

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

Table of Contents

| | |
|---------------------------------|----|
| Important Information | 3 |
| Weight & Dimensions | 10 |
| Operator's Instructions..... | 12 |
| Installation Instructions | 18 |
| Trouble Shooting Guide..... | 30 |
| Parts List..... | 35 |
| WARRANTY | 43 |

Important Information

Technical Specifications

| | |
|------------------------|---|
| Power Inlet: | 115 VAC, 60 Hz or 220 VAC, 50 Hz |
| Fuse: | 115V – 12Amp MDA Time Delay 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 |
| Hydraulic Piston Base: | 1/13. 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.

| | | |
|--|-------|------|
| SUMMIT DENTAL SYSTEMS FL Lauderdale, FL USA | | |
| MODEL No: _____ | | |
| SERIAL No: _____ | | |
| PRODUCT: _____ | | |
| VOLTS | HERTZ | AMPS |

Warning

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.

WARNING

Turn power off before servicing. All electrical work including bulb replacement, should be done with equipment unplugged from outlet.

* Equipment intended to be used as a TREATMENT/DIAGNOSTIC DENTAL LUMINAIRE.

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 and mobile RF communications equipment can affect Medical Electrical Equipment.

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.

Should it be necessary to add fluid to the hydraulic system? Use only DEXRON-III/MERCON MULTIPURPOSE ATF fluid.

NOTE: Waste or used oil should be sent to a designated site for safe professional disposal.

When placing the chair in its final position, check to insure the protective vinyl strip is properly in place on the base plate riser.

This chair is in the reverse Trendelenberg position, necessary for some emergency situations, when the chair back is in the full down position. The Biscayne Chair should not be used adjacent to or stacked with other


equipment and that if adjacent or stacked use is necessary, the Biscayne Chair should be observed to verify normal operation in the configuration in which it will be used.

Classifications

- a. According to the type of protection against electric shock: CLASS I.
- b. According to the mode of operation: CONTINUOUS DUTY.
- c. According to the degree of protection against electric shock: NO APPLIED PARTS.
- d. According to the degree of protection against ingress of water: ORDINARY (IPX0) PROTECTION.
- e. 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.

| 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 |
| Conducted RF IEC 61000-4-6 | 3 Vrms 150 kHz to 80 MHz | 3 Vrms | 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 $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ 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. | | | |

Sample Cautionary Labels

CAUTION! 350LBS (159Kg)!

1. Two (2) or more persons should be involved in removing the chair from the pallet and setting it gently on the ground.
2. Handle only from the steel base. Do not lift on the plastics as they may crack!



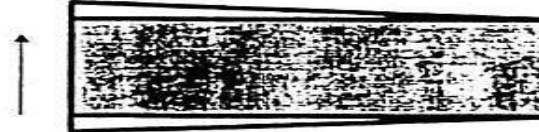
ATTENTION!

Do not lift or handle the chair from the Seat Complement as damage to the Base Piston and Limit Switches may occur!



TO REMOVE SEAT CUSHION

Handle from both ends and gently pull straight up.



INSTALLATION TIPS

1. When placing the chair in its final position, two or more people should handle it from the steel base only.
2. Do not handle the chair by any plastic part as it may crack. Plastics damaged in this manner are not covered under warranty.



ATTENTION!



PROTECTIVE EARTH GROUND LABEL



CE-MARK

MANUFACTURER AND
DATE OF MANUFACTURE

SERIAL
NUMBER

TYPE B
APPLIED
PART



EUROPEAN AUTHORIZED
REPRESENTATIVE



MT Promedt Consulting GmbH
Altenhofstrasse 80
D-66386 St. Ingbert, Germany
Phone: +49 (0)6894-581020
Fax: +49 (0)6894-581021

ATTENTION.



Attention, consult
accompanying operation
instructions.

ELECTRICAL AND
ELECTRONIC EQUIPMENT.



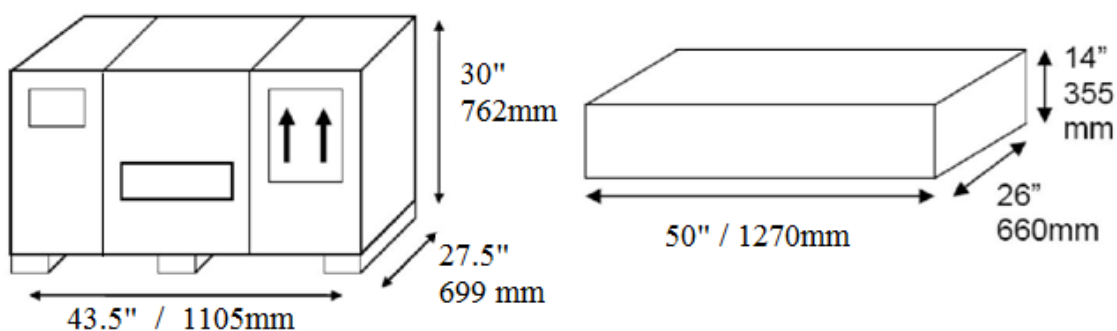
Symbol for marking of electrical
and electronic equipment.

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

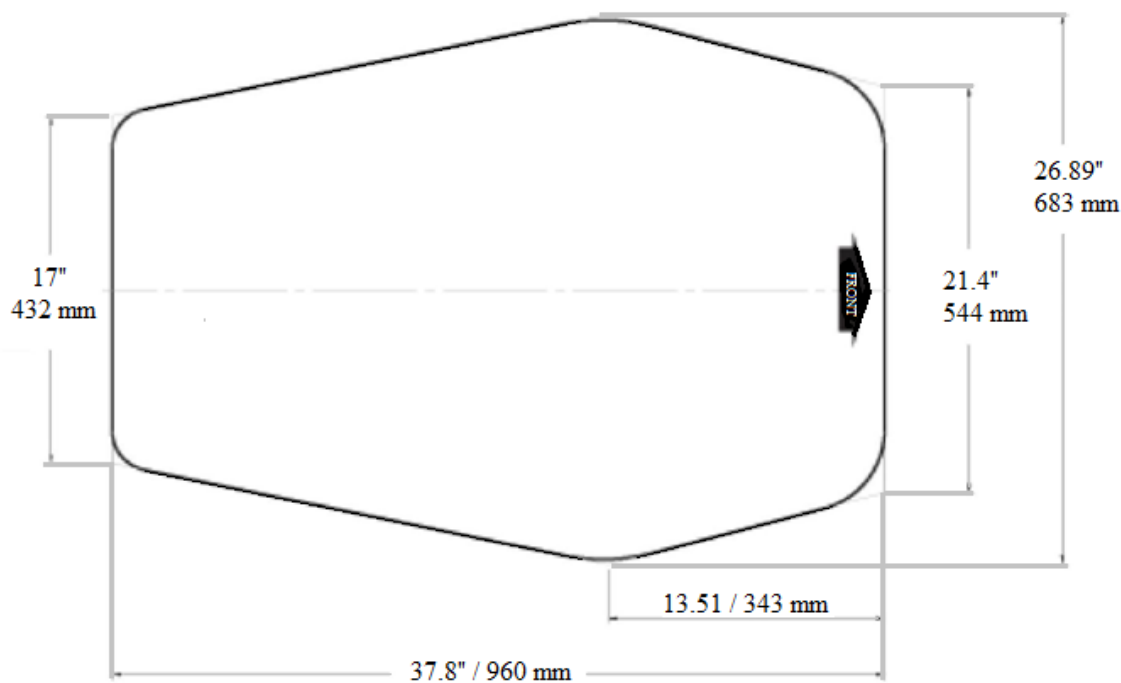
Shipping Information



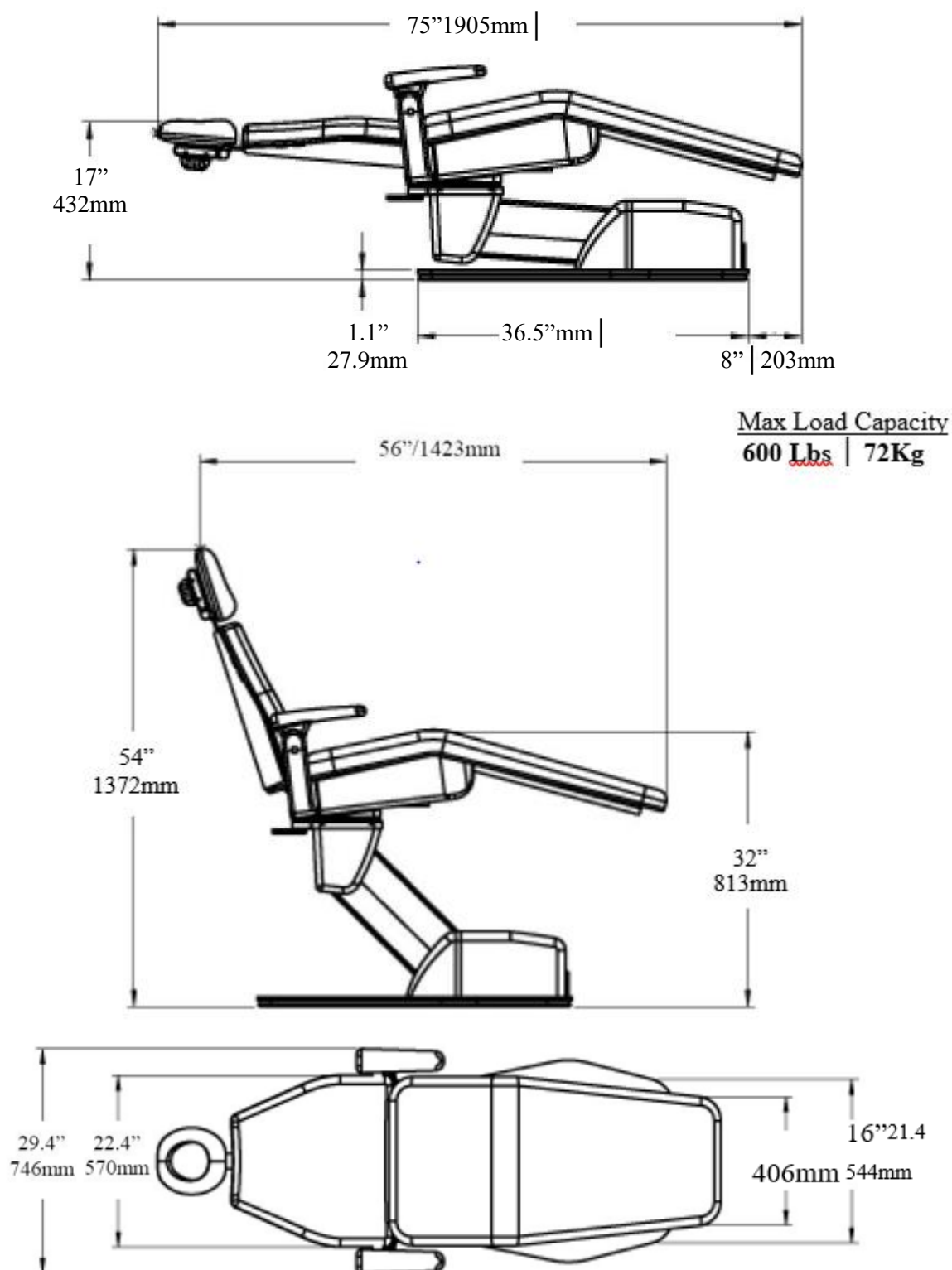
BISCAYNE CHAIR
Weight 358 Lb / 162 Kg

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.

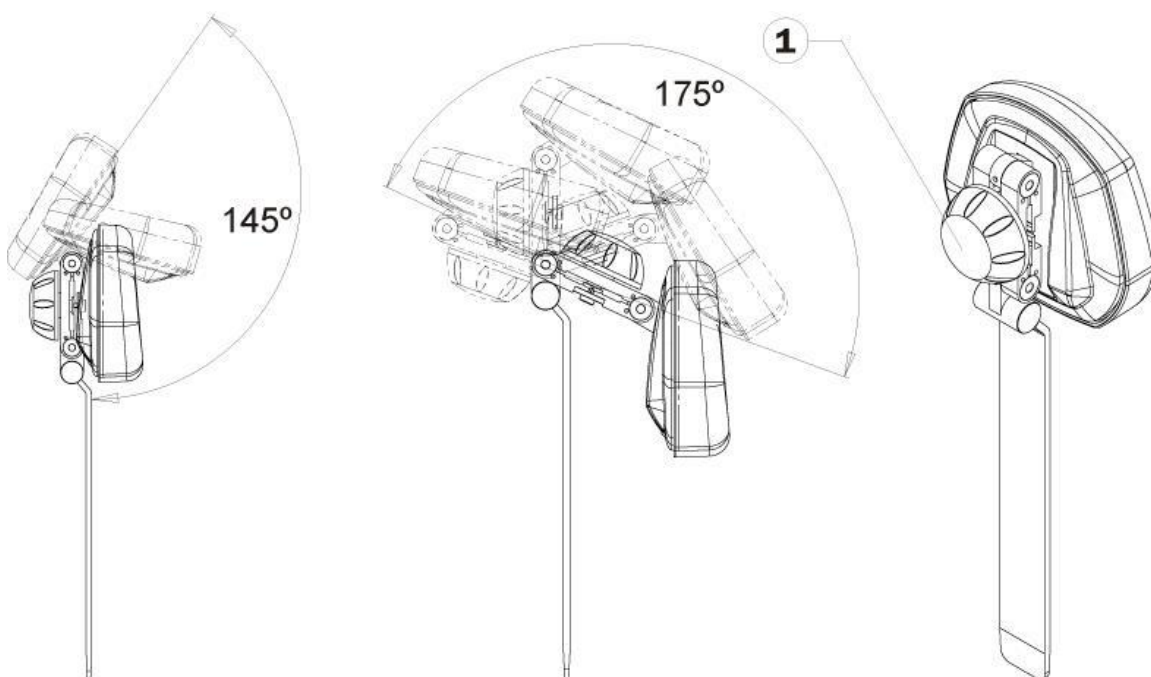


Figure 1a

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

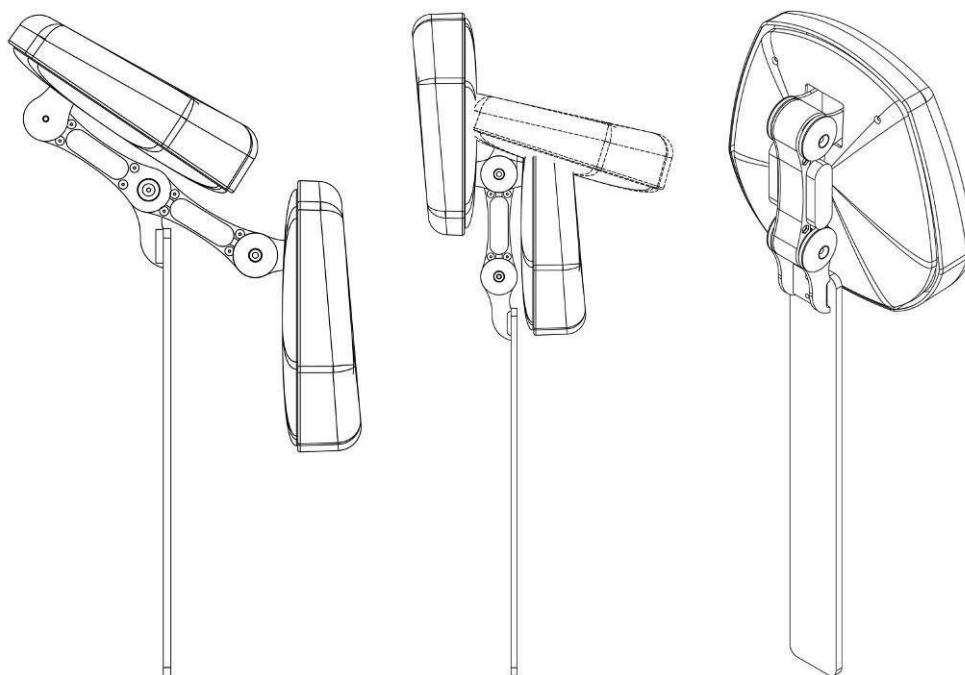


Figure 1b

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).

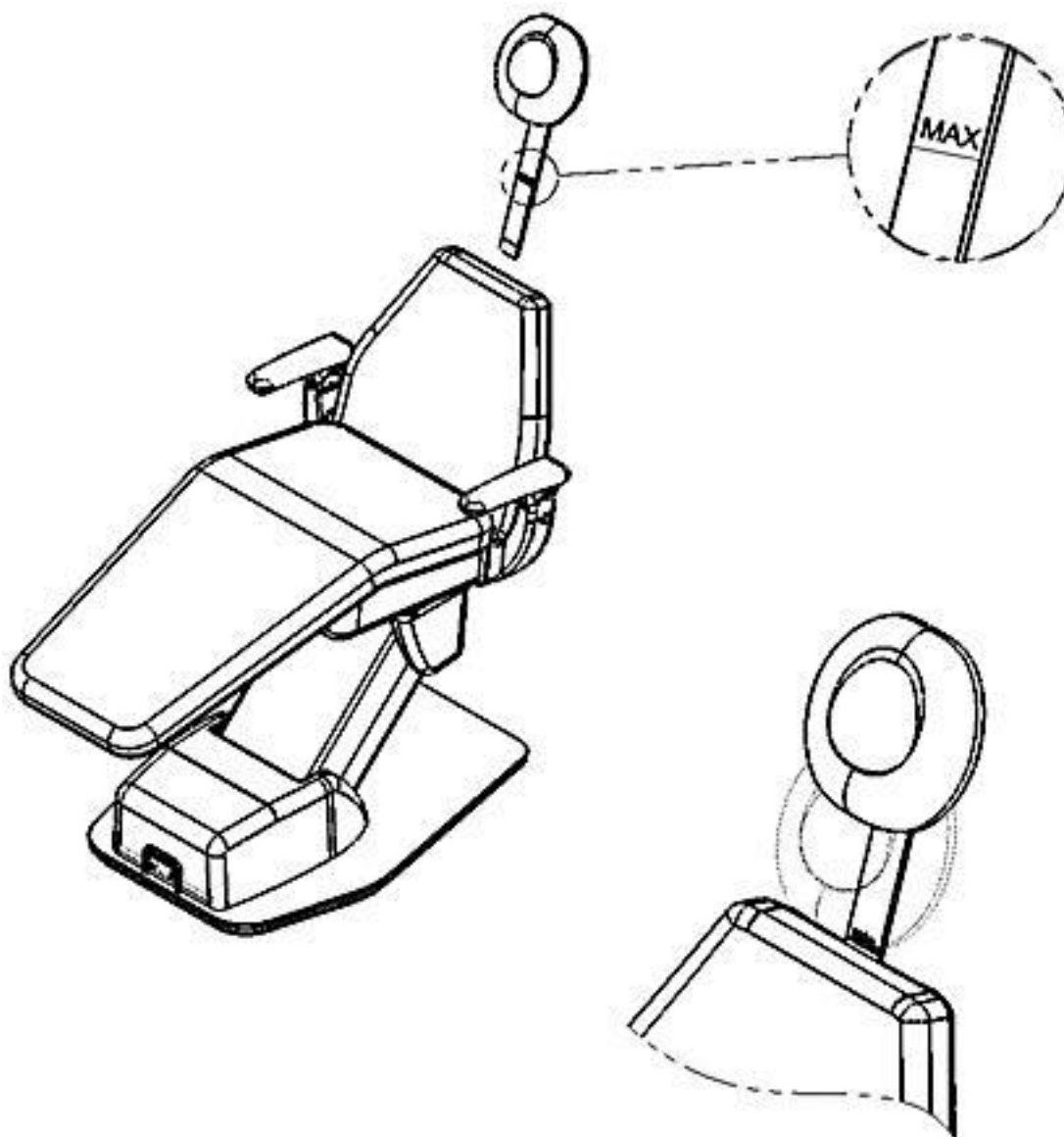


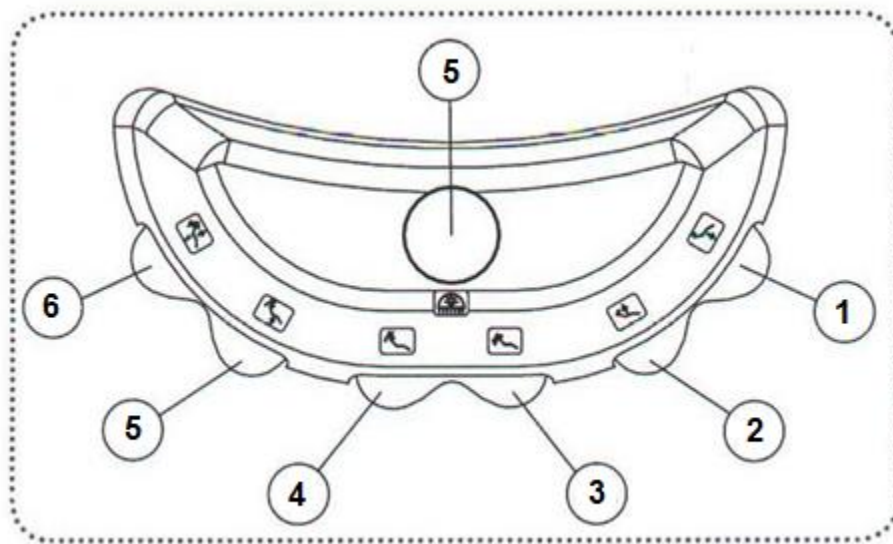
Figure 2

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.



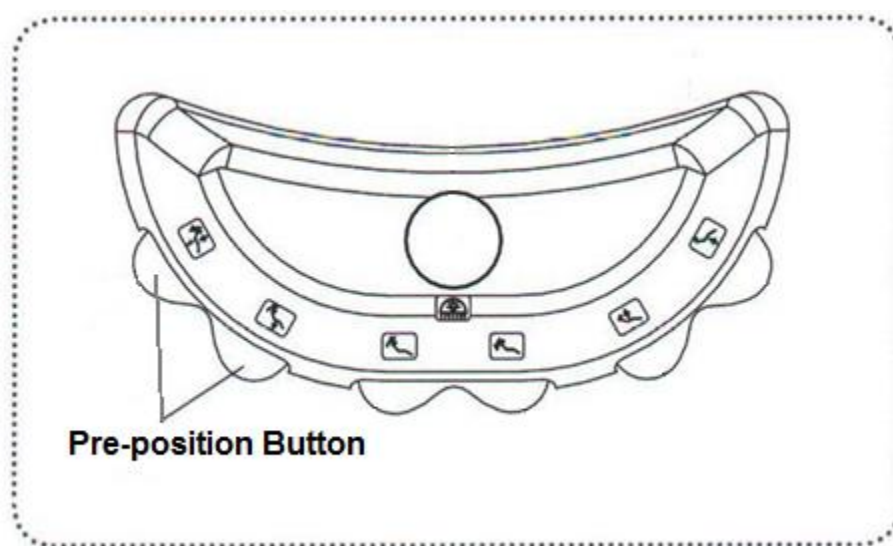
Foot Control
Figure 3

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

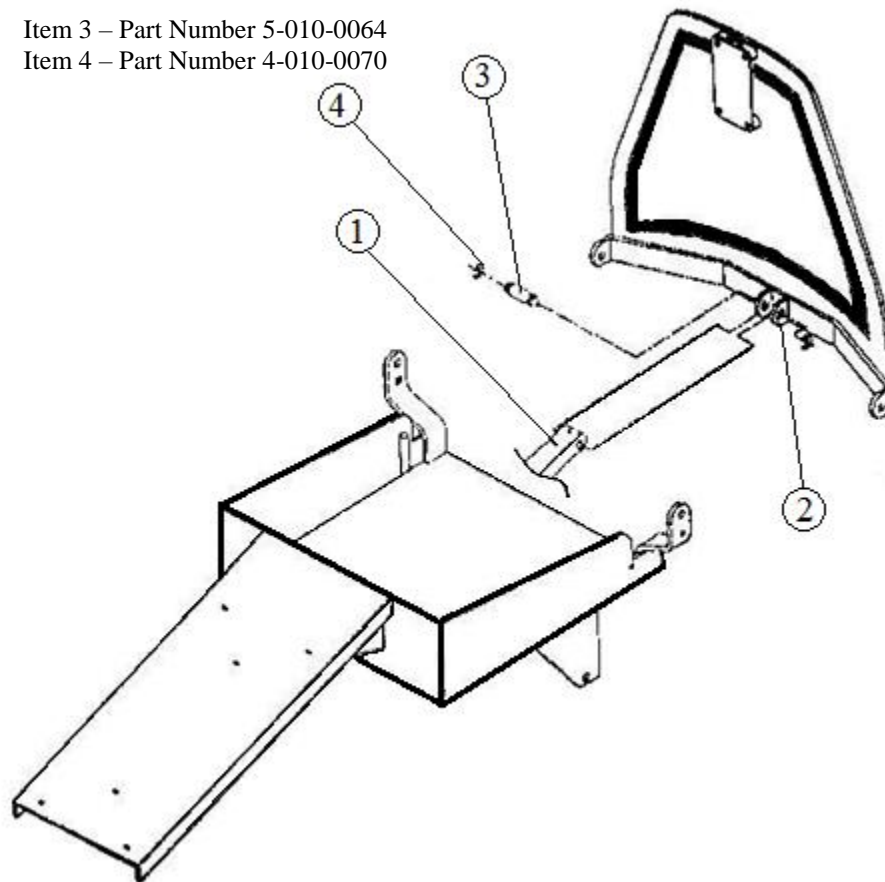


Figure 5

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.

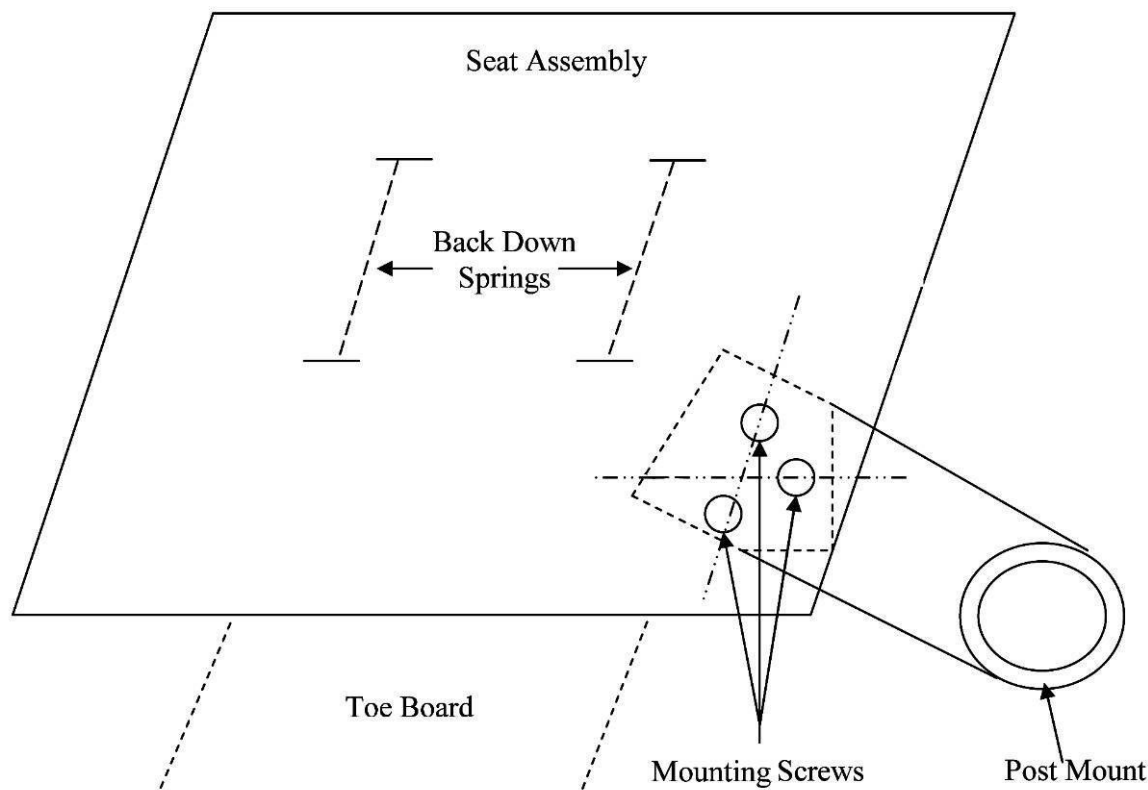


Figure 6

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.

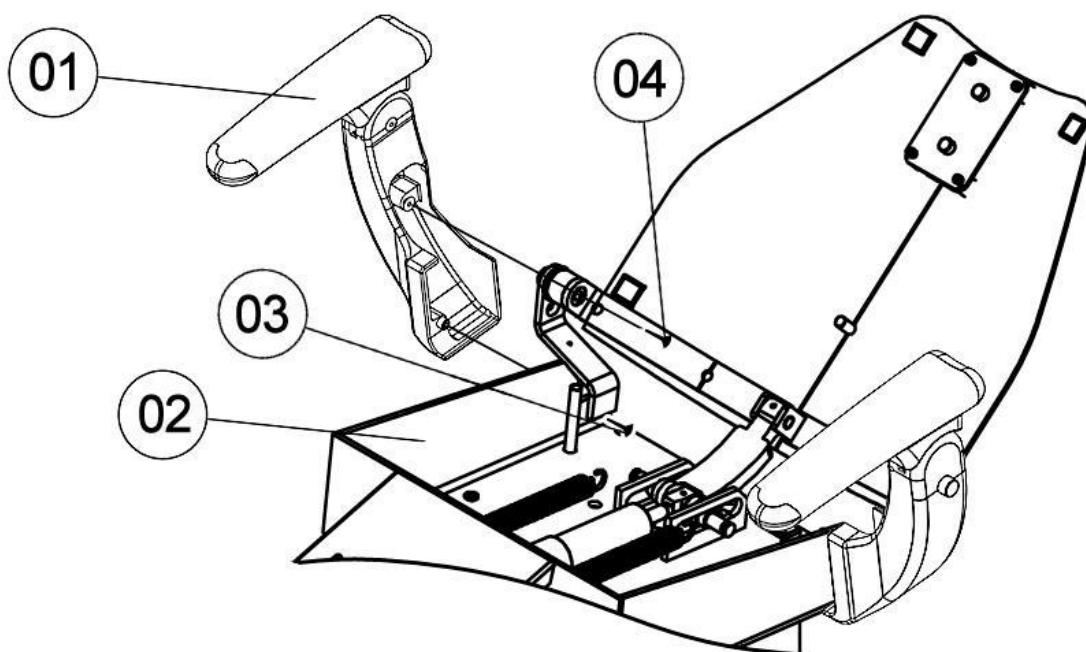


Figure 7

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.

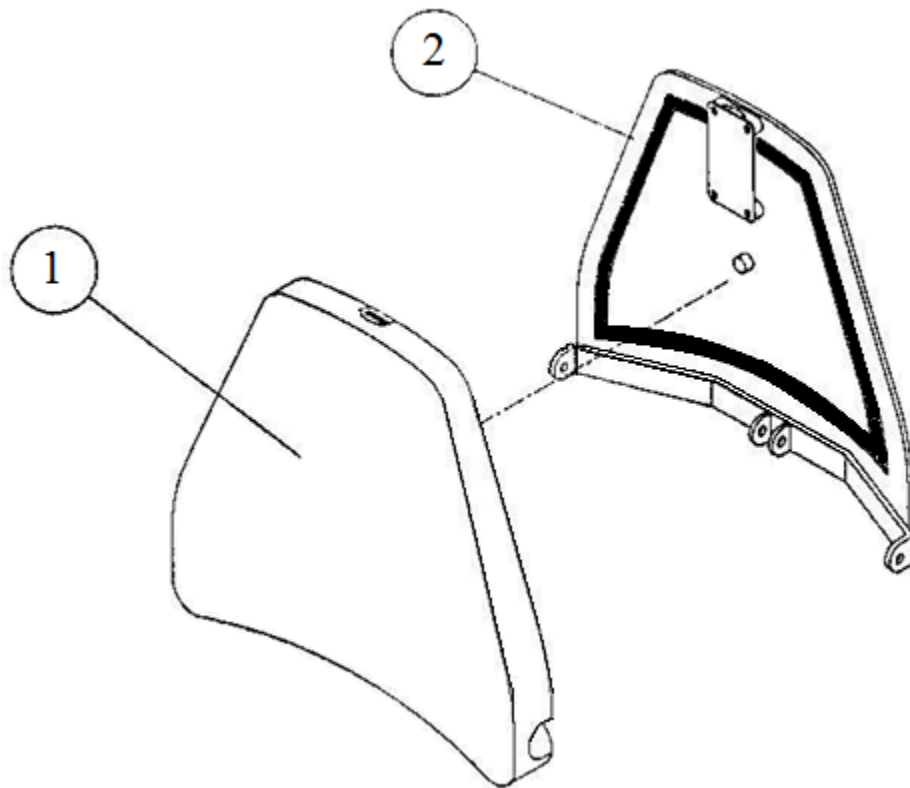


Figure 8

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.

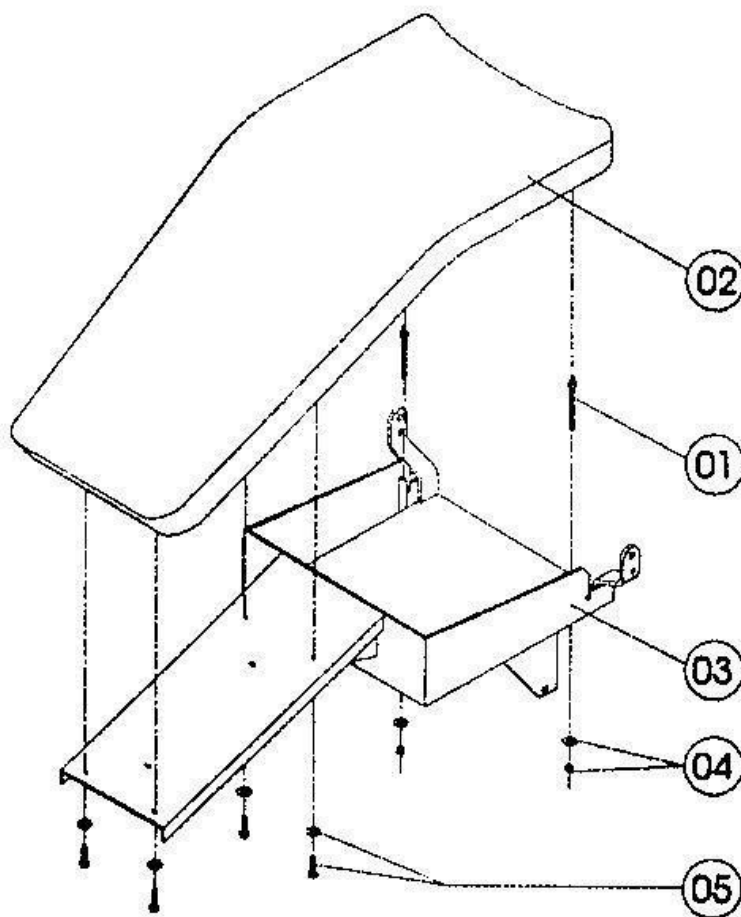


Figure 9

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.

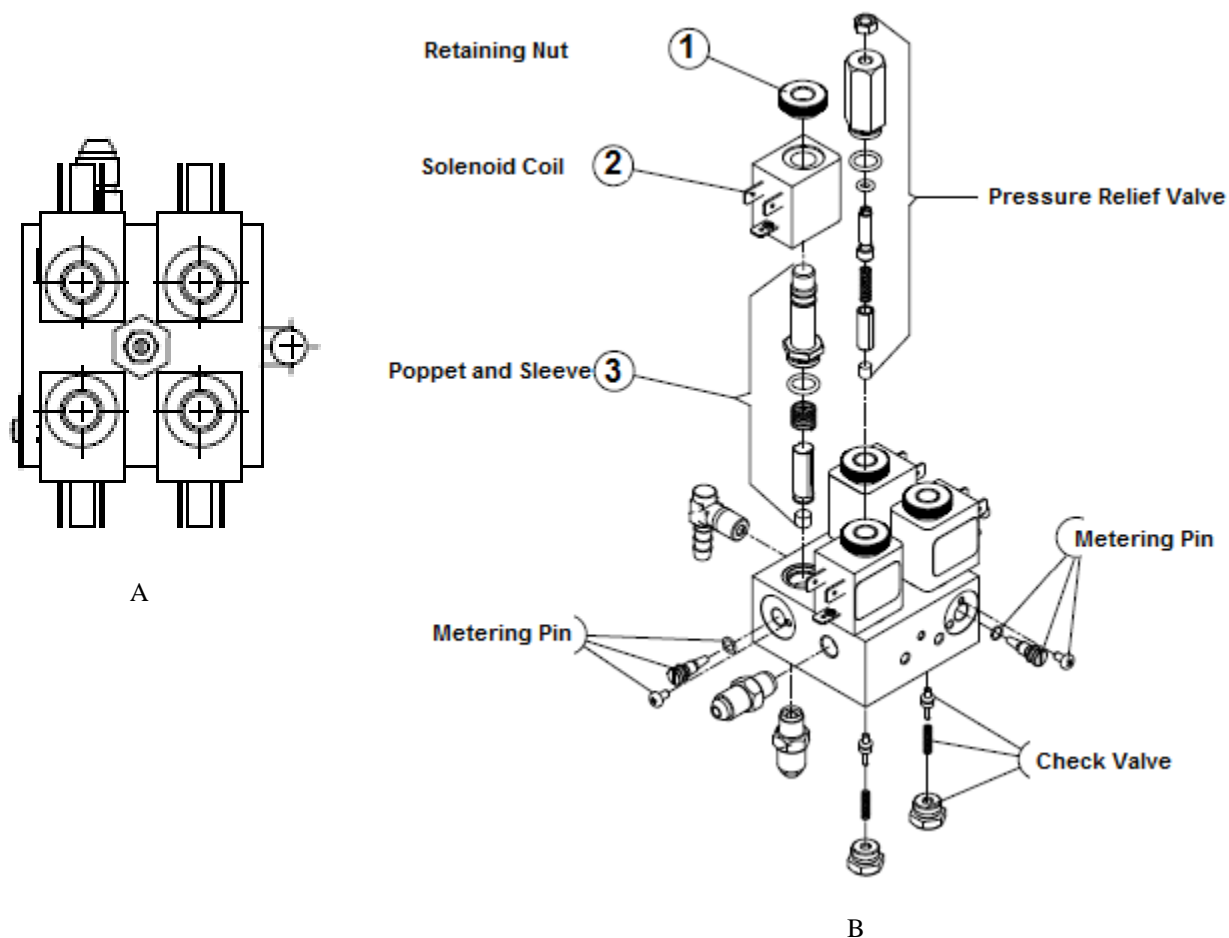


Figure 11

Speed Adjustment

Refer to Figure 14a and 14b

Should a change in the back down speed be required?

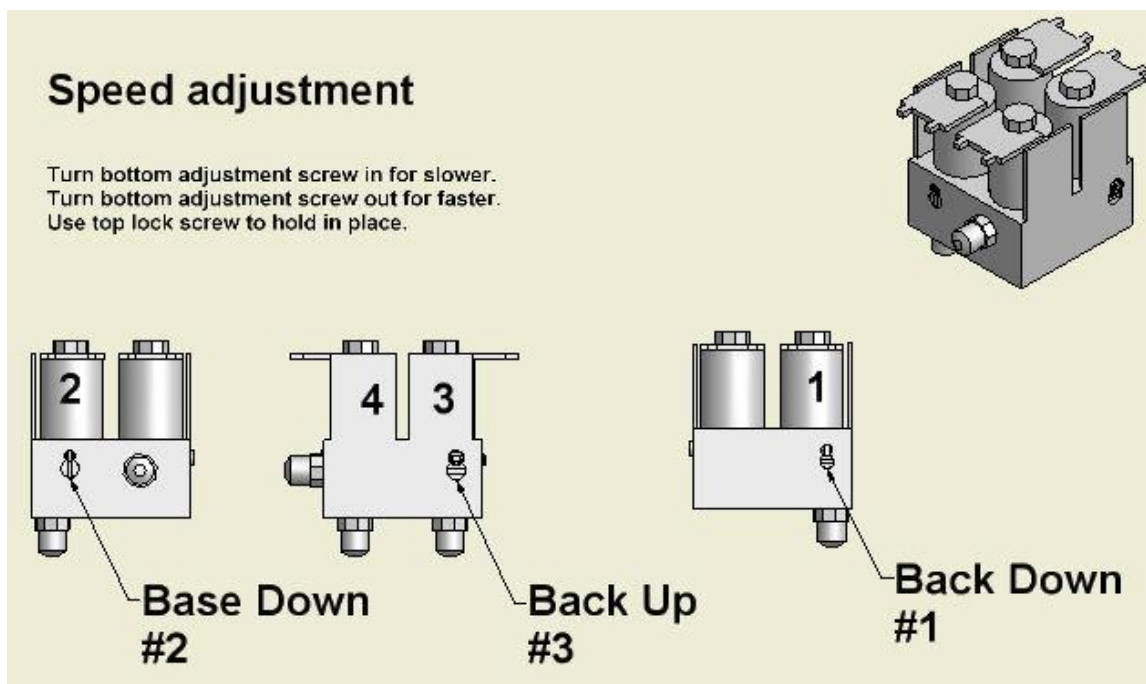


Figure 14a

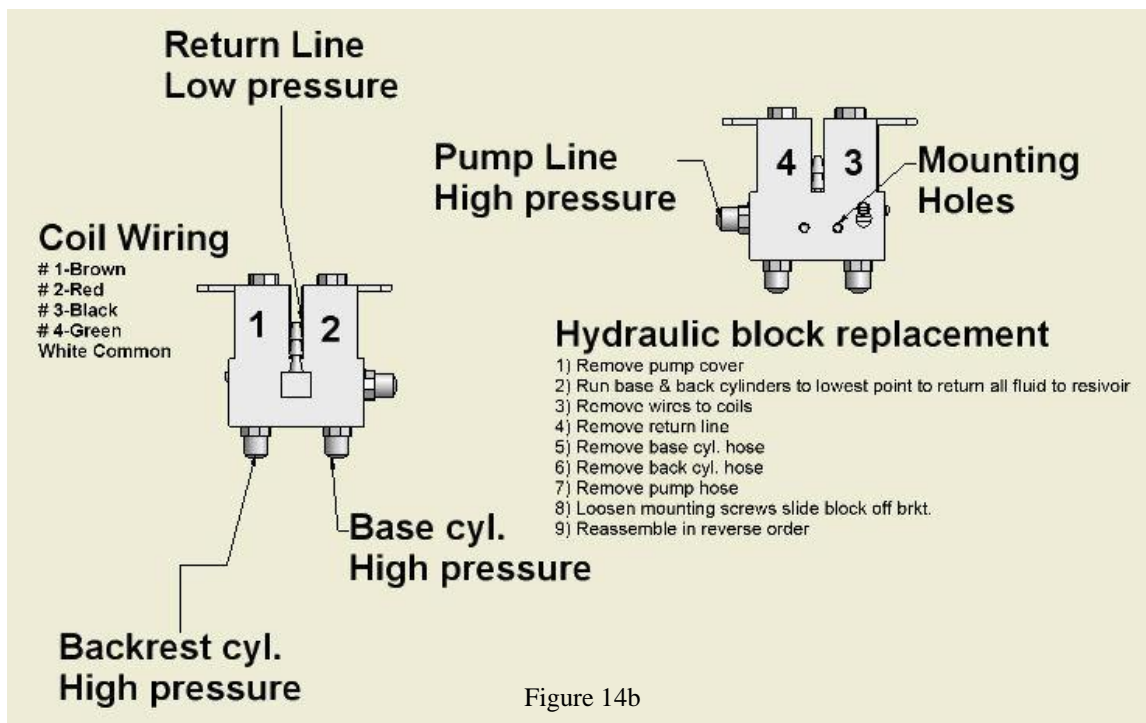


Figure 14b

Lower Piston Replacement

Refer to Figure 15

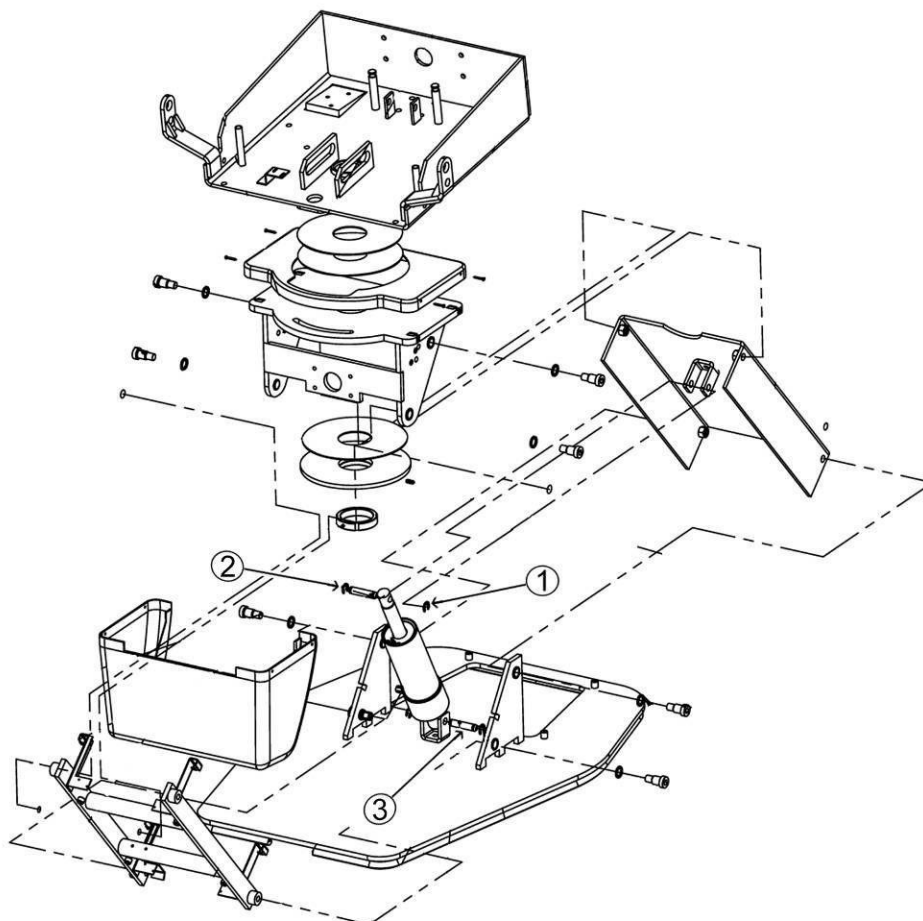


Figure 15

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.

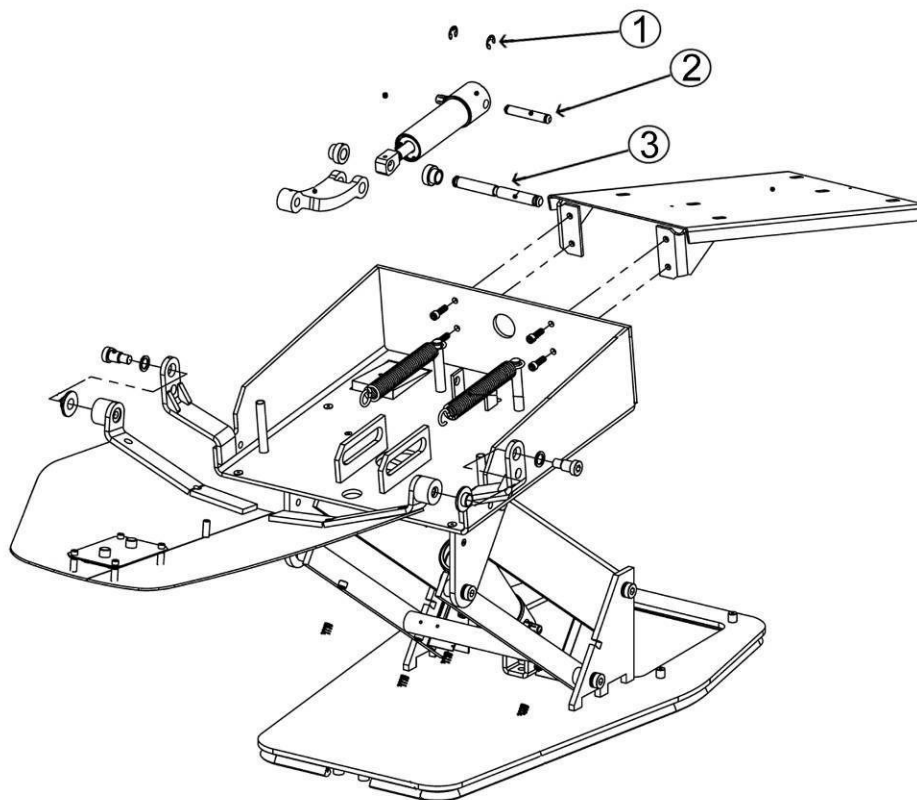


Figure 16

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:

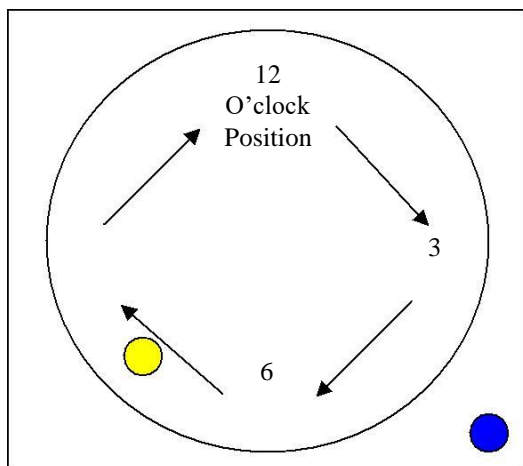


Illustration #1

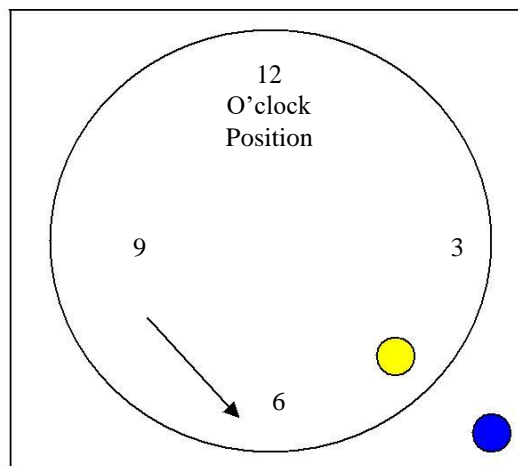


Illustration #2

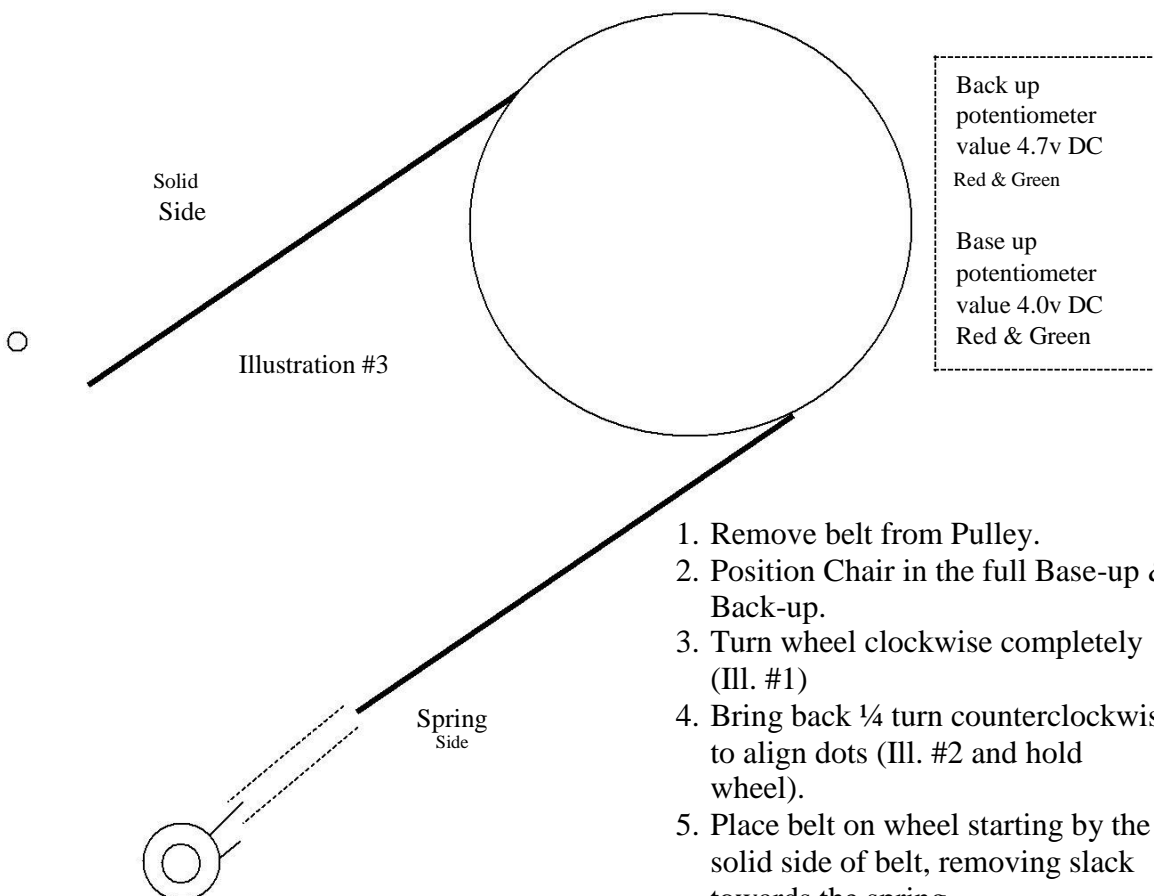


Illustration #3

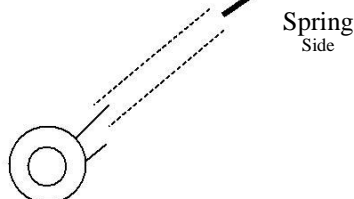


Figure 13

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 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.

Main PC Board Replacement

Refer to Figure 19

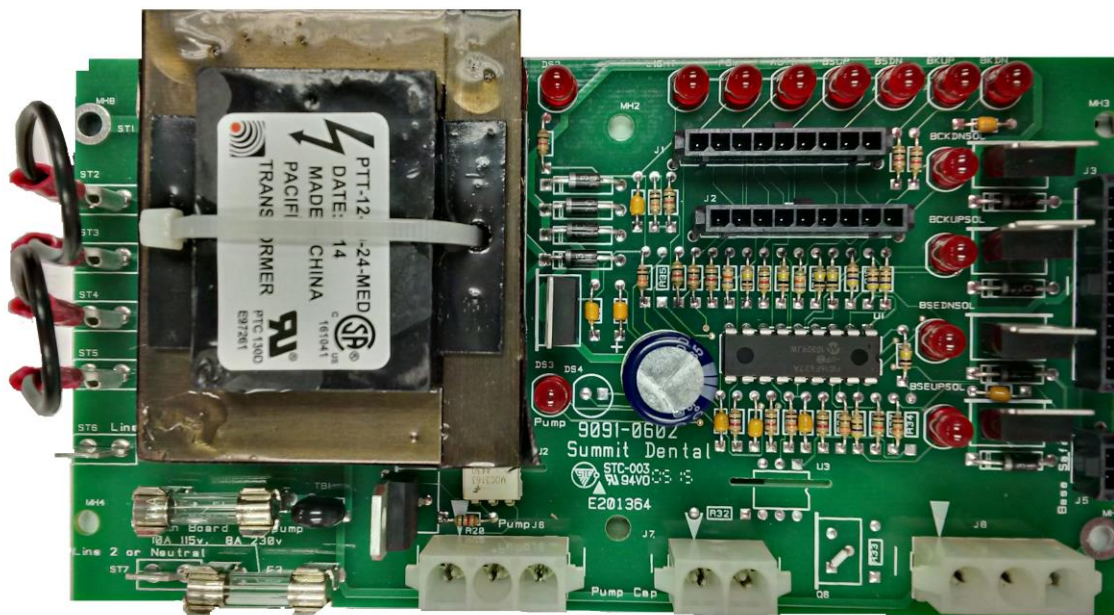


Figure 19

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

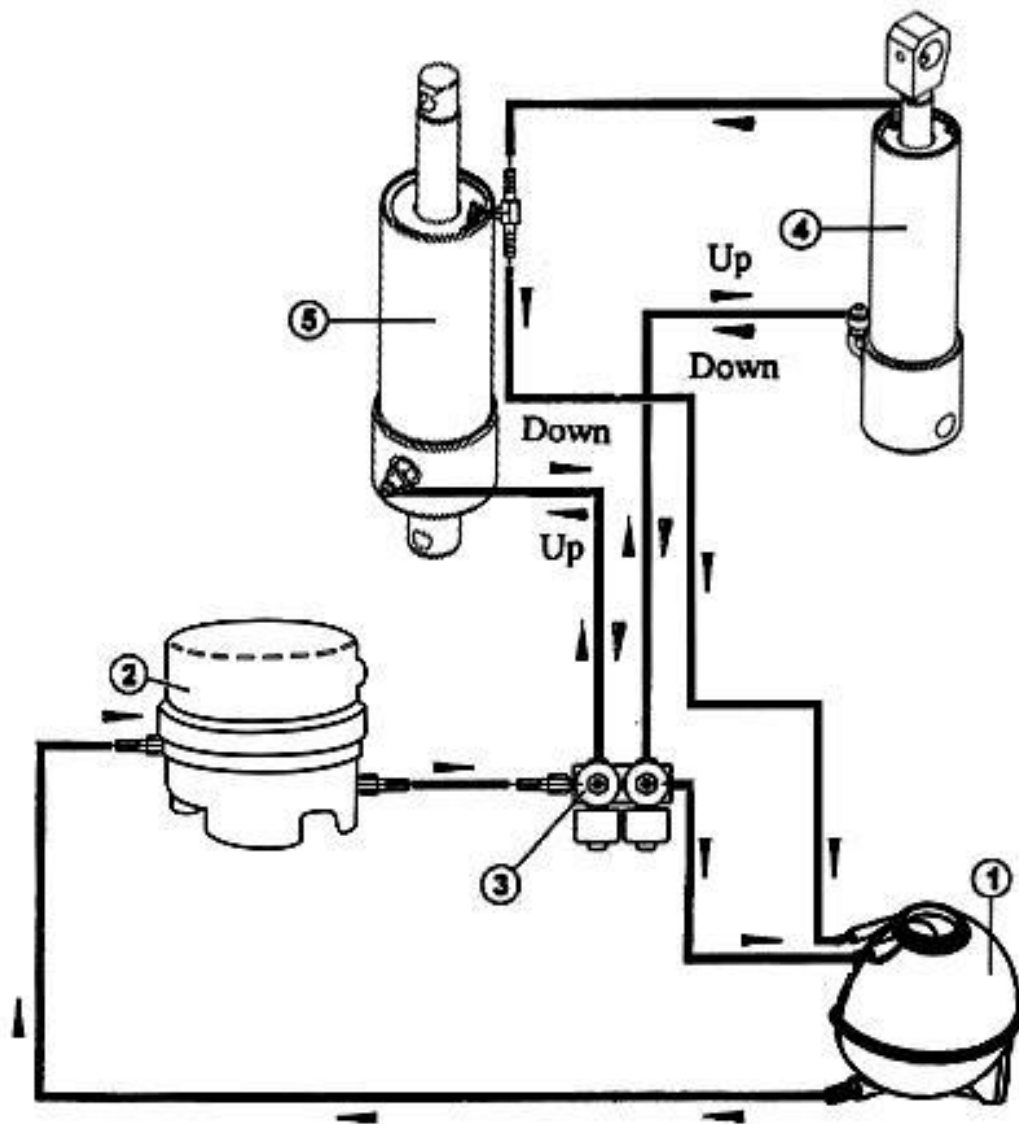


Figure 15

- 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

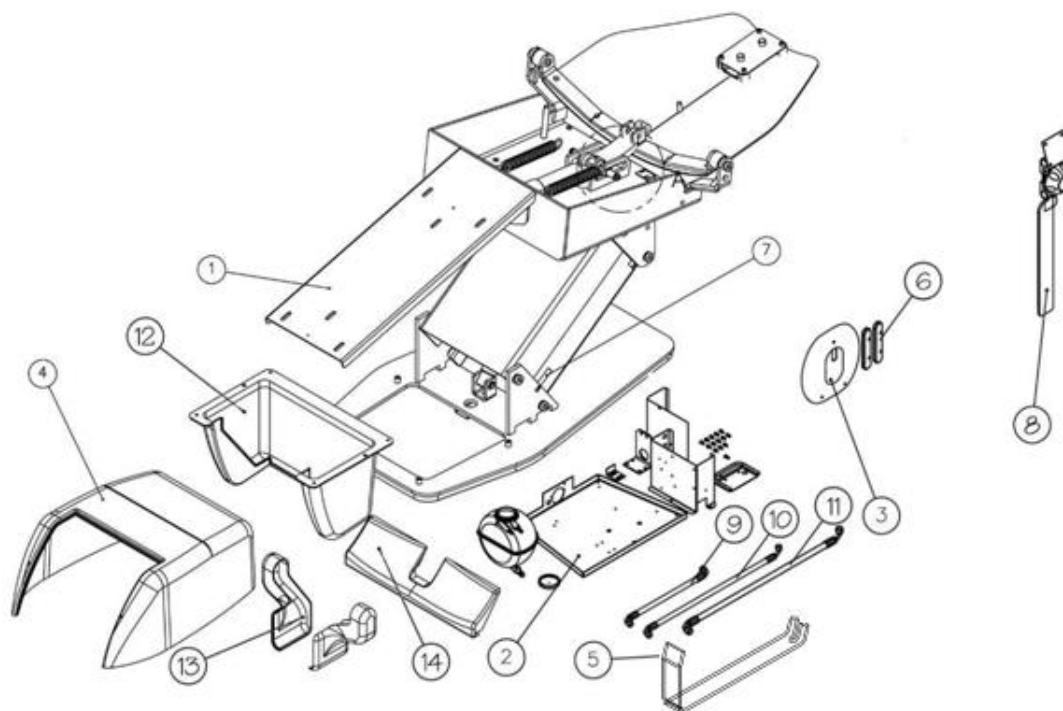
| Possible Cause | Corrective Action |
|---|--|
| 1 - Debris on one of the filter screens | Check and clean filter screens (there are filter screens at both the inlet and outlet sides of the block). |

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 ($\pm 10\%$). |

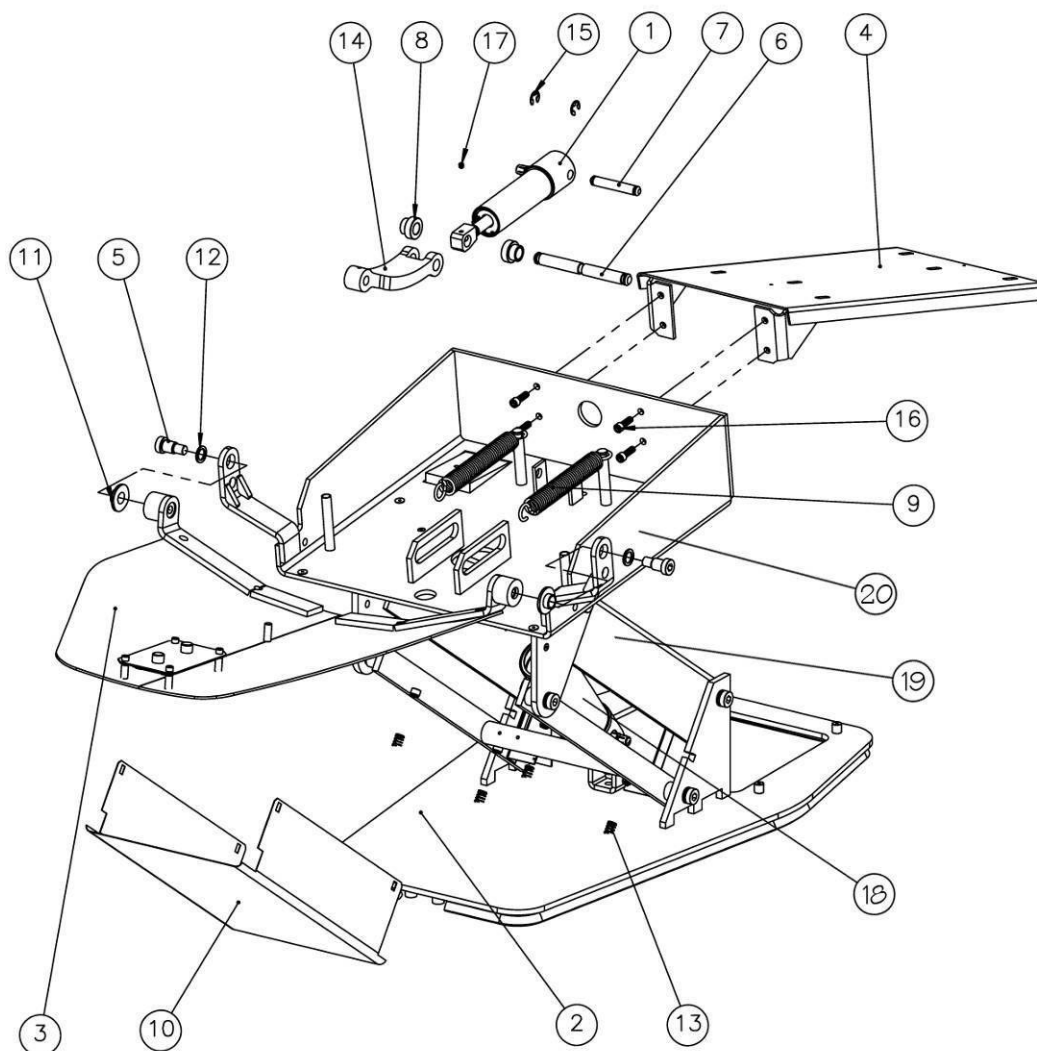
Parts List

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 |

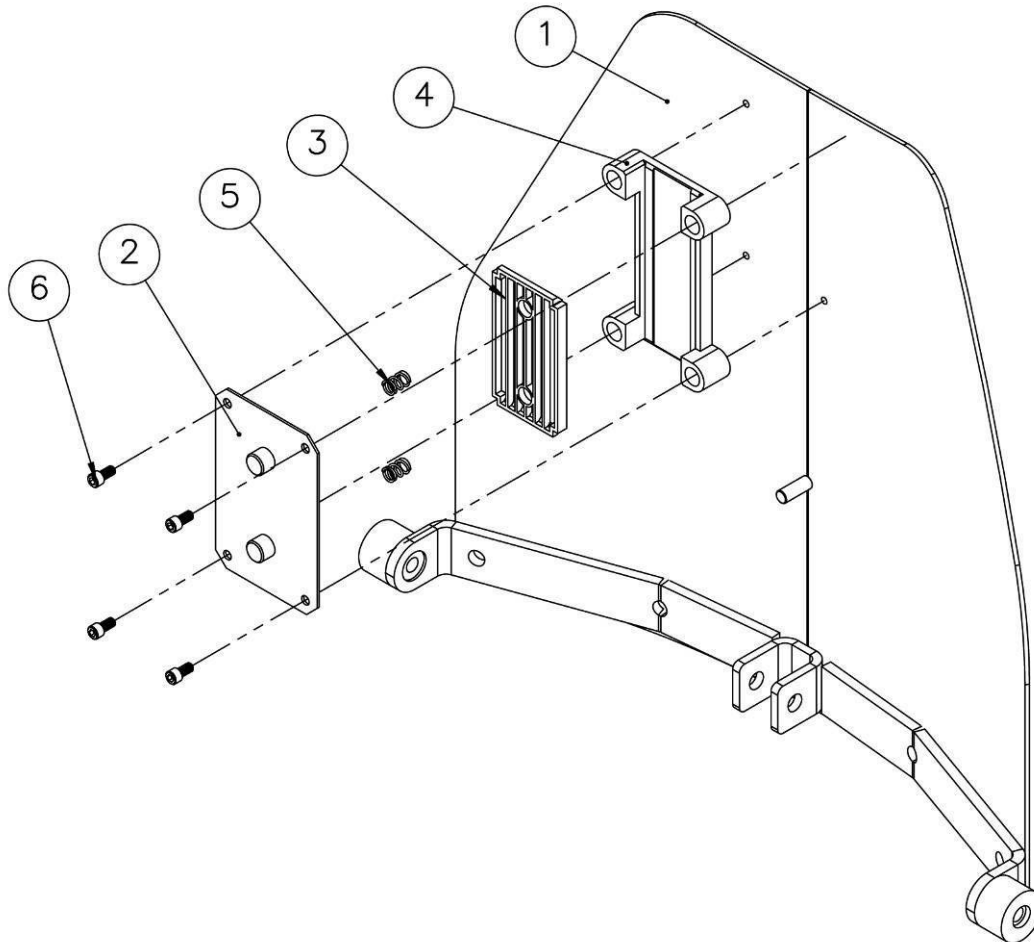
Biscayne Chair Assembly – View II



| 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

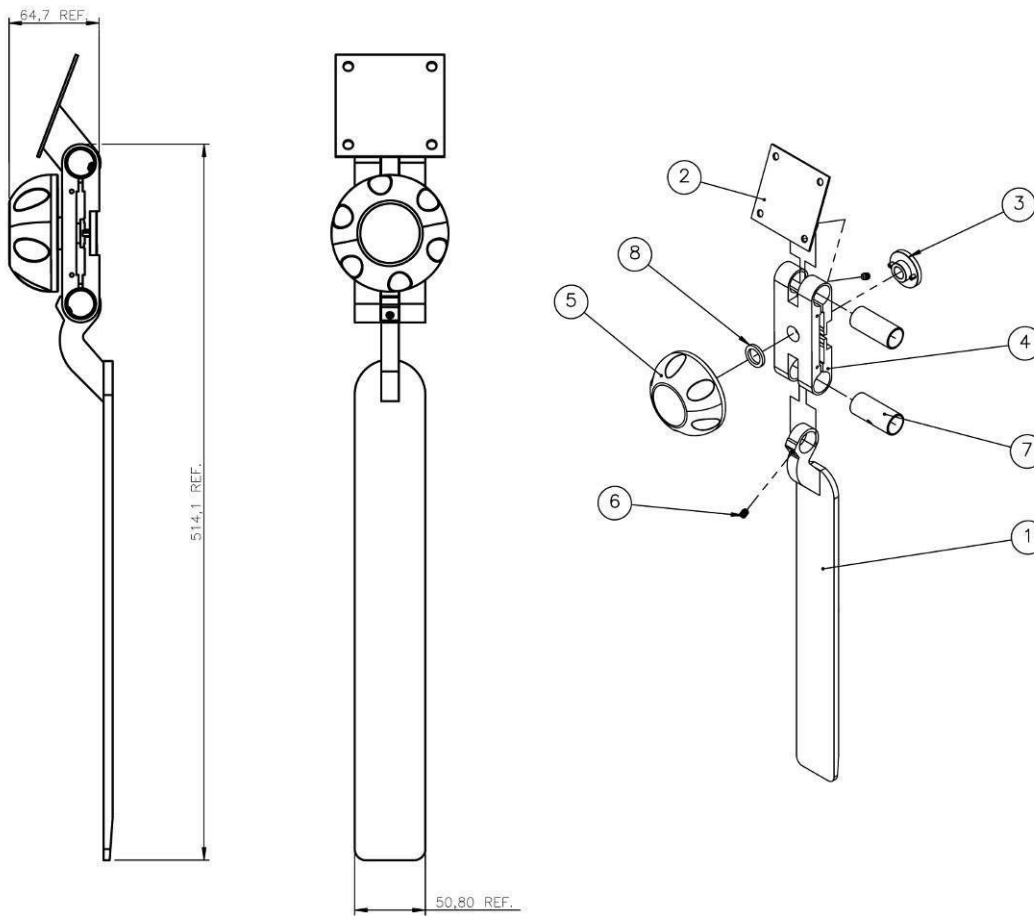
2-010-0164



| 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 |

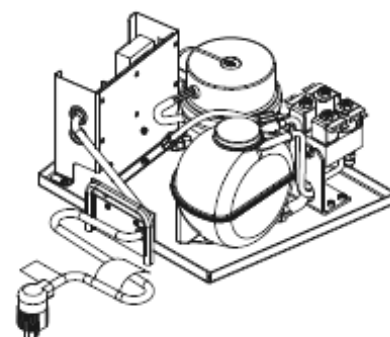
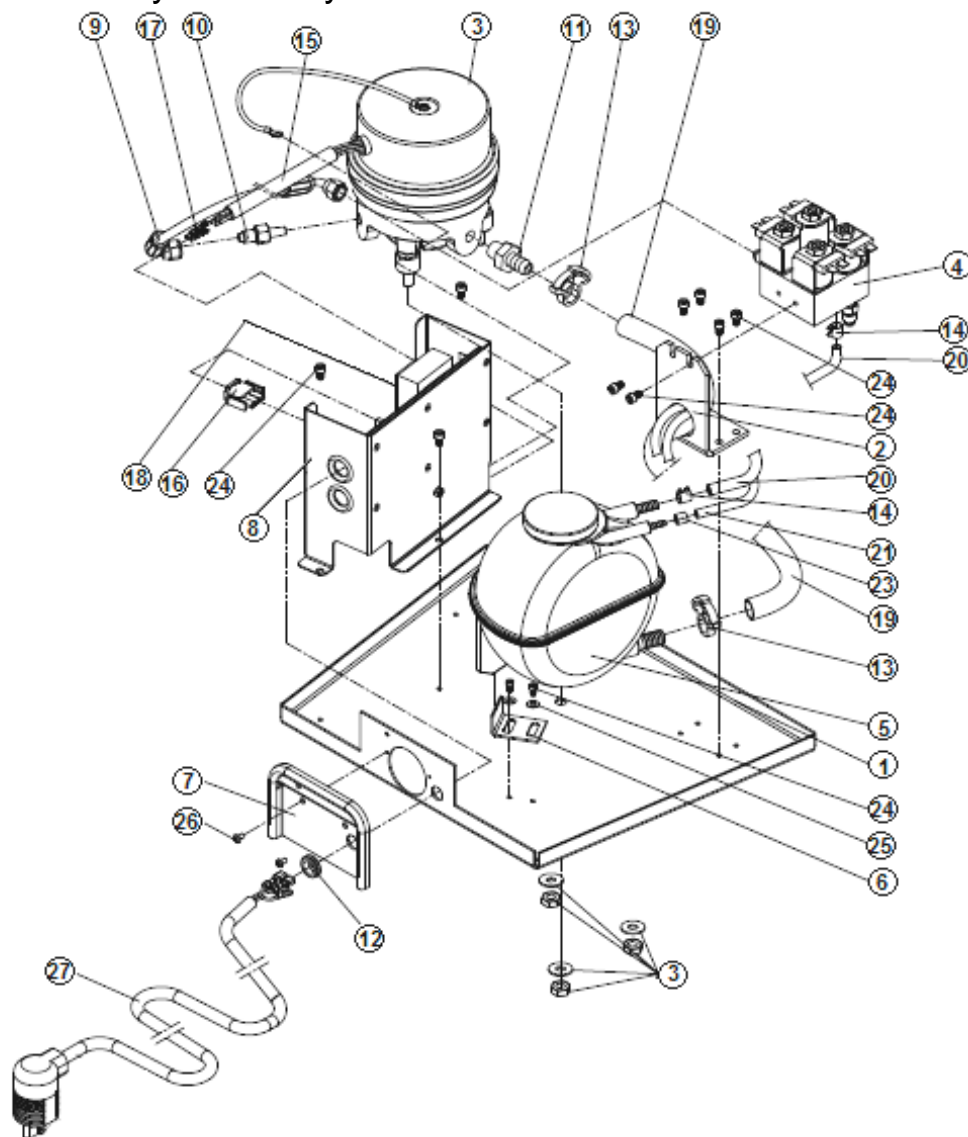
Headrest Assembly With Knob

2-010-0131



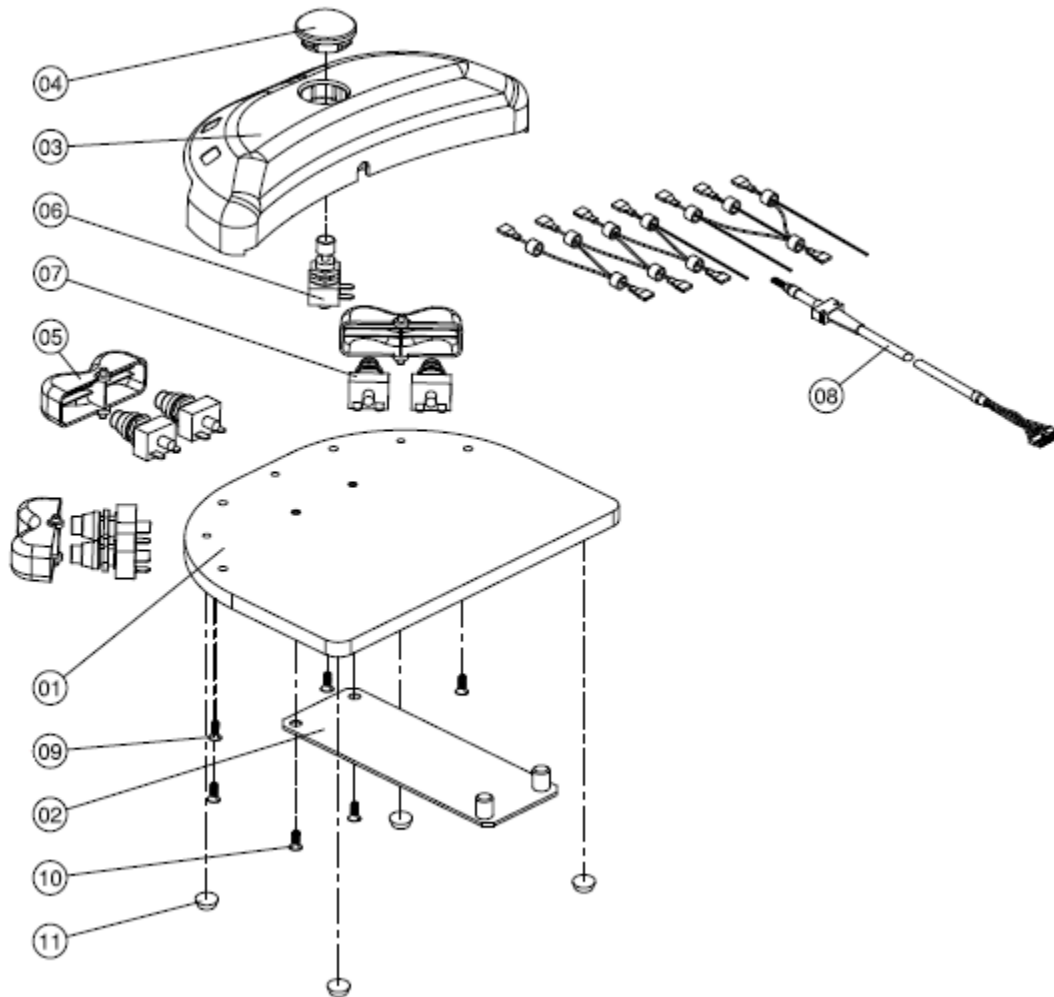
| Item | Part # | Description |
|------|------------|---------------------|
| 1 | 2-010-0150 | Post |
| 2 | 2-010-0120 | Base for Cushion |
| 3 | 4-010-0034 | Locking Nut |
| 4 | 2-010-0152 | Double Articulation |
| 5 | 2-010-0153 | Knob |
| 6 | 4-010-0041 | Screw Cup Point |
| 7 | 4-010-0061 | Rod |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

Tray Assembly



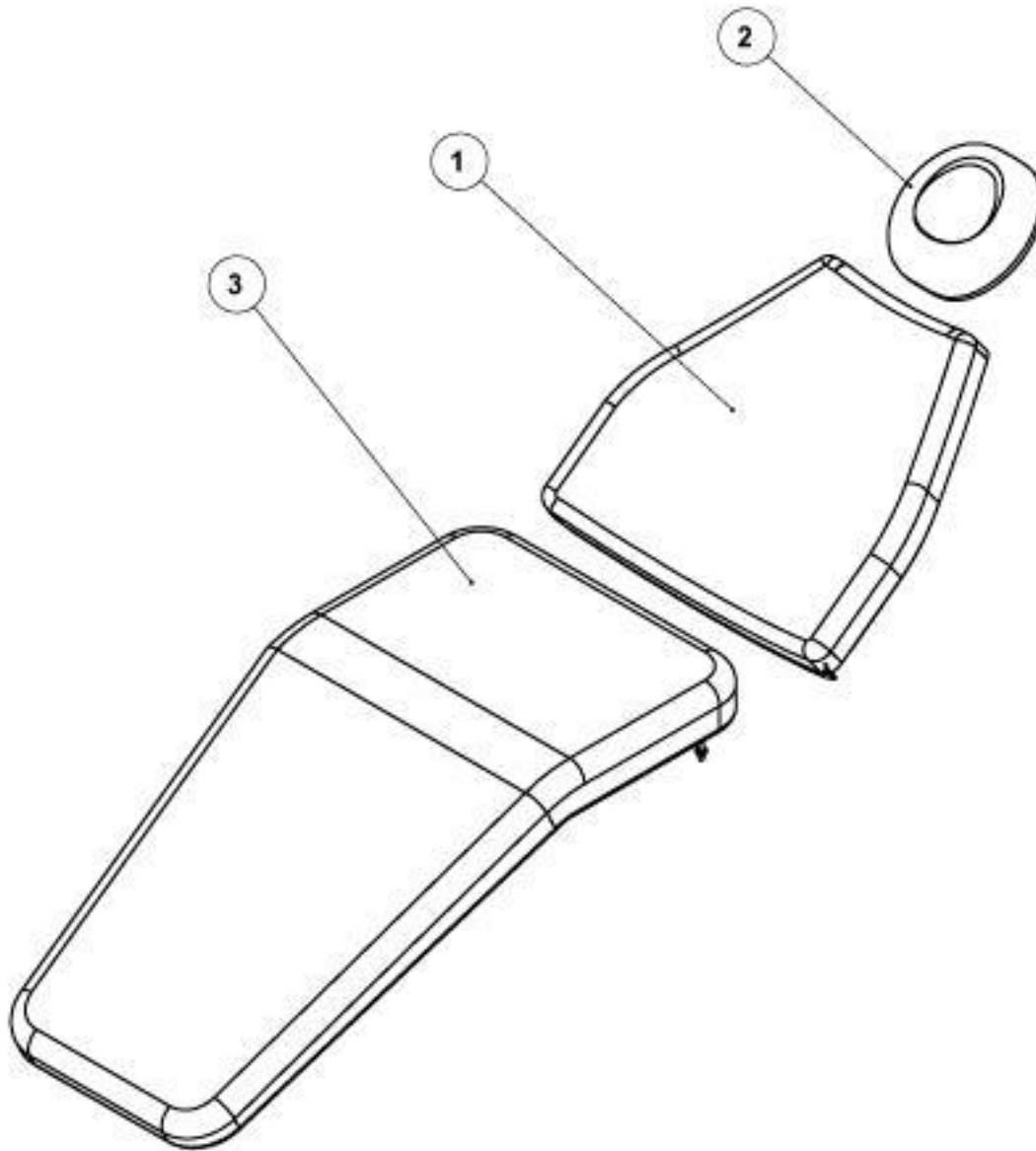
| Item | Part # | Description | Item | Part # | Description |
|------|------------|-----------------------------|------|------------|------------------------------|
| 1 | 2-010-1076 | Tray | 14 | 5-010-0048 | Clamp 44 OD Return Hose |
| 2 | 5-030-0039 | Support Hydraulic | 15 | 5-010-0038 | Clear Heat 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 3/4" |
| 10 | 4-010-0046 | Screw #10 x 1/2" |
| 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: | |



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