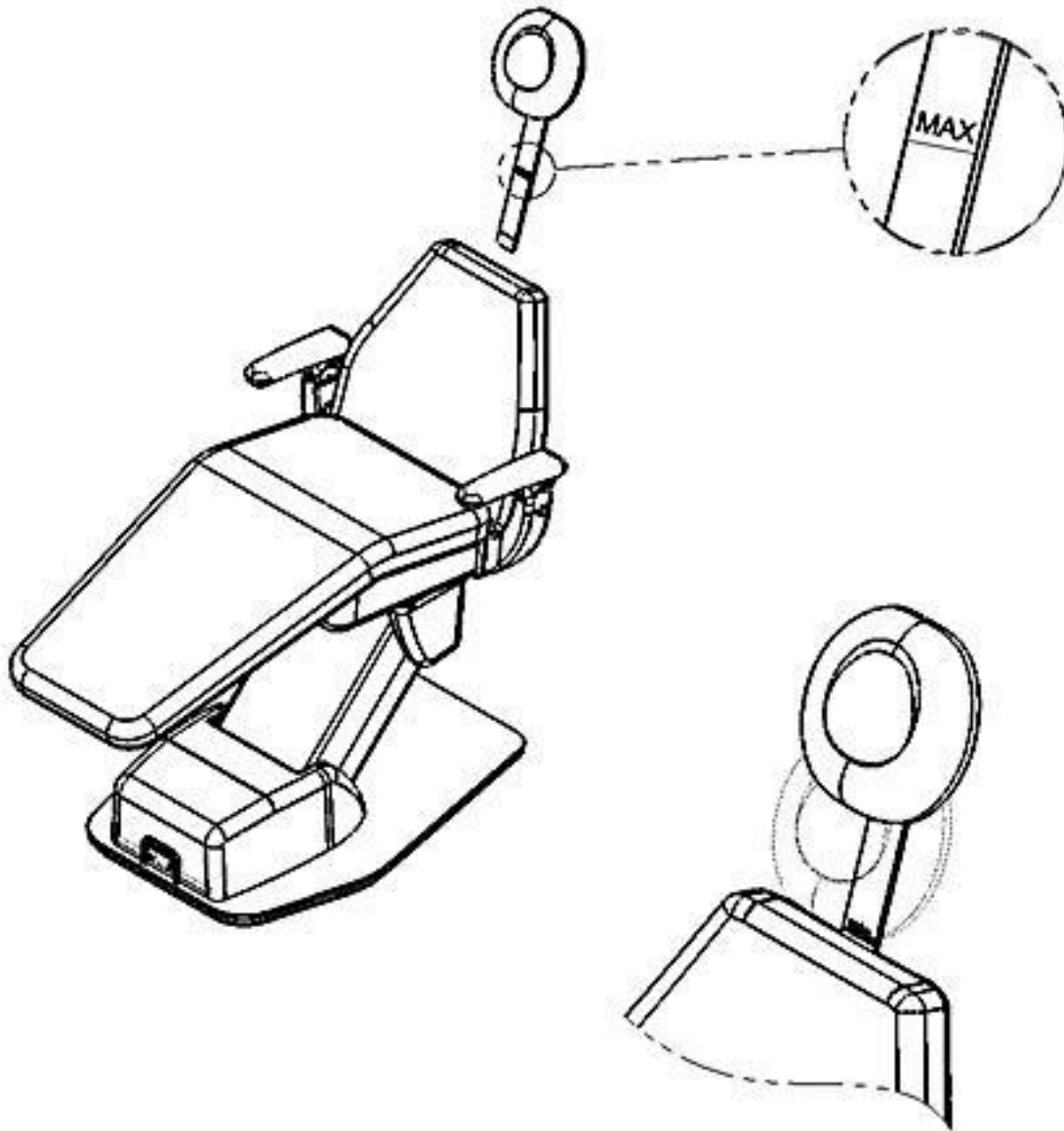


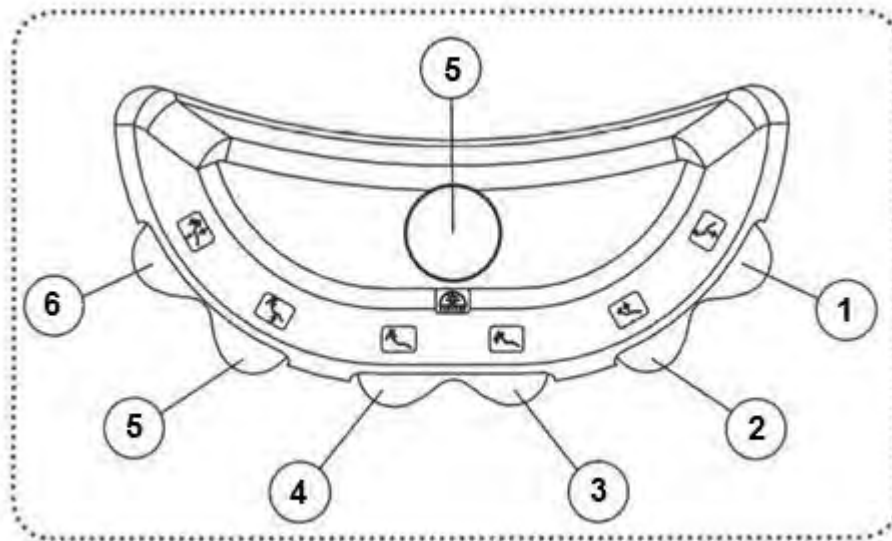
Figure 2

Foot Control

Refer to Figure 3

1. Base Up – depress foot control button and hold until desired position is reached.
2. Base Down – depress foot control button and hold until desired position is reached.
3. Back Up – depress foot control button and hold until desired position is reached.
4. Back Down – depress foot control button and hold until desired position is reached.
5. Automatic Return – depress and release the button once and the base down and back up movements will continue until the exit position is reached.
6. Manual Pre-position (optional) – depress and release the button once and the base up and back down movements will continue until pre-position is reached.

NOTE: To interrupt the Automatic Return or the Pre-Position, press any manual-positioning button on the foot control. To resume Automatic Return or Pre-position, repress the Automatic Return or Pre-position buttons.



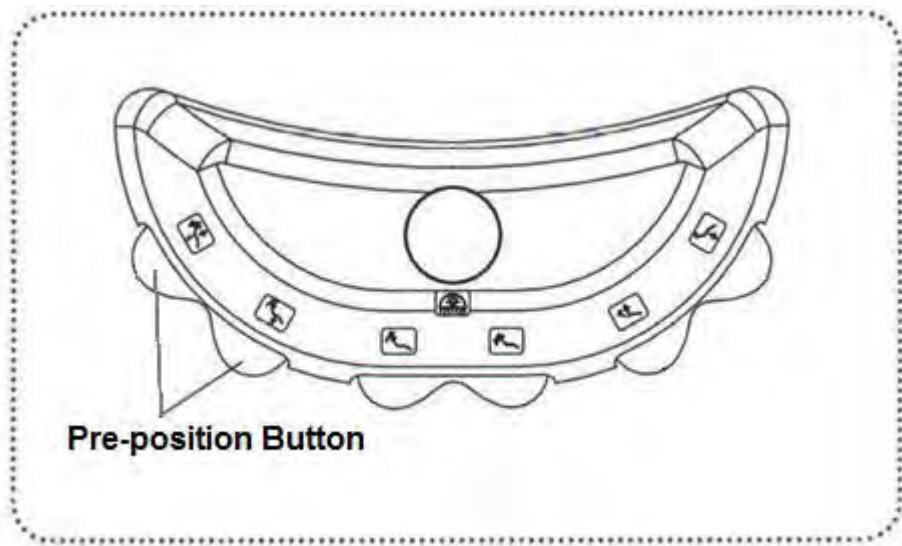
Foot Control
Figure 3

Electronic Pre-positioning (optional)

Refer to Figure 4

Your Biscayne Dental Chair is equipped with manual electronic pre-positioning. This feature is designed to provide the operator with the convenience of pre-positioning the patient at the touch of a button. You can preset the base and backrest positions with one easy action.

Your chair will arrive with factory set pre-positioning. This is so that it can be checked for all quality control aspects prior to packaging and shipping. To find what pre-positioning the factory has set, simply depress and release the Pre-position Button located to the right of the foot control.



Foot Control
Figure 4

To set your personalized entry position, proceed as follows:

1. Using the foot control position the backrest and base of the chair in the desired position.
2. Depress and hold the "MP", located on the right side of the foot control or on the membrane control pad, for 3 seconds. Releasing the Pre-position Memory Button and the new base and backrest positions to be stored in memory.

You can return the chair to your personalized position at any time by simply depressing and releasing the Pre-position Button (6). The personalized entry position may be reprogrammed as often as needed.

Should you want to interrupt the automatic movements of your Biscayne Dental Chair, press any manual function (Buttons 1-4) on the foot control or the membrane control pad. To resume the function, press the appropriate automatic function button.

Cleaning and Disinfection

Equipment surfaces and upholstery discoloration, cracking, sloughing and drying from the use of surface disinfectants is probably the most discussed area of equipment problems today. The very nature of equipment surfaces and upholstery materials is contrary to the application of harsh chemicals.

Barrier Technique

The first choice in the protection of dental equipment should be the use of disposable barrier products. The repeat use of disinfectant on equipment surfaces without the constant removal of the solution residue will eventually cause some damage to equipment surfaces.

Chemical Disinfecting

Because there are hundreds of cleaners, conditioners and disinfectants available, it is impossible for manufacturers to test them all. The manufacturer of the cleaner or disinfectant to be used should be contacted for them to state whether or not the disinfectant will damage equipment surfaces including upholstery.

A solution of mild non-ionic detergent and water is recommended for routine surface cleaning. Never use abrasives.

Unacceptable Disinfectants

The following chemicals may damage equipment and upholstery:

- Alcohol based solutions Acetone
- Bleach Phenol
- Foam spray products

The Summit Dental Systems warranty does not cover damage to equipment and upholstery caused by cleaning and disinfectant solutions.

Installation Instructions

Backrest Assembly

Refer to Figure 5

Loosen allen screw (4) located on the backrest-positioning lever (1). Raise the backrest positioning lever (1) to the support bracket (2) on the underside of the backrest frame. Align the hole in the piston rod with the hole in the support bracket and insert the clevis pin (3). Center the clevis pin and tighten down the allen screw into the groove in the center of the clevis pin.

NOTE: To avoid damaging the backrest-positioning lever, do not force or pound the clevis pin into place.

Item 3 – Part Number 5-010-0064
Item 4 – Part Number 4-010-0070

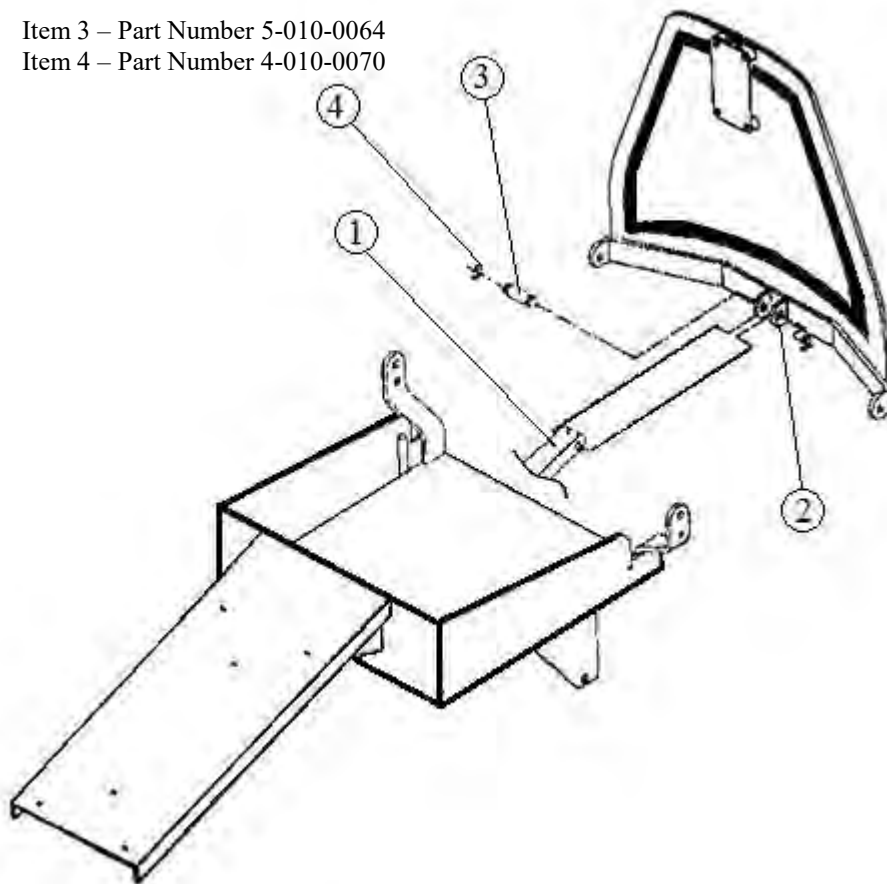


Figure 5

Post Mount Installation

Refer to Figure 6

1. Align the three Mounting Screws of the post mount with the corresponding holes of the seat pan.

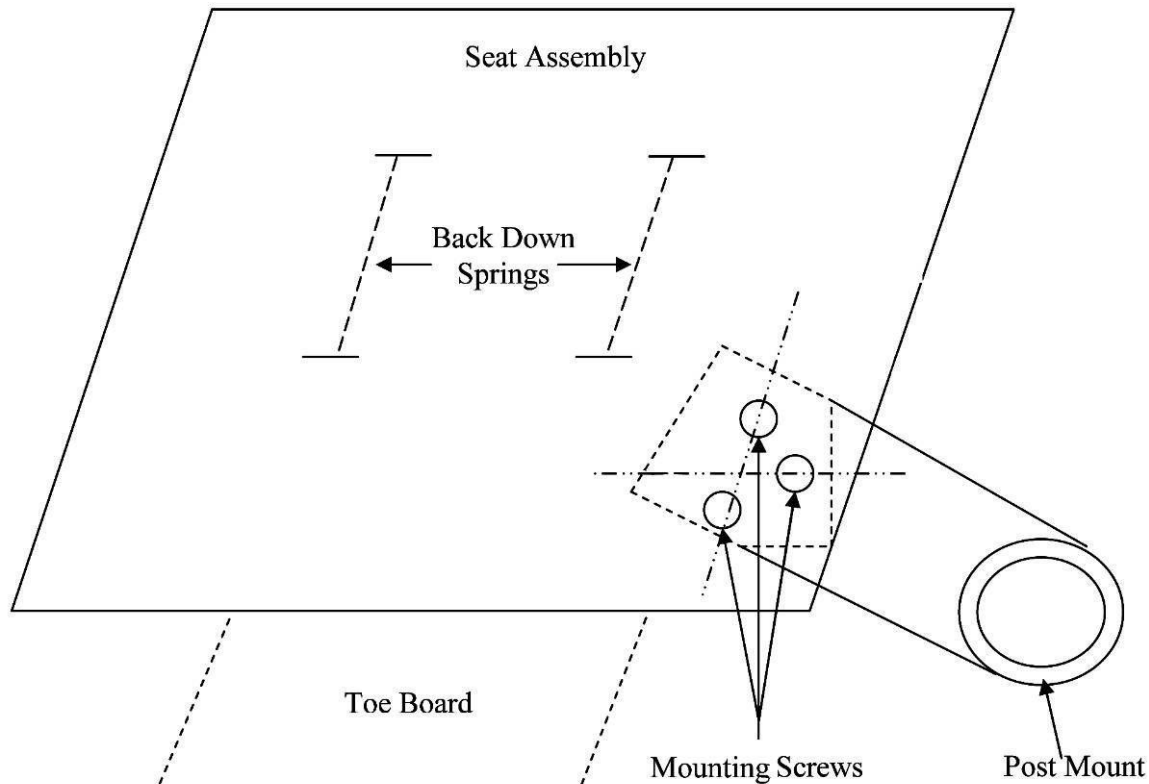


Figure 6

Left Handed Installation:

For left handed installation of the post mount, it is necessary to move the mount and leveling screws to the corresponding holes on the right side of the seat assembly. Turn the post mount bracket over (180°) and install using the mounting bolts. Remove the post mount adapter and reinstall on top of the post mount bracket. The post mount adapter must be turned over 180°. The post-set crews will face the toe board

Armrest Installation (Optional)

Refer to Figure 7

Place Armrest (01) against the articulation assembly of the seat frame (02). Insert top screw loosely to aide with alignment of bottom screw. Insert and fasten allen screw (04). Repeat for second Armrest.

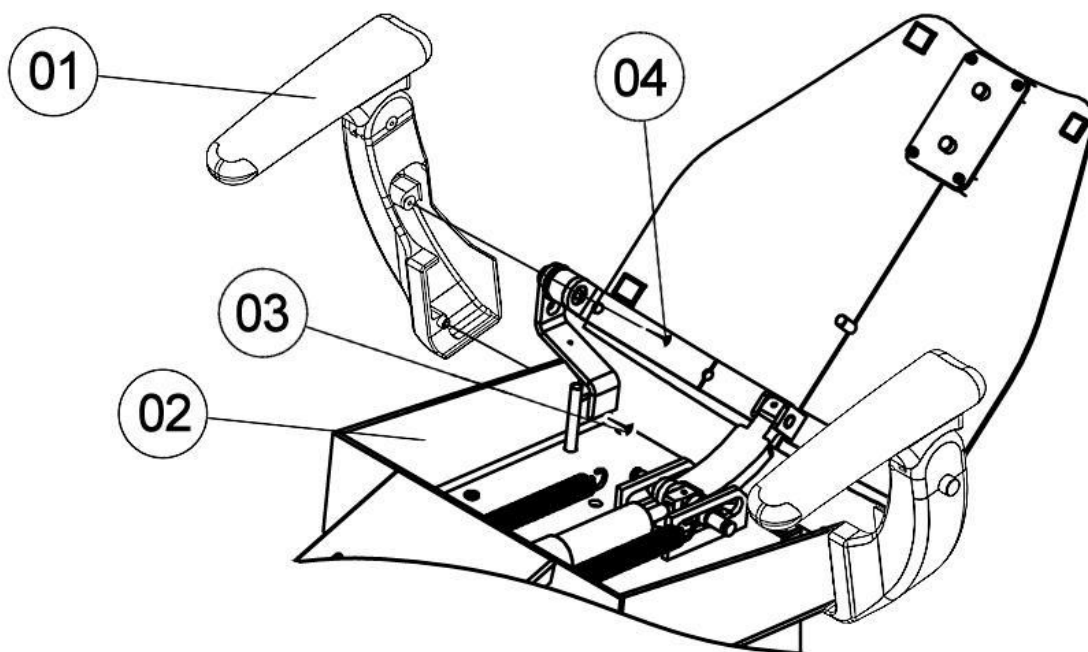


Figure 7

Backrest Cushion Installation

Refer to Figure 8

Both the backrest cushion and backrest frame are equipped with corresponding Velcro strips.

1. Position the backrest frame (2) in the full back down position.
2. Align corresponding Velcro strips located on the backrest cushion (1) and backrest frame (2) and push down to securely fasten the backrest cushion.

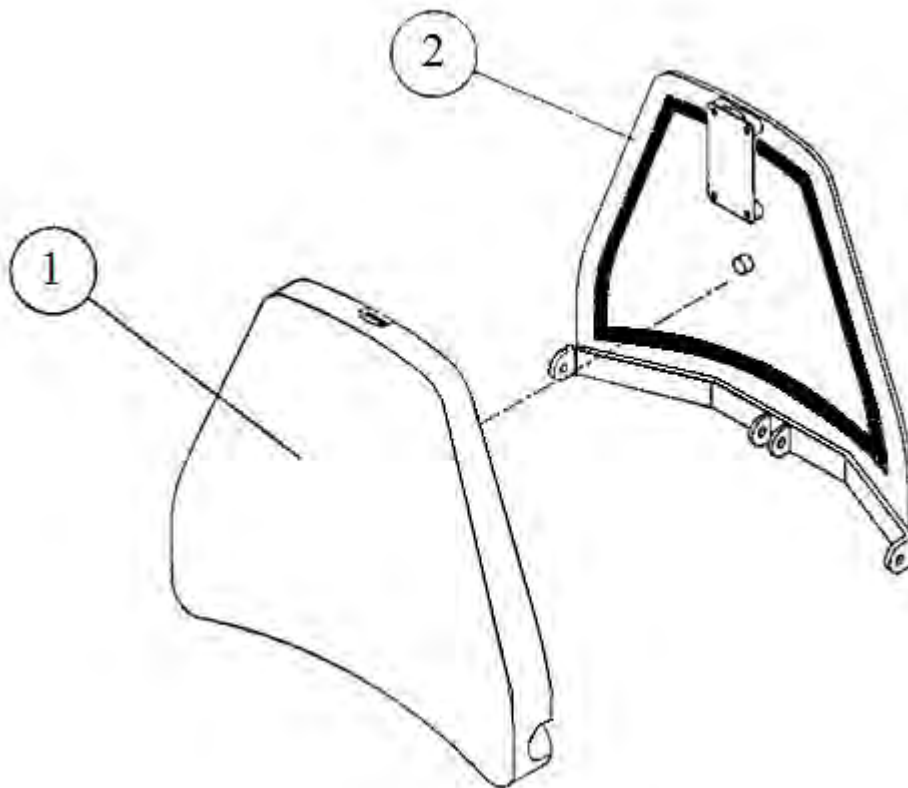


Figure 8

Seat Cushion Installation

Refer to Figure 9

Tighten double-nut screws (1) on the upholstered seat cushion (2), then align with the corresponding holes of the seat pan (3). Fasten the seat cushion with the screws, nuts and washers (4) and (5).

NOTE: Do not over tighten the nuts on the seat cushion posts.

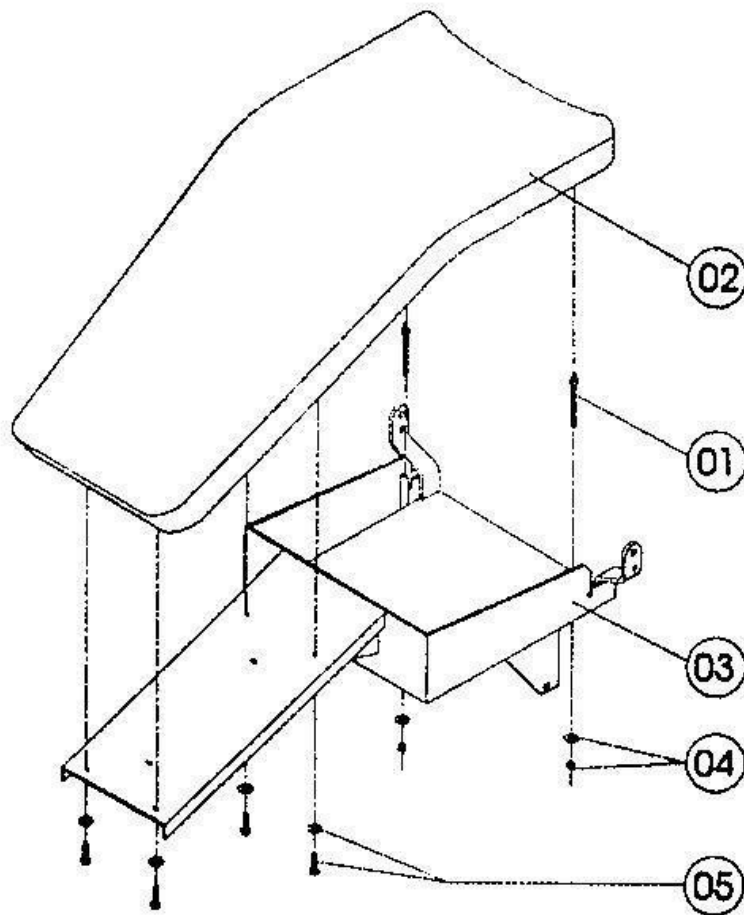


Figure 9

Solenoid Manifold Assembly

Refer to Figure 11

NOTE: When servicing the hydraulic block of the solenoid manifold assembly, the base and back must be in their full down position to prevent unwanted down movements and ensure there is the least amount of hydraulic fluid in either piston.

To service a solenoid valve:

1. Use a 9/16" wrench to remove the retaining nut (1).
2. Remove the solenoid coil (2) from the valve assembly.
3. Using a 9/16" wrench, remove the poppet sleeve (3)
4. The valve assembly is now ready to be serviced as required.

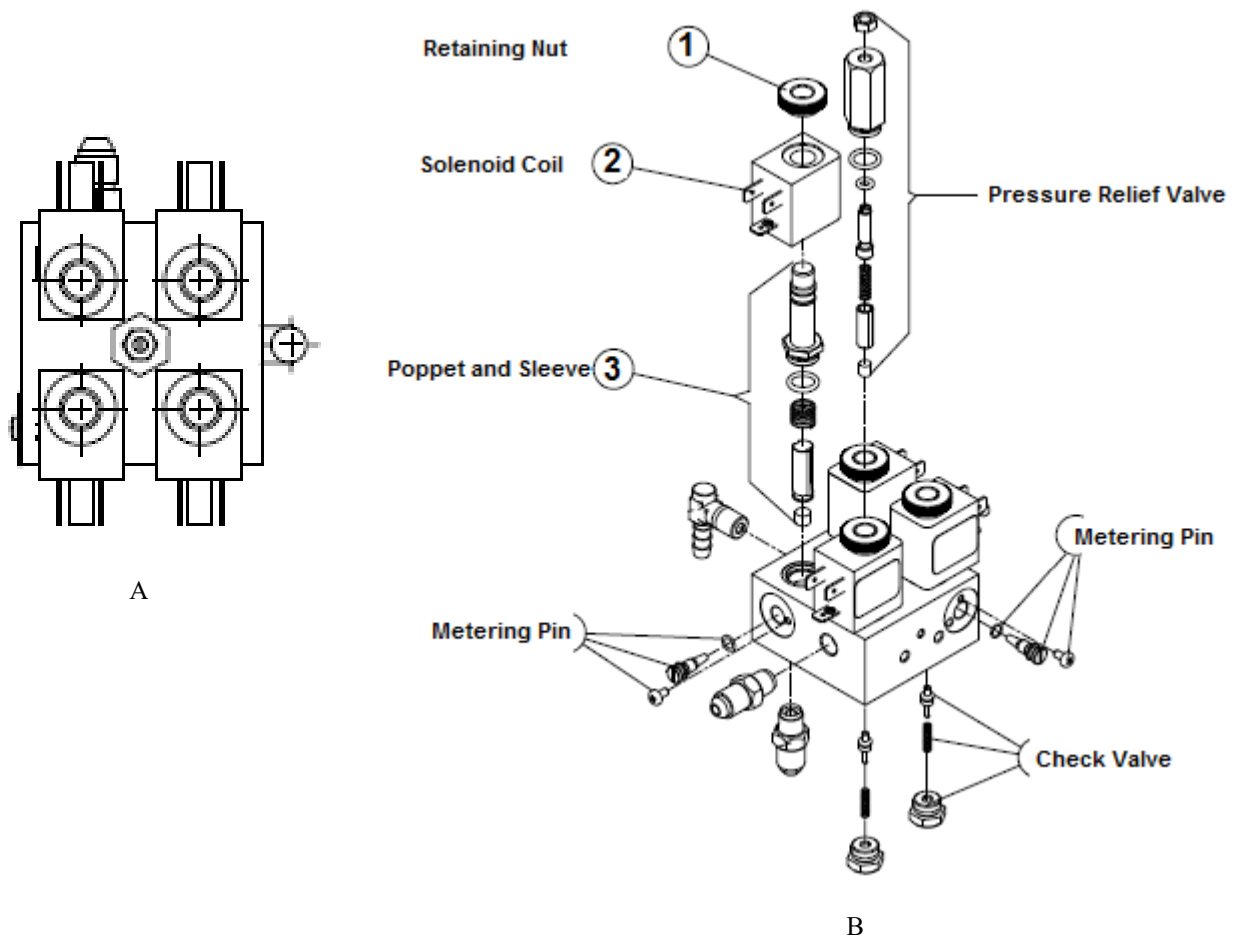


Figure 11

Speed Adjustment

Refer to Figure 14a and 14b

Should a change in the back down speed be required?

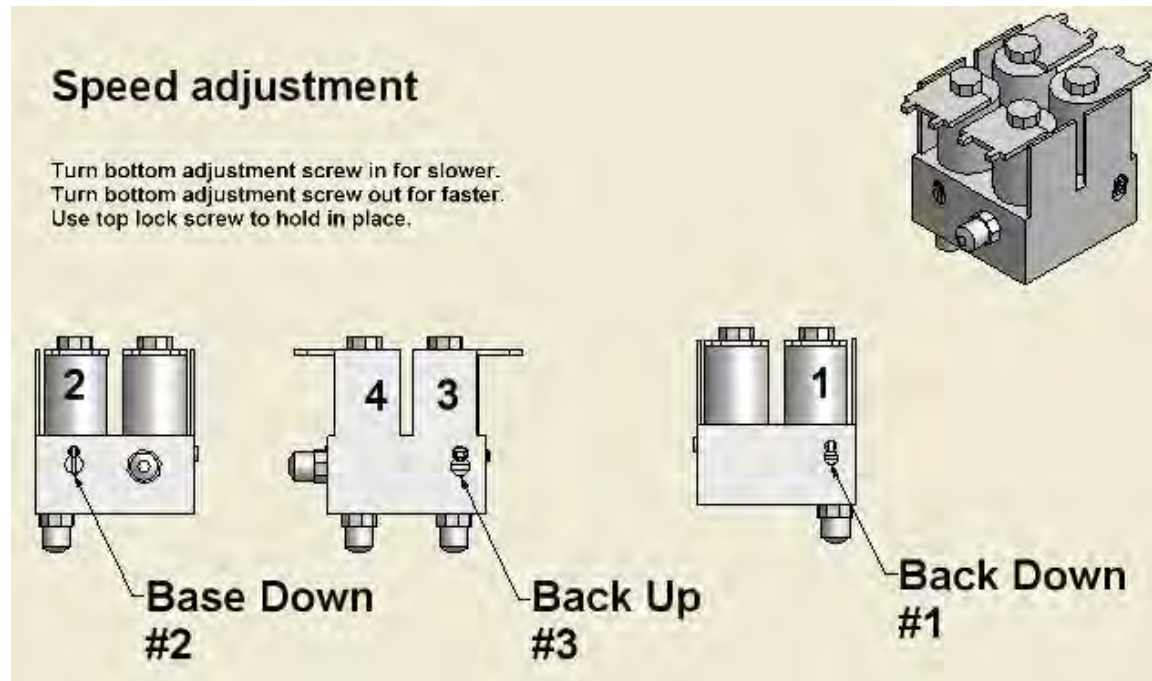


Figure 14a

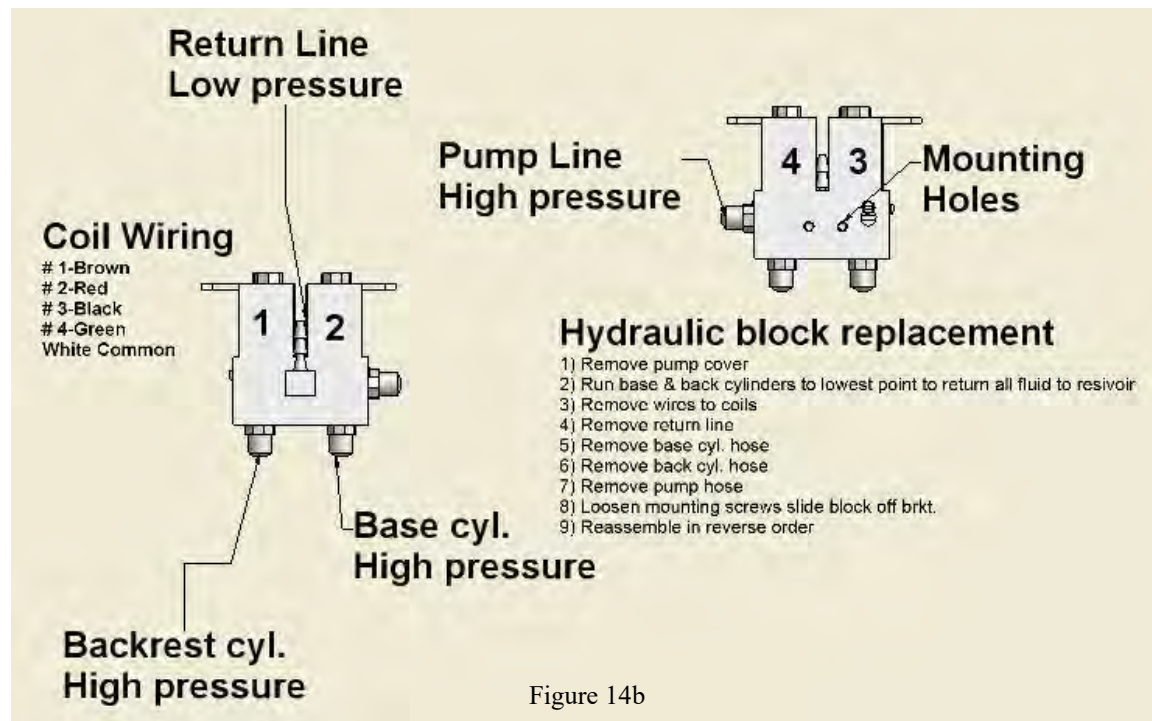


Figure 14b

Lower Piston Replacement

Refer to Figure 15

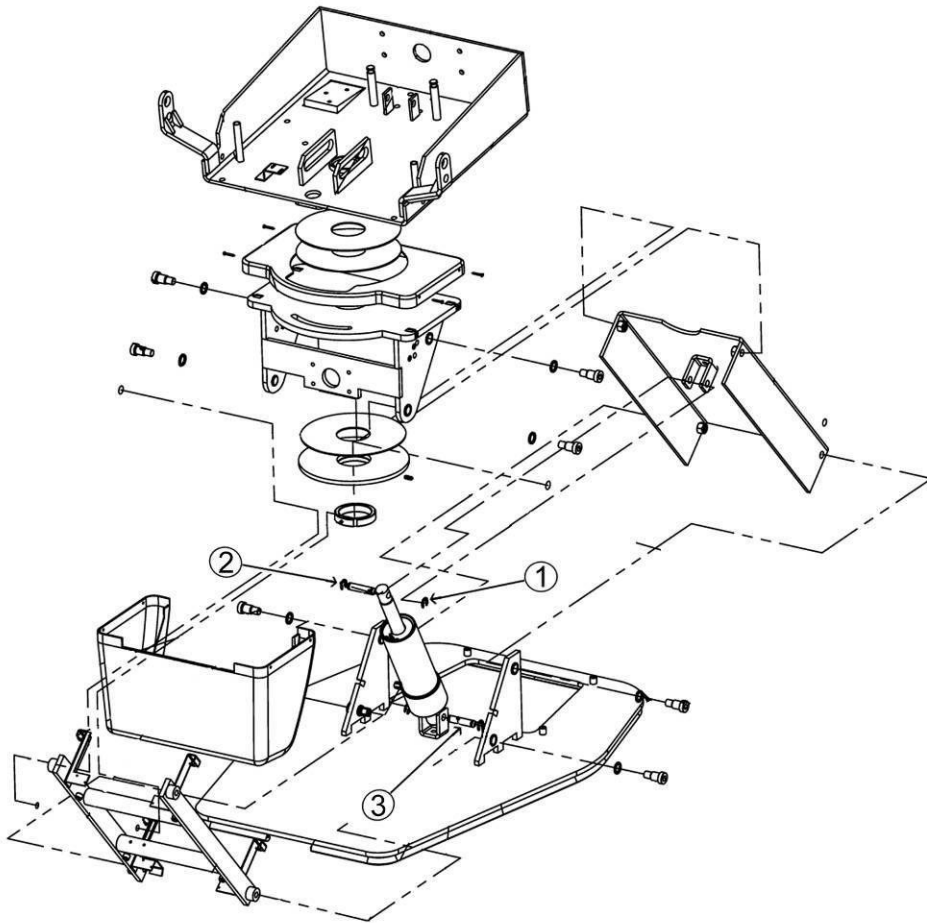


Figure 15

1. Run chair to highest point.
2. Remove cantilever cover.
3. Remove chair safety plate (depress sides and remove from hooks).
4. Remove pump cover.
5. Lower chair to lowest point (new board put in soft limit jumper).
6. Remove high pressure hose from fitting.
7. Plug end of hose for any fluid leakage.
8. Lift base and block up for easier access.
9. Remove E-Clip on one side of top pin of piston. See figure 15, item 1.
10. Holding base piston. Remove upper pin. See figure 15, item 2.
11. Remove vent line from top of piston (clear poly tube).
12. Remove E-Slip on one side of lower piston pin.
13. Remove lower piston pin. See figure 15, item 3.
14. Replace lower piston.
15. Reassemble in reverse order.

Upper Piston Replacement

Refer to Figure 16

1. Remove seat cushion. See figure 11 on page 16.
2. Move upper piston to lowest position (new board put in soft limit jumper).
3. Remove the 2 return springs.
4. Remove high pressure hose from fitting.
5. Plug hose end.
6. Remove 1 (one) E-clip only from retaining pin at back of piston. See figure
7. Remove retaining pin. See figure
8. Using wrench flats on piston shaft unscrew from piston end pin support. See figure
9. Remove piston shaft from pin support (do not remove pin).
10. Replace upper piston.
11. Reassemble piston in reverse order.

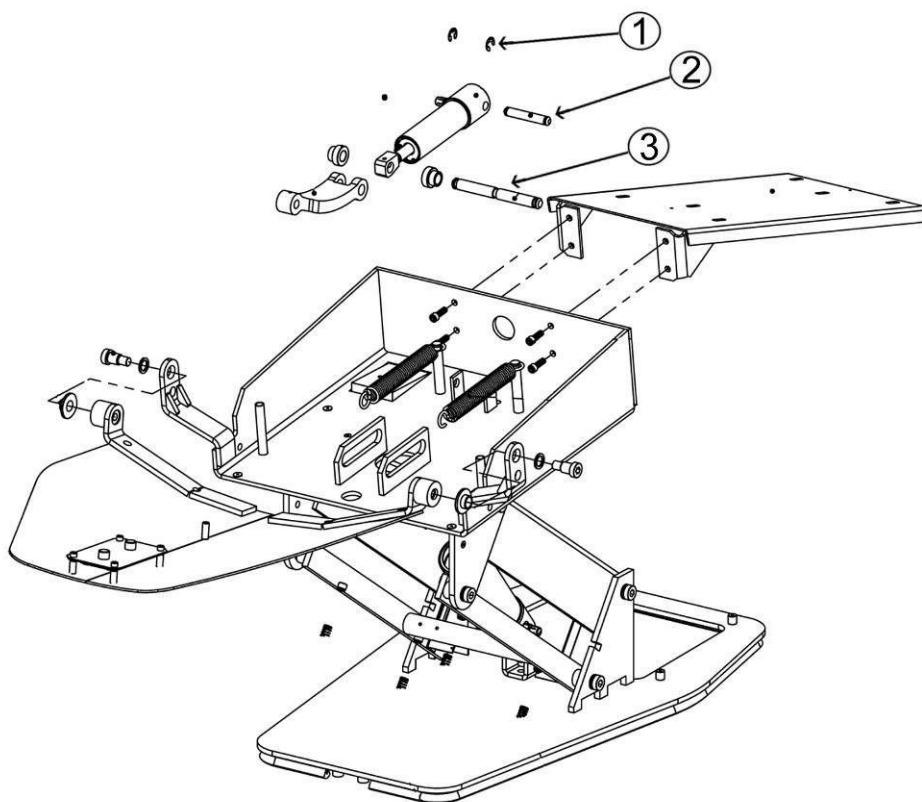


Figure 16

Potentiometer Adjustment (optional)

Refer to Figure 13

The potentiometer is a synchronized toothed belt and pulley that does not normally require adjustments or maintenance. If necessary to reset the Potentiometer Belt, refer to the figure below and is to be preformed from the patient's left side of the chair only:

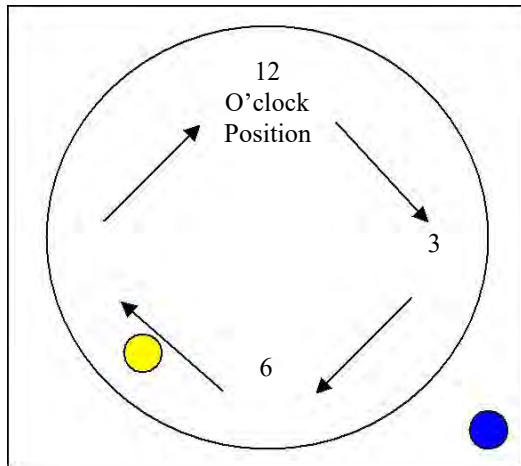


Illustration #1

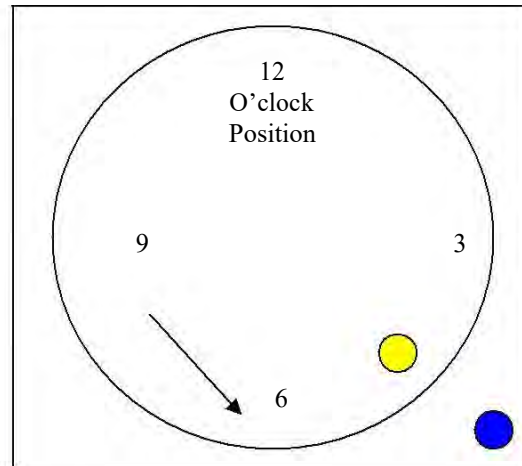


Illustration #2

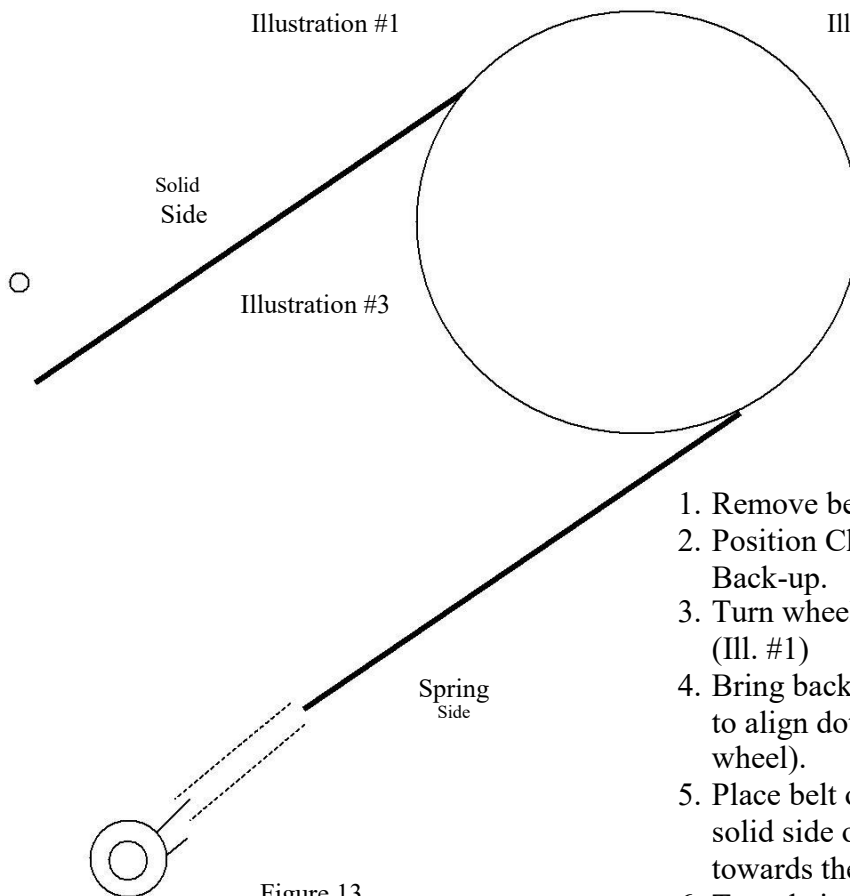


Illustration #3

Back up potentiometer
value 4.7v DC
Red & Green

Base up potentiometer
value 4.0v DC Red & Green

1. Remove belt from Pulley.
2. Position Chair in the full Base-up & Back-up.
3. Turn wheel clockwise completely (Ill. #1)
4. Bring back $\frac{1}{4}$ turn counterclockwise to align dots (Ill. #2 and hold wheel).
5. Place belt on wheel starting by the solid side of belt, removing slack towards the spring.
6. Test chair for Pre-position.

Figure 13

Main PC Board Replacement

Refer to Figure 19

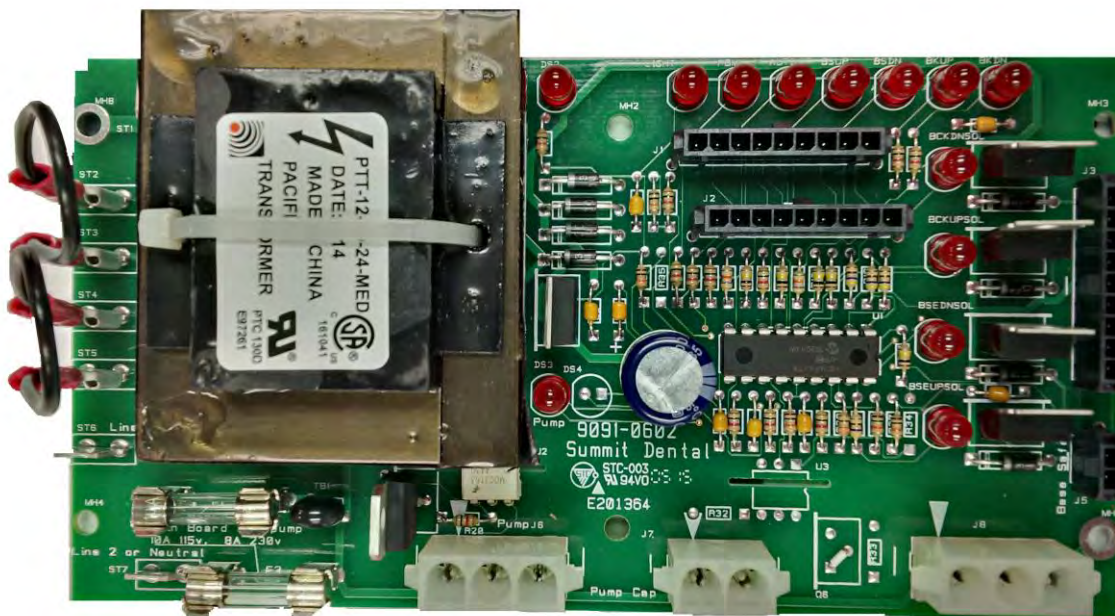


Figure 19

1. Unplug chair from power source.
2. Remove pump cover.
3. Remove 2 screws on PC Board cover.
4. Unplug all connection on board. See figure
5. Remove 4 nuts holding board to back panel.
6. Replace with new board.
7. Test all chair movements.
8. Reassemble in reverse order.

Legend

BRW – Brown	COM – Common
YLW – Yellow	EXT – Exit
ORG – Orange	BSU – Base UP
BLU – Blue	BSD – Base Down
RED – Red	BKU – Back Up
GRN – Green	BKD – Back Down
WHT – White	BKL – Back Limit Switch
BLK – Black	BSL – Base Limit Switch

Biscayne Chair Hydraulic Diagram

Refer to Figure 15

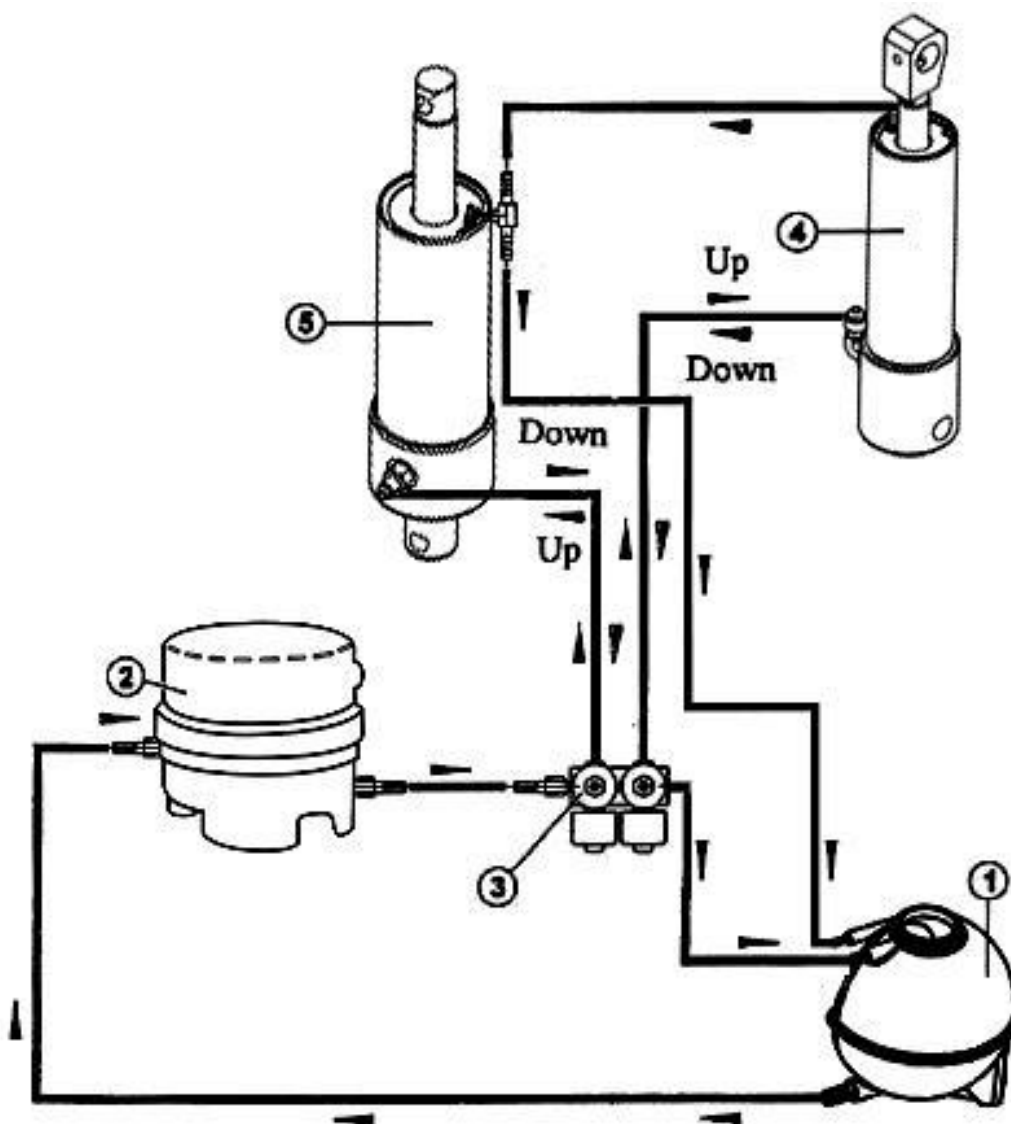


Figure 15

- 1 Oil Reservoir
- 2 Motor Pump
- 3 Hydraulic Block
- 4 Backrest Piston
- 5 Base Piston

Trouble Shooting Guide

No Movement

Possible Cause	Corrective Action
1 Chair unplugged	Plug chair into receptacle
2 No power from source	Reset circuit breaker
3 Blown fuse or disconnected power cord	On the motor terminal strip, measure the AC Voltage between terminals 2 & 5 ; reading should be 115V or 220V. If it is, then the power cord, fuse holder and fuse(s) are o.k. If reading between 2 & 5 is zero, then measure the voltage between 2 & 4; if reading is the line voltage, then the fuse is probably interrupted. Replace fuse. If reading between 2 & 4 is zero, check the power cord. Check L.E.D. light on PC Board.
4 Disconnected fuse holder terminals	Check fuse holder(s) two-wire connections at the holder and terminal strip.
5 Loose cables on motor terminal strip or PC Board cable connectors	Check all of the chair's cables (power cord, PC board, motor, foot control and solenoid) for tightness and metal contact.
6 Defective Board Cable or Component on PC Board	Check voltage between motor terminal strip 1& 2 and press back or base up, if reading 0VAC check Board Cable for continuity. If not getting continuity from cable, replace cable or if there is continuity, replace control unit.
7 Defective Control Unit Transformer	Check transformer's primary (black-white) and secondary (blue) wires for correct voltage. The primary should read 115VAC/220VAC and secondary 10.5VAC (+ 10%).

No Base Down Movement

Possible Cause	Corrective Action
1 - Base down solenoid coil disconnected	Check cable connection at solenoid and PC Board.
2 - Open electrical leads of cable between board and solenoid coil	Check electrical leads of the cable for continuity; if open replace cable. Check membrane switch, membrane cable, foot control and valve cable.
3 - Defective component of PC Board	Check power at solenoid coil; activate base down switch; if reading 0VDC replace Control Unit. Normal reading is 12VDC ($\pm 10\%$).
4 - Base down solenoid coil not magnetizing	Check coil for resistance, should read 22 ohms ($\pm 10\%$).

No Backrest Down Movement

Possible Cause	Corrective Action
1 - Backrest down solenoid coil disconnected	Check cable connection at solenoid and PC Board.
2 - Open electrical leads of cable between board and solenoid coil	Check electrical leads of the cable for continuity; if open replace cable. Check membrane switch, membrane cable, foot control and valve cable.
3 - Defective component of PC Board	Check power at solenoid coil; activate back down switch; if reading 0VDC replace Control Unit. Normal reading is 12VC ($\pm 10\%$).
4 - Backrest down solenoid coil not magnetizing	Check coil for resistance, should read 22 ohms ($\pm 10\%$).

No Backrest Up Movement Only

Possible Cause	Corrective Action
1 - Backrest up solenoid coil disconnected	Check connections at solenoid and PC Board.
2 - Open electrical leads of cable between board and solenoid coil	Check electrical leads of the cable for continuity; if open replace cable. Check membrane switch, membrane cable, foot control and valve cable.
3 - If motor is not running, limit switch for back (LS2) may be disconnected	Check limit switch connections at switch and corresponding terminals on PC Board; check LS2 leads for continuity.
4 - Jumper wire on PC Board may be disconnected	Check that jumper wire on PC Board is in place and making proper electrical contact
5 - Defective limit switch (LS2)	Check switch with multimeter; if defective, replace limit switch.
6 - Defective component of PC Board	Check power at solenoid coil; active back up switch; if reading 0VDC replace Control Unit. Normal reading is 12VDC (+ 10%).
7 - Backrest up solenoid is not magnetizing or is burnt out	Check coil for resistance, should read 22 ohms (+ 10%).

No Base Up Movement Only

Possible Cause	Corrective Action
1 - Base up solenoid coil disconnected	Check connections at solenoid and PC Board.
2 - Open electrical leads of cable between board and solenoid coil	Check electrical leads of the cable for continuity; if open replace cable. Check membrane switch, membrane cable, foot control and valve cable.
3 - If motor is not running, limit switch for base (LS1) may be disconnected	Check limit switch connections at switch and corresponding terminals on PC Board; check LS1 leads for continuity.
4 - Defective limit switch (LS1)	Check switch with multimeter; if defective, replace limit switch.
5 - Defective component of PC Board	Check power at solenoid coil; active base up switch; if reading 0VDC replace Control Unit. Normal reading is 12VDC (+ 10%).
6 - Base up solenoid is not magnetizing	Check coil for resistance, should read 22 ohms. (+ 10%).

No Base And Backrest Up Movements

Possible Cause	Corrective Action
1 - Defective motor relay	Check voltage between 1 & 2 on the motor terminal strip, should be 115VAC or 220VAC while up movements are activated. If voltage is zero, check connections of the cables at the motor and at the Control Unit.

Downward Movement Of Base Without Switch Activation

Possible Cause	Corrective Action
1 - Defective base check valve (retention) assembly	Remove check valve (retention) assembly; inspect spring and O-ring, replace all defective parts.
2 - Debris in base down solenoid valve seat or seals	Remove base down solenoid valve seat and clean solenoid manifold assembly.

Downward movement of back without switch activation

Possible Cause	Corrective Action
1 - Defective back check valve (retention) assembly	Remove check valve (retention) assembly; inspect spring and O-ring, replace all defective parts.
2 - Debris in back down solenoid valve seat or seals	Remove back down solenoid valve seat and clean solenoid manifold assembly.

Slow Or Sluggish Movement

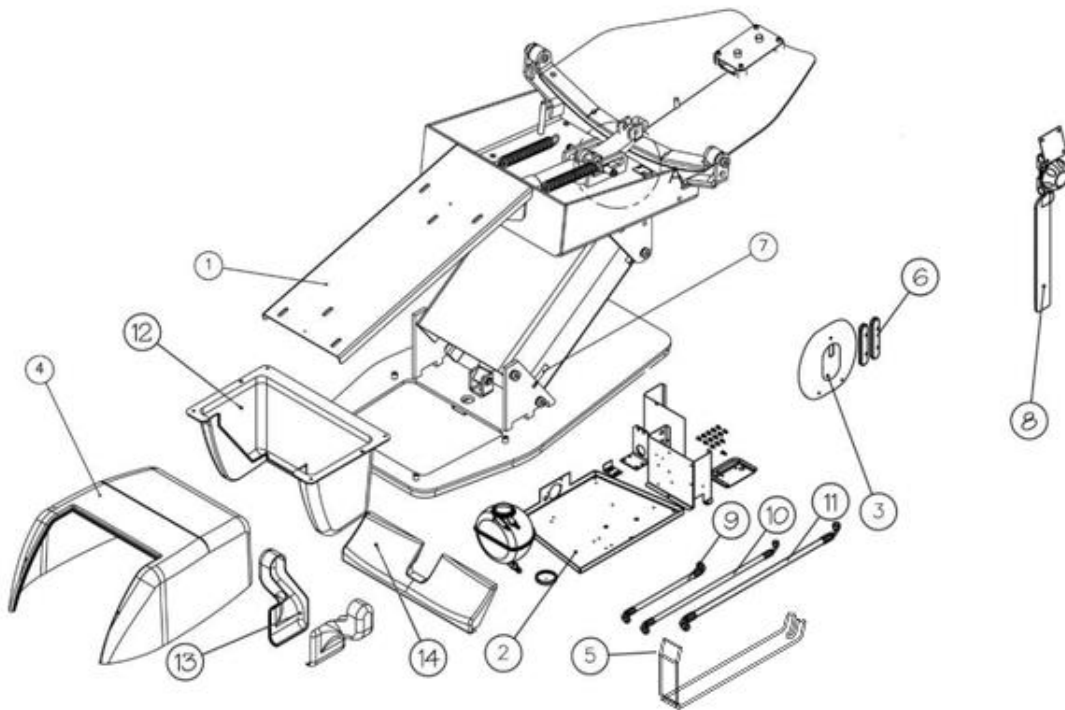
Possible Cause	Corrective Action
1 - Debris on one of the filter screens	Check and clean filter screens (there are filter screens at both the inlet and outlet sides of the block).

No Base Up Movement Only

Possible Cause	Corrective Action
1 - Base up solenoid coil disconnected	Check connections at solenoid and PC Board.
2 - Open electrical leads of cable between board and solenoid coil	Check electrical leads of the cable for continuity; if open replace cable. Check membrane switch, membrane cable, foot control and valve cable.
3 - If motor is not running, limit switch for base (LS1) may be disconnected	Check limit switch connections at switch and corresponding terminals on PC Board; check LS1 leads for continuity.
4 - Defective limit switch (LS1)	Check switch with multimeter; if defective, replace limit switch.
5 - Defective component of PC Board	Check power at solenoid coil; active base up switch; if reading 0VDC replace Control Unit. Normal reading is 12VDC ($\pm 10\%$).
6 - Base up solenoid is not magnetizing	Check coil for resistance, should read 22 ohms ($\pm 10\%$).

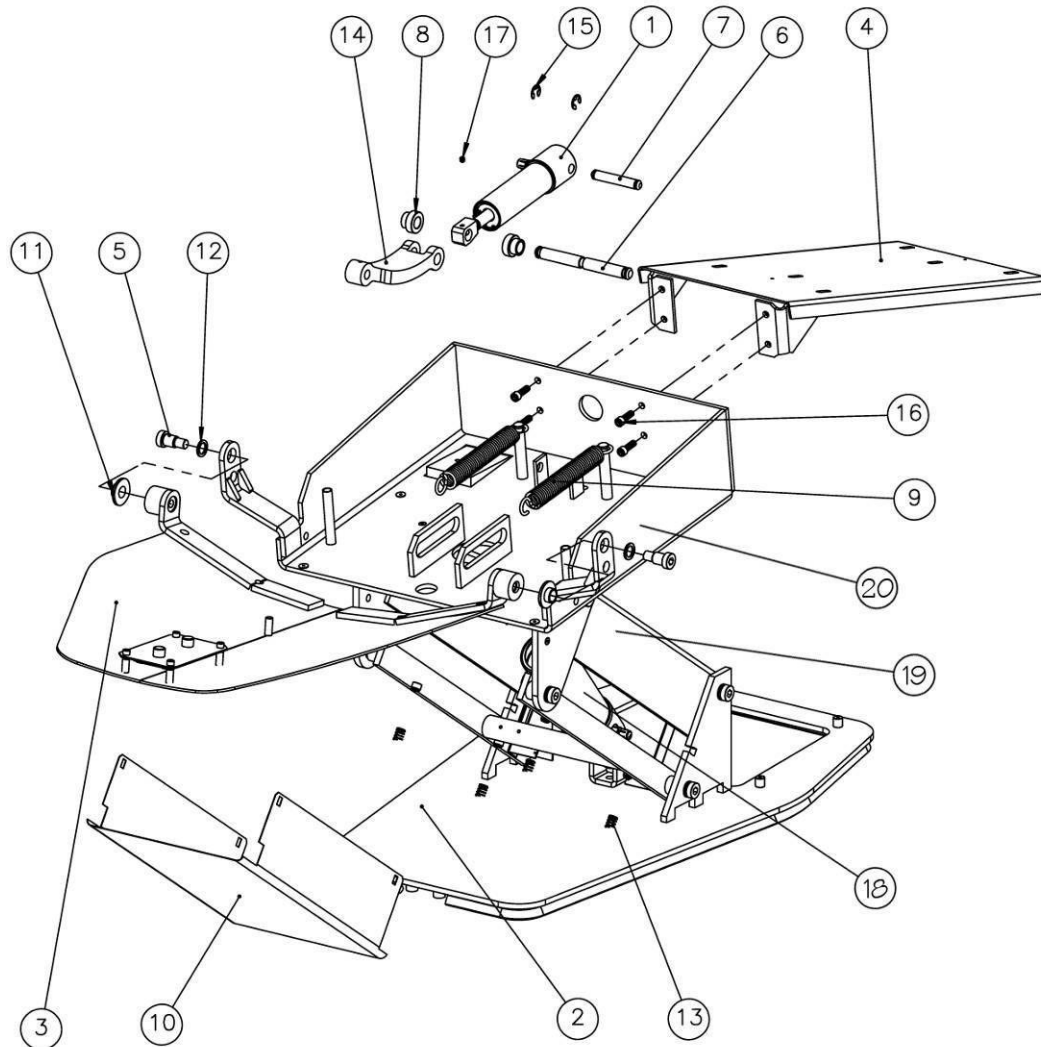
Parts List

Biscayne Chair Assembly – View I



Item	Part #	Description
1	2-010-0177	Toe Pan
2	2-010-1076	Tray
3	2-010-0130	Headrest Back Cover
4	2-010-1001	Motor Pump Cover
5	2-010-0269	Seat Cushion Bracket
6	2-010-0132	Headrest Side Cover
7	5-010-0014	Security Bracket
8	2-010-0131	Headrest Assy.
9	2-010-0027	Manifold HP Hose
10	2-010-0031	Base HP Hose
11	2-010-0029	Backrest HP Hose
12	2-010-0138	Rear Cantilever Cover
13	2-010-1079	Armrest Cover (Left)
	2-010-1080	Armrest Cover (Right)
14	2-010-0133	Back Piston Cover

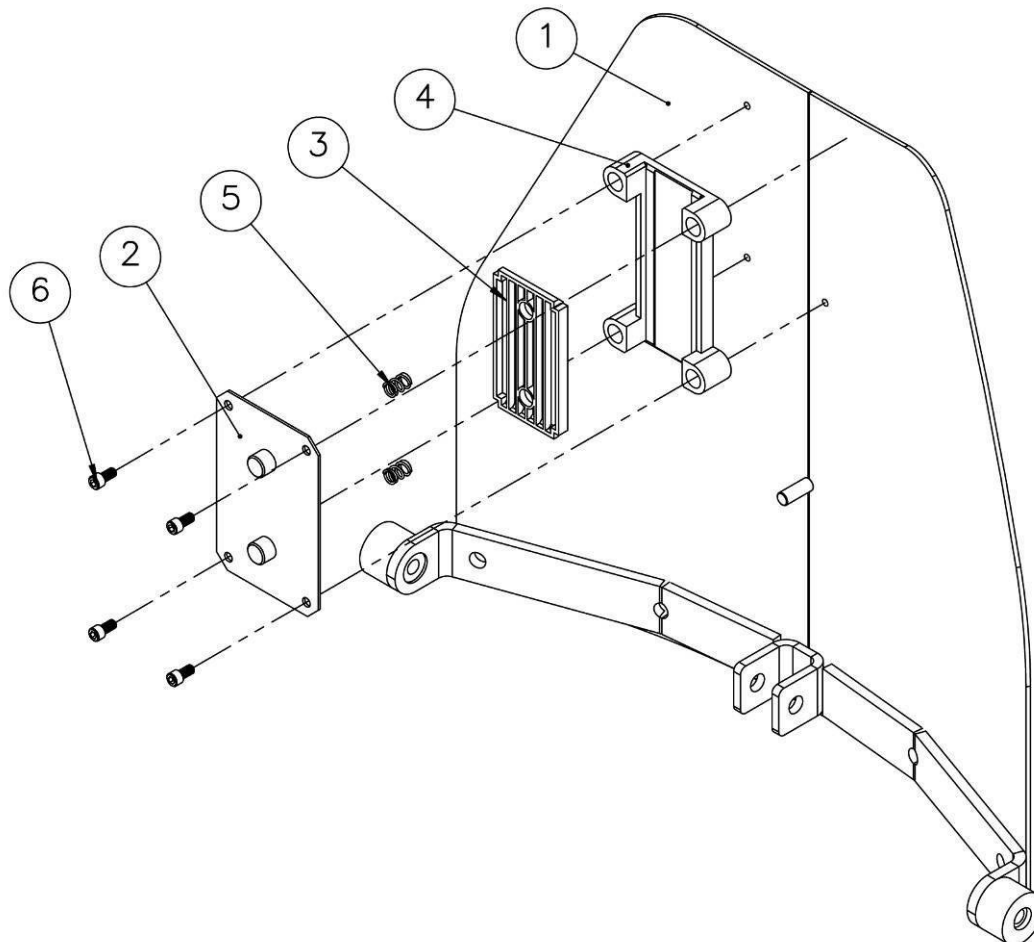
Biscayne Chair Assembly – View II



Item	Part #	Description	Item	Part #	Description
1	3-010-1000	Back Piston	11	4-010-0018	Washer
2	2-010-0168	Base Frame	12	4-010-0016	Washer
3	2-010-0164	Backrest Assy.	13	5-010-0021	Spring
4	2-010-0177	Toe Pan	14	2-010-0198	Back to Piston Support
5	4-010-0031	Bolt Armrest Support	15	5-010-0015	E-Clip 5/16
6	4-010-1030	Long Pin	16	4-010-0035	Screw 5/16-18 x 1
7	4-010-1029	Short Pin	17	4-010-0020	Screw 1/4-20 x 1/4 CP
8	4-010-0015	Bushing Guide	18	2-010-1075	Base Piston
9	2-010-0063	Spring	19	2-010-0181	Upper Elevation Cover
10	2-010-0097	Lower Elevation Cover	20	2-010-0169	Seat Frame
			*	4-010-0080	Upholstery Screw Kit

Backrest Assembly

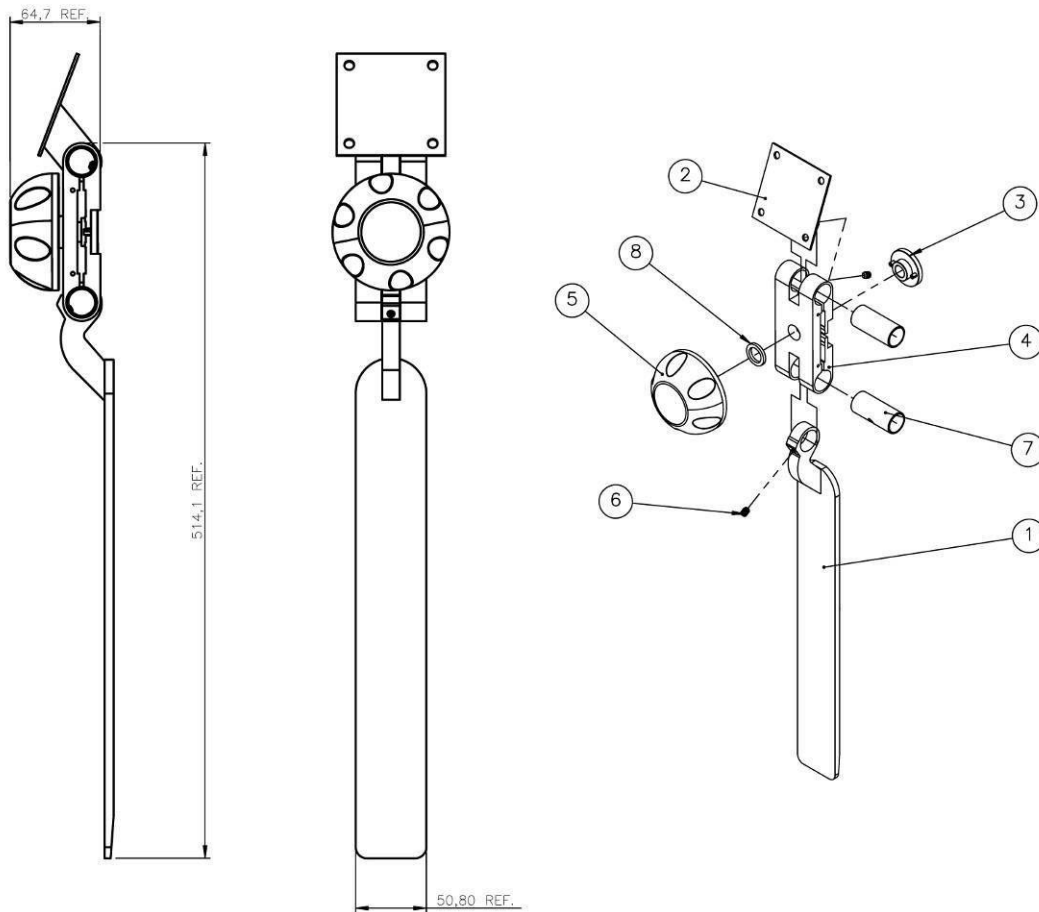
2-010-0164



Item	Part #	Description
1	2-010-0165	Frame
2	2-010-0047	Pressure Plate
3	2-010-0051	Pressure Frame
4	2-010-0058	Pressure Support
5	2-010-0053	Spring
6	5-010-0026	Screw 1/4-20 x 1/2

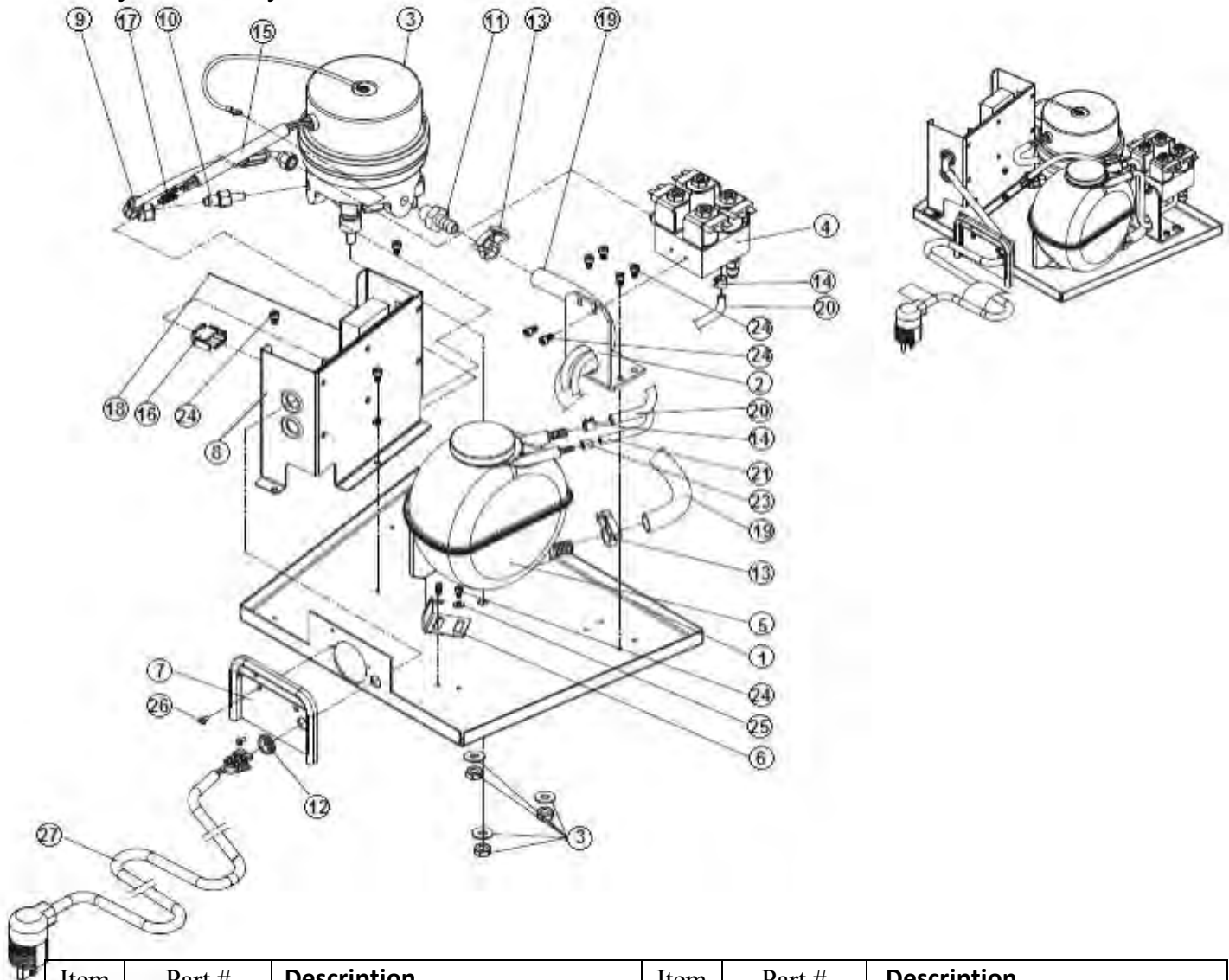
Headrest Assembly With Knob

2-010-0131



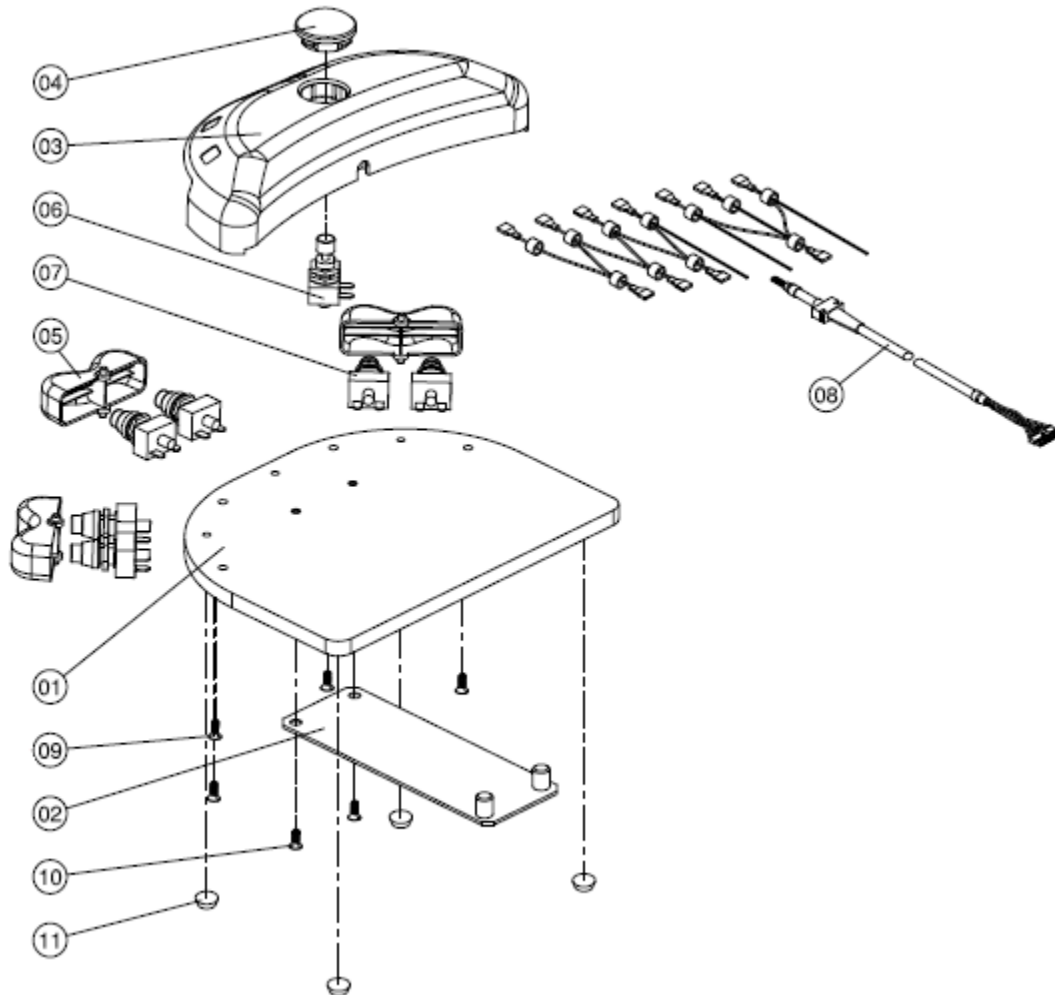
Item	Part #	Description
1	2-010-0150	Post
2	2-010-0120	Base for Cushion
3	4-010-0034	Locking Nut
4	2-010-0152	Double Articulation
5	2-010-0153	Knob
6	4-010-0041	Screw Cup Point
7	4-010-0061	Rod
8	4-010-1047	Nylon Washer

Tray Assembly



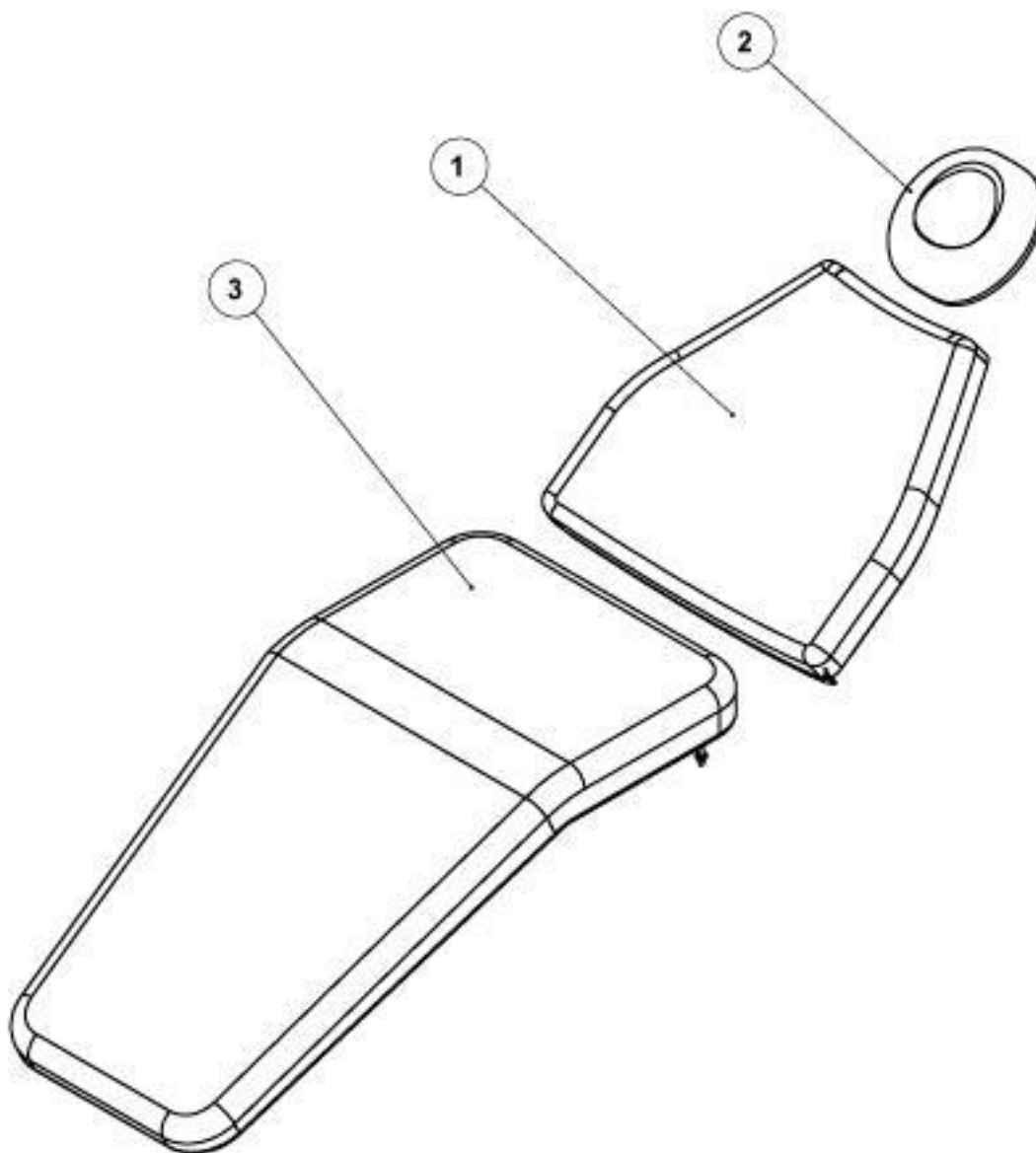
Item	Part #	Description	Item	Part #	Description
1	2-010-1076	Tray	14	5-010-0048	Clamp 44 OD Return Hose
2	5-030-0039	Support Hydraulic	15	5-010-0038	Clear Heat Shrink Tubing
3	2-010-0025	Motor Pump 115v w/capacitor	16	7-010-0038	Plug Connector 3 pin
4	2-010-0231	Hydraulic Block	17	7-010-0057	Pin Contact
5	2-010-0006	Oil Tank	18	2-010-0221	PC. Board w/ Transformer
6	2-010-1077	Oil Tank Support	19	2-010-0013	Green Hose 7/16 x 9/16
7	2-010-0114	Face Plate	20	2-010-0012	Green Hose 1/4 x 3/8
8	7-010-0052	PC. Board Chassis	21	5-010-0011	Clear Tubing 1/4"
9	2-010-0027	High pressure (Manifold)	23	4-070-0046	Plastic Sleeve 1/4"
10	5-010-1001	Fitting (Pump Outlet)	24	4-010-1001	Screw Socket cap #10-24 x 38
11	5-010-1002	Fitting (Pump Inlet)	25	4-020-0022	Flat Washer #10
12	7-010-0016	Strain Relief (Power Cord)	26	4-010-0075	Screw 5/32 x 3/8
13	7-010-0006	Clamp Metal 7/16 - 7/8 #5	27	3-010-0011	Power Cord Assy.

Foot Control and Cable Assembly



Item	Part #	Description
1	2-010-0512	Chassis foot control Biscayne
2	5-010-0028	Bracket foot control Biscayne
3	5-010-0073	Plastic Cover foot control Biscayne
4	2-010-0222	Soft Grommet button
5	2-010-0249	Plastic rocker foot control Biscayne
6	2-010-0224	Switch push button
7	2-010-0224	Switch push button
8	3-010-0058	Wire Assy. Foot control
9	4-010-1058	Screw #8 x ¾"
10	4-010-0046	Screw #10 x ½"
11	1-010-0806	Bumper cylinder

Upholstery Set



Item	Part #	Description
1	Vary by Color	Backrest Upholstery
2	Vary by Color	Headrest Upholstery
3	Vary by Color	Seat Upholstery
*	3-010-1045	Scuff Guard
*	2-010-0156	Headrest Plastic Guide

WARRANTY

Summit Dental Systems (SDS) warrants its products against defects in materials or workmanship from the date of shipment to the Buyer as follows:

Summit Dental Systems (SDS) Equipment:

Chairs, Delivery Units, Cuspidors, Lights
Control Block Diaphragm (part of Delivery Unit)
All Upholstery, Stools, all Plastic Covers, and Cabinets

Warranty Period:

5 Years
Lifetime
1 Year

Summit Dental Systems' sole obligation under the warranty is to provide parts for repair, or at its option, to provide a replacement product (excluding all labor and shipping fees). "In any action, BUYER'S remedies are limited to the warranty described above. BUYER shall not be permitted to claim lost profits, reliance, special, incidental, or consequential damages in any proceedings." The warranty does not cover damage from improper installation or maintenance, accident or misuse. The warranty does not cover damage resulting from the use of cleaning disinfecting or sterilization chemicals and processes. Failure to follow instructions provided in Summit Dental Systems' Operation and Installation Manuals (Owner's Guides) may void the warranty. In the event Warranty service must be performed to correct any defect, only an authorized Summit Dental System dealer may perform any and all warranty repairs. Any repairs by unauthorized dealers, technicians, or repairmen may void the warranty.

In the case of a defective warranty item, a copy of the replacement invoice, model and serial number of the product under which it was replaced, and a description of symptoms of the defect must be returned with the part within 30 days of the replacement invoice date to Summit Dental Systems, 1280 SW 27th Ave Pompano Beach, FL 33069, USA, in order to receive credit. Any and all expenses for freight, labor to perform warranty service, and purchase of spare parts are the responsibility of the buyer. Any fraudulent claims made may void the warranty. Any additional warranty that may be provided by an authorized Summit Dental Systems dealer is the sole responsibility of said dealer.



SDS reserves the right to make changes or improvements on any products without being required to modify existing equipment in a like manner.

Please complete and retain for your records the following Information:

In case of warranty part replacement/repair or when ordering a part, please call your authorized Summit Dental Systems dealer and have the following information available:

Owners' Name:	Phone #:
Model #:	SDS Serial #:
Dealer:	Phone:
Purchase Date:	



1280 SW 27th Ave - Pompano Beach - FL 33069

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