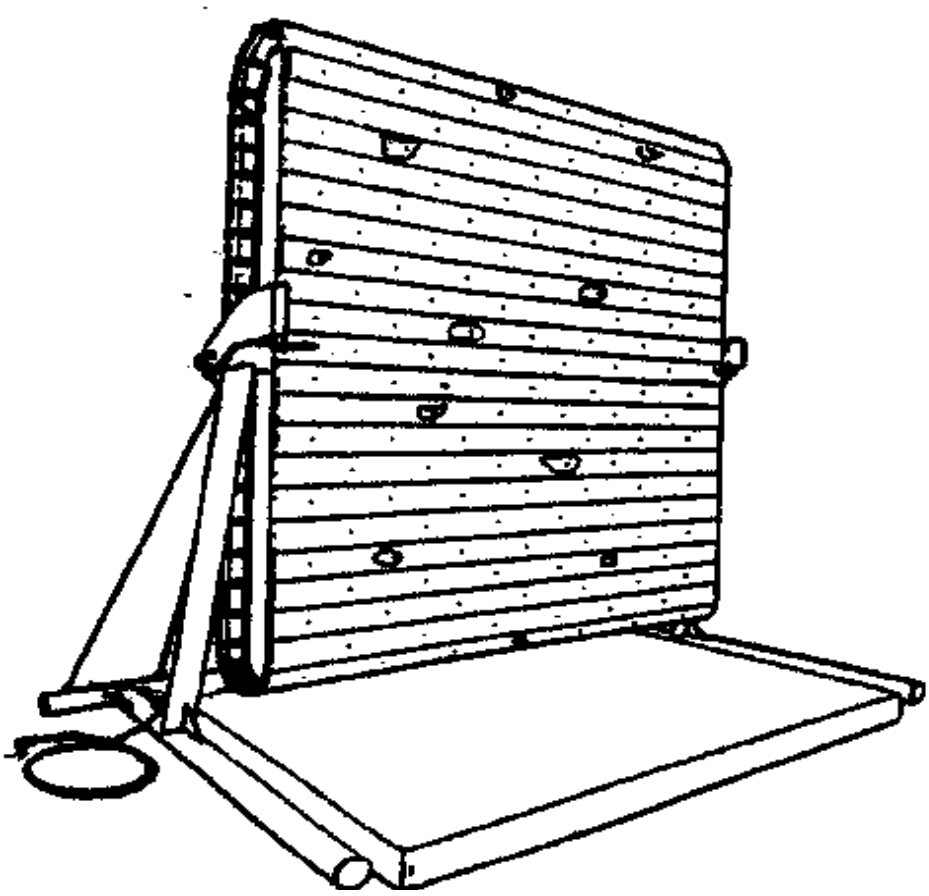
Installation Manual

Comprehension of the information contained in this manual is required for successful installations of The Rock(TM).

Please read and follow all instructions carefully. If you have any additional questions not covered in this manual please call us Monday - Friday between 8:00am and 5:00pm Mountain Time (excluding holidays) at: **1-888-565-0359** or e-mail us at customersupport@ascentrock.com



WARNING: Read all instructions before using. ASCENT assumes no responsibility for personal injury or property damage sustained during installation or use of this product.

Important Precautions

WARNING: To reduce the risk of burns, fire, electric shock, or injury to persons, read the following important precautions and information before operating the ROCK.

1 It is the responsibility of the owner to ensure that all users of the ROCK are adequately informed of all warnings and precautions.
2 Use the ROCK only as described in the Owner's Manual.
3 Never climb on the back or side of the machine.
4 Keep clear of moving parts.
5 Never climb near the top or bottom of the machine.
6 Do not stand under the other climbers.
7 Place the ROCK on a level surface, with a minimum of 3 ft clearance between the back brace and any other object.
8 Do not operate the Rock in the presence of aerosol products or where oxygen is being administered.
9 The ROCK should be used by a maximum of two persons with a cumulative weight not exceeding 600 pounds. DO NOT allow more than two people on the ROCK at a time.
10 When connecting the power cord, plug the power cord into a surge protector (not included) and plug the surge protector into a grounded circuit capable of carrying 15 amps. No other appliance should be on the same circuit.
11 Use only UL-listed surge protector, rated at 15 amps, with a 14-gauge cord of five feet or less in length.
12 Keep the power cord and the surge protector away from heated surfaces.
13 Do not operate the ROCK if the power cord or plug is damaged, or if the ROCK is not working properly.
14 Never start the ROCK while you are standing under it. Always climb half way up onto the climbing surface the ROCK before starting.
15 NEVER reach over the top or place your feet under the machine while the machine is in motion.
16 The ROCK is capable of high speeds; never adjust the speed on an unsuspecting climber. And only adjust the speed in small increments, to avoid sudden jumps in speed.
17 Never leave the ROCK unattended while it is running. Always move the on/off switch to the "off" position when the ROCK is unattended.
18 Service on the ROCK should only be performed by authorized Ascent Technicians or under the advisement of the Ascent Technical Support Center.
19 Unless performing work authorized by Ascent Products personnel, do not insert any object into any opening on the ROCK.
20 Always unplug the power cord before making any adjustments to the ROCK.

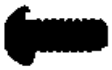
SAVE THESE INSTRUCTIONS

Hardware Identification Sheet

Self-tapping screw

8-32 bevel head Allen Screw

5/16 x 1" bolt



1/4 x 1/2 round head Allen Screw

3/8 x 3/4 bolt

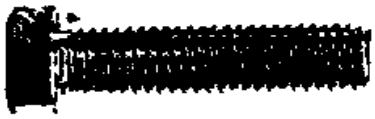
5/16 Nylock nut

3/8 x 1-1/4 bolt

5/16 lock washer

3/8 x 1-1/2 bolt

3/8 lock washer



1/2 x 2" bolt

3/8 flat washer

BEFORE YOU BEGIN

Thank you for selecting The ROCK. The ROCK combines advanced technology with innovative design to let you: improve cardiovascular endurance, increase strength training, or just safely enjoy the excitement of rock climbing. While experiencing the thrill and challenge of using the ROCK you will see that at Ascent Products, we are truly: *Erasing the line between entertainment and fitness.*

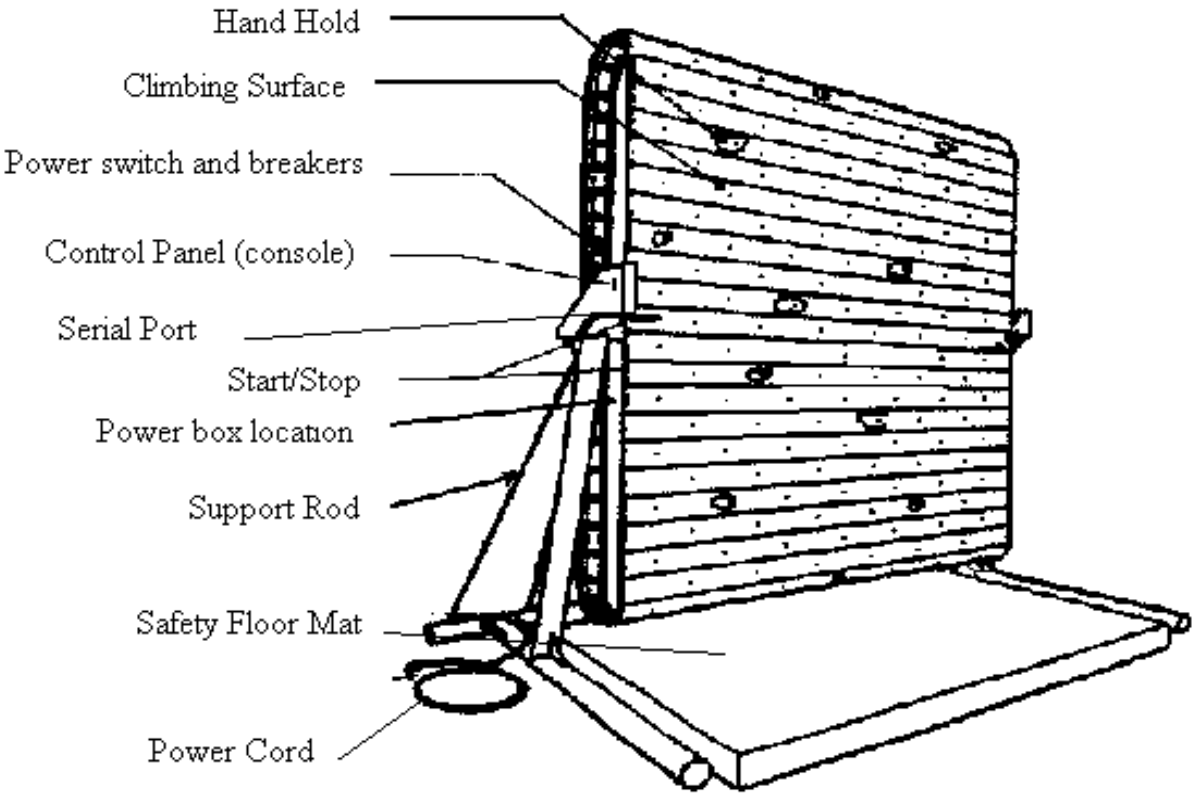
For your safety you must read the Installation Manual carefully before attempting to assemble the ROCK. If you have additional questions, please consult the owner's manual first. If your questions are not addressed in either manual please call our Customer Service Department toll-free at 1-800-505-5612, Monday through Friday, 8 a.m. until 5 p.m. Mountain Time (excluding holidays). Before reading further, please review the drawing below to familiarize yourself with the labeled parts.

The required Hardware Kit (HK) is listed in the text of the appropriate section.

Tools required for Installation:

Sockets: 11/32", 3/8", 7/16", 1/2", 9/16"
Open-end wrench: 7/16", 1/2", 9/16", and 3/4"
Allen wrenches: 3/32", 1/8", 3/16", 5/32", 3/16", 7/32", and 5/16"
Wire strippers with crimping capability

Electric Drill
Rubber Mallet
Torque Wrench: Range 18-32 ft/lbs
#2 Flathead screwdriver
#2 Phillips screwdriver bit
Tube of Loctite thread locker



INTERNAL FRAME

To begin installation of the internal frame, place the center axle on the floor so that you are facing the same direction the climbers will be facing. The hole for the electrical wiring should be located on the left side (see Diagram #1).

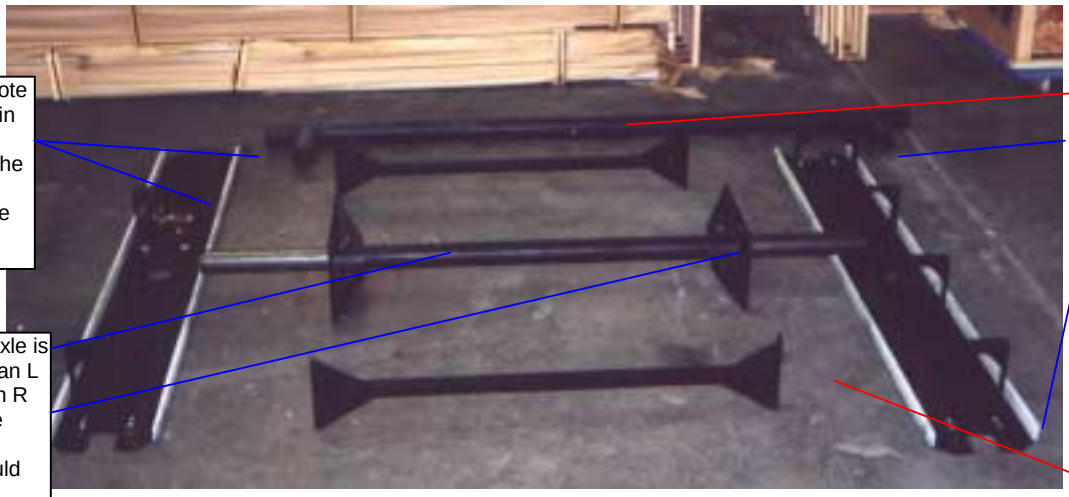
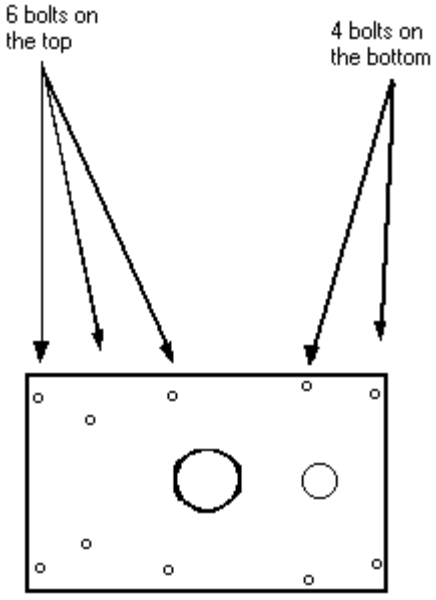


Diagram 1 – shows the layout of the machine as viewed from the front.

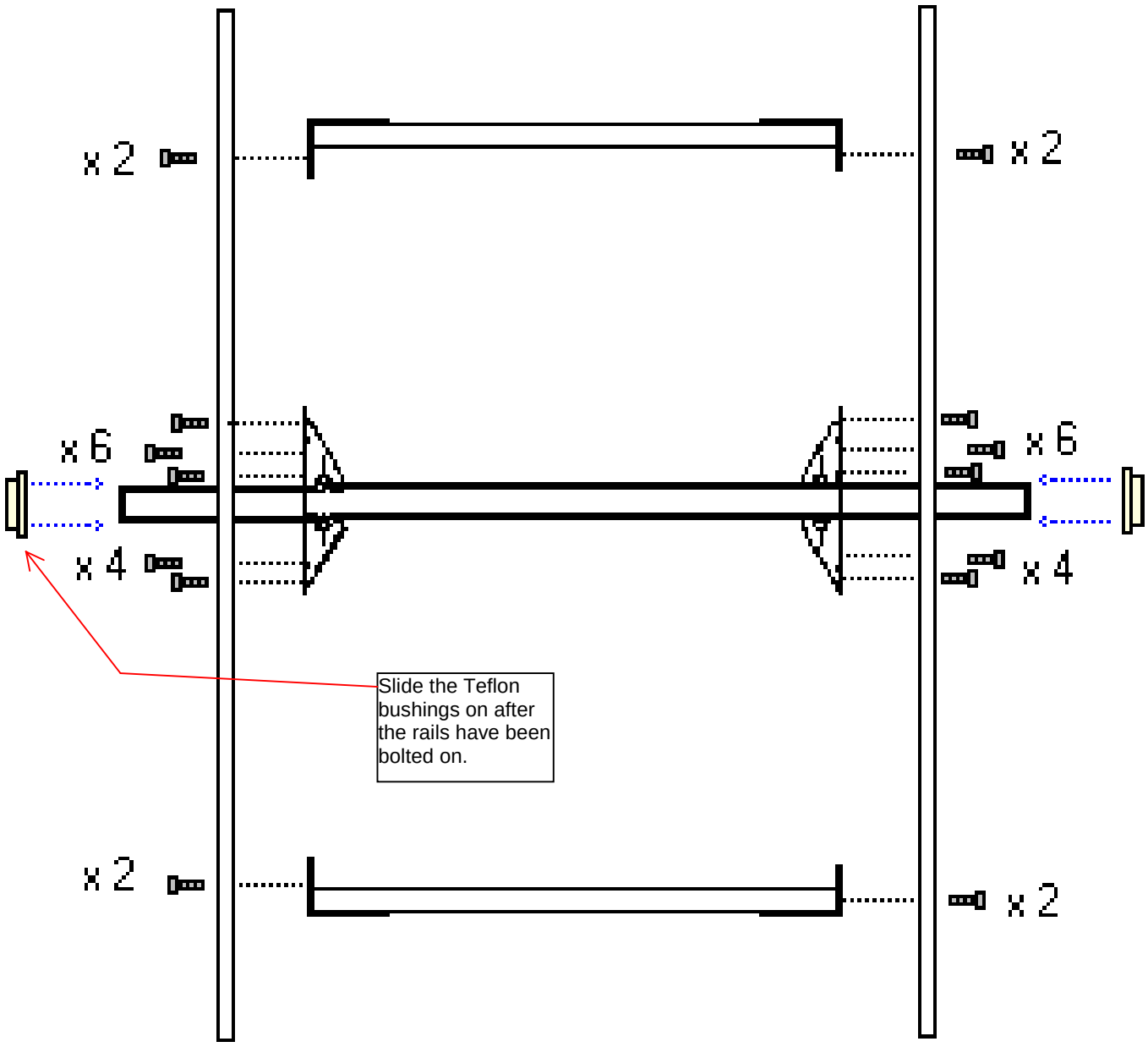
Use flat washers, Loctite, and lock washers for each bolt.
HK (13105-CENTER AXLE)
HK (13107-INCLN MTR MOUNT)

1. Locate the internal left rail. It can be identified by the two-inch hole in one end of the rail.
2. *Note the 10-hole bolt pattern.* With the axle placed on the floor properly, there should be six boltholes on the top and four boltholes on the bottom.
3. Slide the rail onto the center axle. Make sure that the holes in the rail correspond with the holes on the center axle plate.
4. Bolt the left rail to the center axle using (4) **HK-13105** bolts for the group of four holes and (6) **HK-13107** for the top six holes. Always use locking and flat washers with all bolts. Don't tighten the top six bolts yet; they will be removed to bolt on the incline gearbox assembly later.
5. Repeat this procedure for the right side rail and bolt it to the center axle using (10) **HK-13105** bolts on all holes.
6. Slide the two support cross braces between the frame with the flange pointing inward and bolt them to the rails using (8) **HK-13105-CROSS BRACES**.
7. Use a 9/16" socket and torque wrench to tighten all bolts to a torque of 32 ft/lbs.



1.

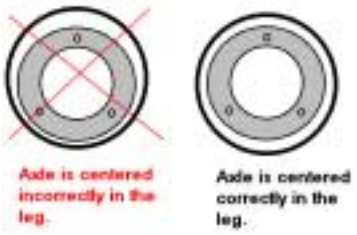
8. For a detailed diagram see below.

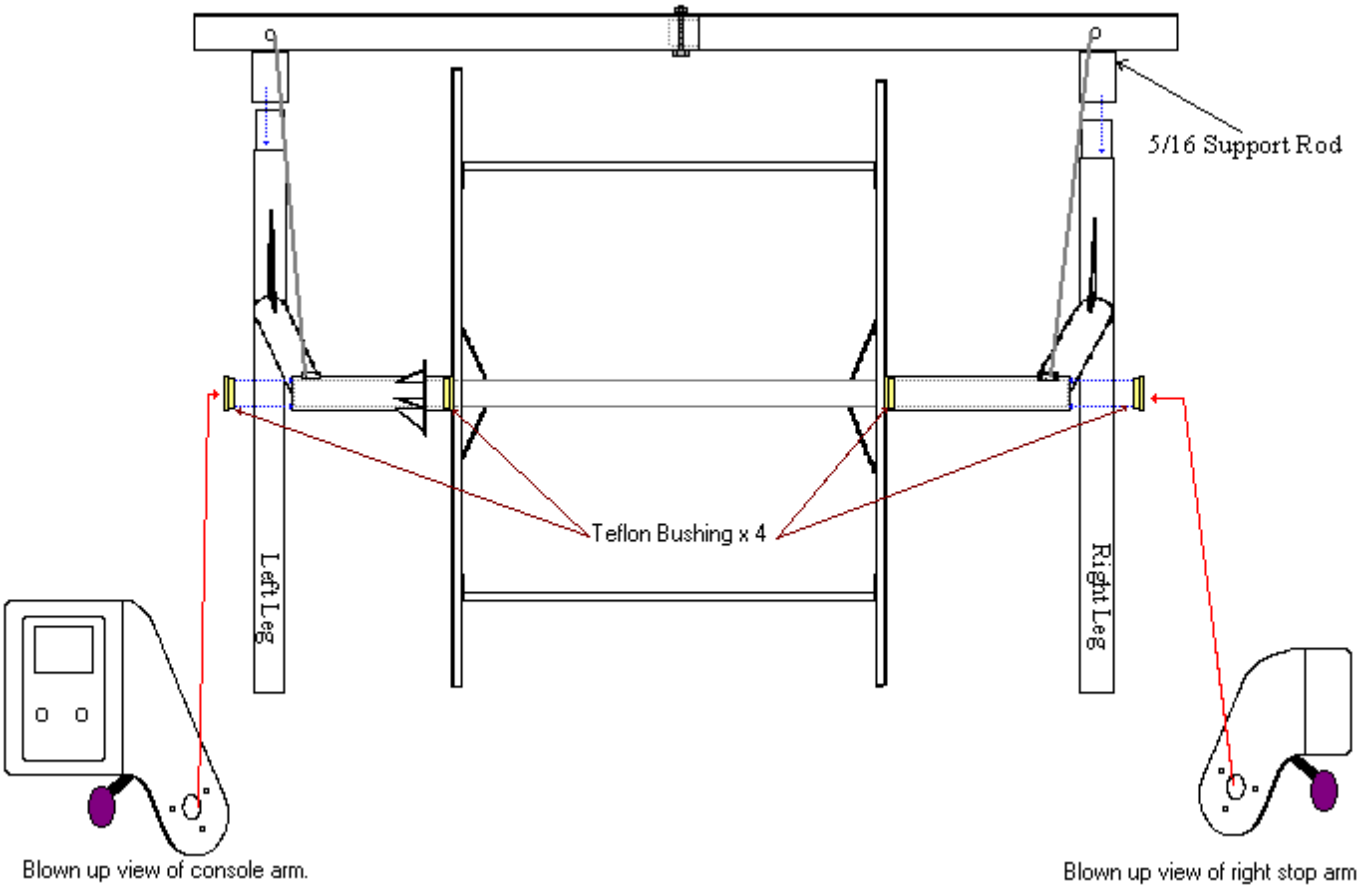


Picture of the Internal frame assembled. Notice that the U-shape of the rails faces out.

LEGS/BACKBRACE

1. Begin by sliding a plastic bushing on each side of the center axle with the wider diameter lip closest to the rail (see previous page).
2. Lift the left side of the internal frame to approximately 35 degrees and slide the left leg (one with the mounting plate) on the axle until it butts up against the lip of the bushing. (This requires 2 people)
3.
4. Lift the right side of the machine until it is level and slide on the right leg. (Requires 2 people)
5. Ensure both legs are inserted onto the axle completely, onto the bushings and against the rail.
6.
7. Insert the two remaining bushings with the lip on the outside on the exterior of the legs by moving the center axle until it is centered in the leg (see picture on the right), and lightly tap the bushing into place with a rubber mallet.





6. Rotate the frame of the machine until the 2” hole on the left rail is at the bottom.
7. Bolt the Control arm to the left side and the stop arm bracket to the right side of the center axle using the six **HK-13109** bolts. Tighten them to 10 ft/lbs of tension. **DO NOT OVERTIGHTEN.** **Note**: If you have a FunRock, the control arm is substituted with a stop arm similar to the right side.

8. Slide the rear crossbar onto the back of the legs. Make sure that the support rod holes are on top.
9. Once the back bar is in place drill a 1/2" hole through the two pre-drilled holes at the center joint and insert the locking bolt and nut with the nut on the outside of the bar.
10. From the front, slide the leg pads over the legs by moving them back and forth while pulling them. Pull in place until the pad overlaps the front edge of the leg by approximately 2 inches.

AXLE AND GEARCASES

Lower Axle:

1. Slide the 2" diameter sprocket onto the 2" shaft of the round axle. Rotate the sprocket until the 4 holes in the sprocket line up exactly with the boltholes on the axle end plates. Bolt the sprocket to the axle using thread locker, bolt kit part # **HK (13109-UP/LWR SPROCKET),** and the flat and locking washers. Torque to 23 ft/lbs.

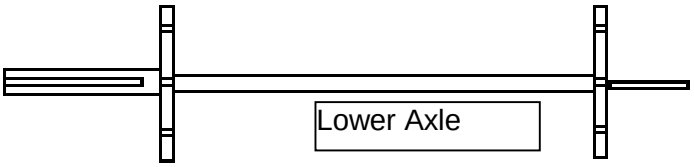


Figure 8.1

2. Repeat step one for the other side with a 1" I.D. sprocket. **IMPORTANT**, *when the axle is placed on a flat surface, the teeth of the sprockets should sit flat and be in line with each other. If they are mis-aligned, rotate the sprockets until they are aligned (fig 8.1).*
3. Slide the tension plate with the bearing, onto the right side of the axle (fig 8.2). Lift the axle into position, and bolt the tension plate to the outside of the rail using bolt kit # HK **(13103-BEARING PLATES).** Make sure the flat flange on the tension plates is facing upwards, towards the tension bolts.
4. Ensure the axle is level with the floor using either a bubble level or with measurements from the floor to the axle.

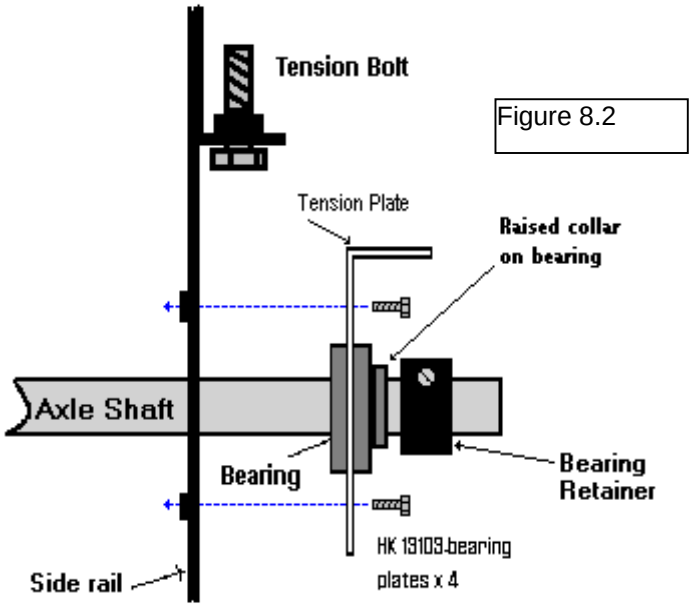


Figure 8.2

Figure 8.3

Lower Gear case

1. Insert one of the four **HK (13107-DRIVE MOTOR)** bolts into one of the four threaded nuts located on the left rail surrounding the 2" hole. *This bolt is used as a centering pin and will be removed later and installed properly*.
2. Insert the bolt from the back so that the threads are exposed on the outer rail edge. Slide the lower motor/gear case assembly, pictured on the right, onto the 2" shaft and align it with the exposed bolt.
3. Bolt the gear case to the rail using the remaining **13107-DRIVE MOTOR** hardware. **Note:** *Don't forget to remove the alignment bolt and insert it through the motor assembly from the proper side.*
4. Adjust the axle so that 2" shaft is flush with the end of the gearbox. **Note.** *On models produced before April 2000, the axle shaft will not be flush with the end of the gear case (figure 9.1).*
5.
6. Slide the round bearing retainer onto the right side of the axle on the 1" shaft of the axle. (Figure 8.3). Make sure that the flat side of the retainer is towards the outside.
7. The bearing has a raised collar that is egg shaped. There is a corresponding groove in the bearing retainer.
8. Turn the bearing retainer until it slides all the way onto the bearing collar. Continue to turn the bearing retainer until it locks onto the bearing collar.
9. Using a punch and a hammer, place the punch into the indentation in the bearing retainer and tap it two to three times to lock the bearing retainer.
10. Finish the process by tightening the setscrew on the bearing retainer.
11. Align the 2 " axle shaft and gearbox keyway and slide the large square key into the key way on the axle and gear box. Tap into place with a mallet and tighten the setscrew on to the key.
12. Re-check the level on the lower axle and tighten the four bolts on the tension plate.

Figure 9.1

Incline Gearbox Assembly:

1 Using thread locker and bolt kit # **HK (13055-RING GEAR)** bolts, attach the ring gear to the flange on the left leg with the machined side of the gear towards the plate. Torque all six bolts to 18 ft/pounds.

2 The Ring gear comes pre-lubed from the factory, but it may be necessary to add more grease.

3 Remove the top six bolts that help secure the left rail to the center axle

4 From the backside, lift the incline gearbox assembly over the ring gear on the left leg and set it into place. The teeth of the worm gear on the incline gearbox assembly must be completely engaged and centered in the teeth of the ring gear. **CAUTION:** Proper spacing of the worm gear on the ring gear is crucial (see figure 9.2); failure to do so will result in failure of the gears. Ascent will not be responsible for repairs for improper installation of the worm and ring. **Note.** *Make sure the wires from the motor are secured*

before lowering the motor assembly onto the gear to avoid catching them in the gears.

5 Bolt the incline gearbox assembly to the rail using bolt kit part # **HK (13107-INCLN MTR MOUNT). Hint:** Rock the wall until the bolthole lines up. Insert the bolt and repeat for the other 5 bolts.

6 Before tightening the incline motor assembly bolts to the rail, ensure that the teeth of the worm gear are centered in the teeth of the ring gear mounted on the leg. Once centered, mark the location of the gear mounting plate on the side rail.

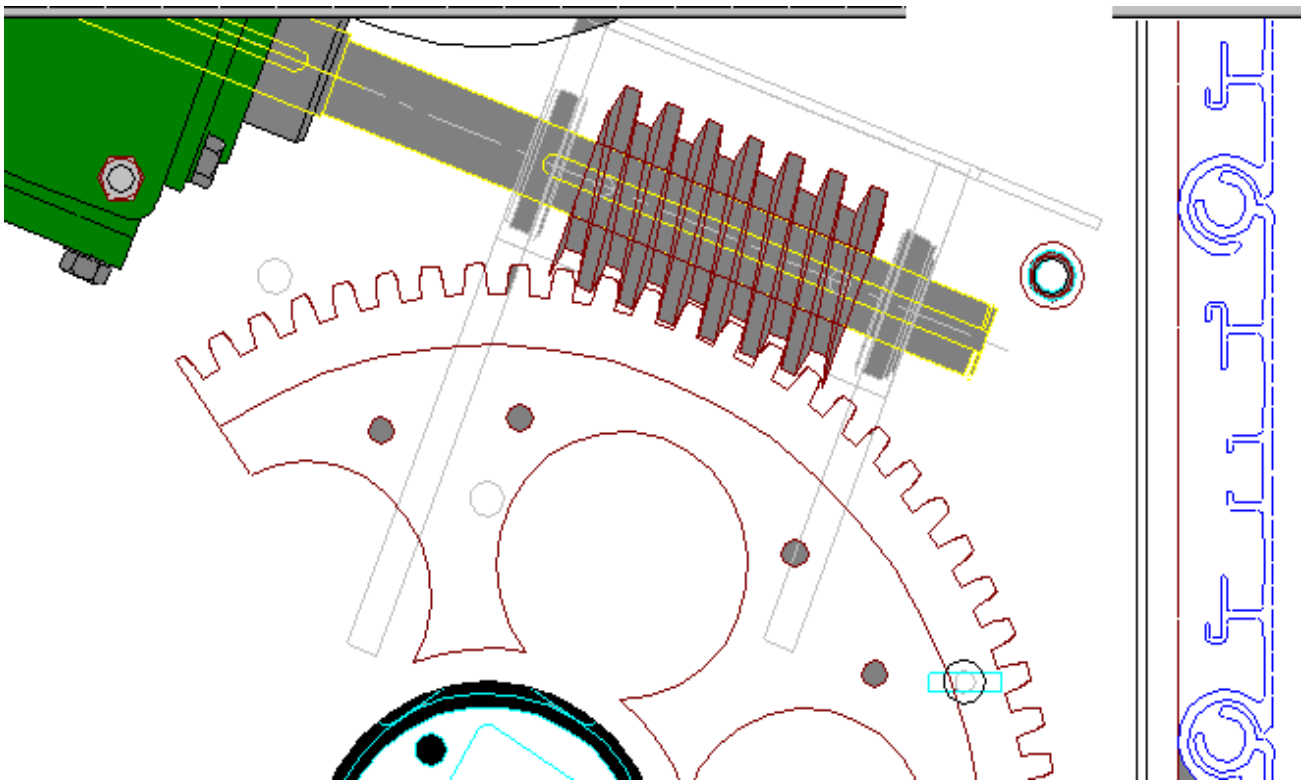


Figure 9.2

ELECTRONICS

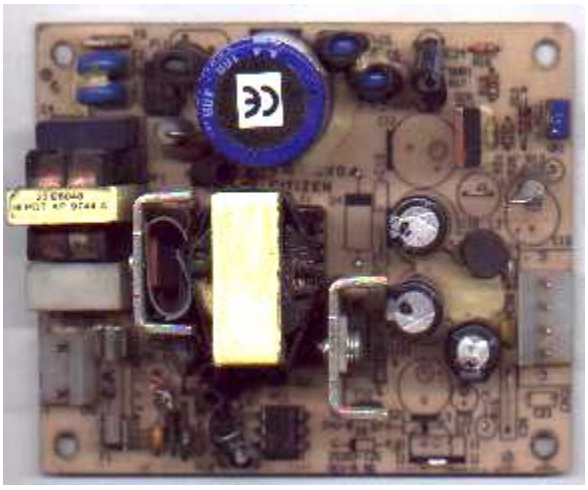
If you have a FunRock, please go to the FunRock Installation supplemental for this section. If you have a Rock, continue with this manual.

Electronic boards Identified:

Console board – Front View
Communicates with the Sensor Interface board

Sensor Interface Board – The brains of the machine

Dual Motor Control board – Receives commands from the Sensor Interface board and controls the speed and direction of the motors.

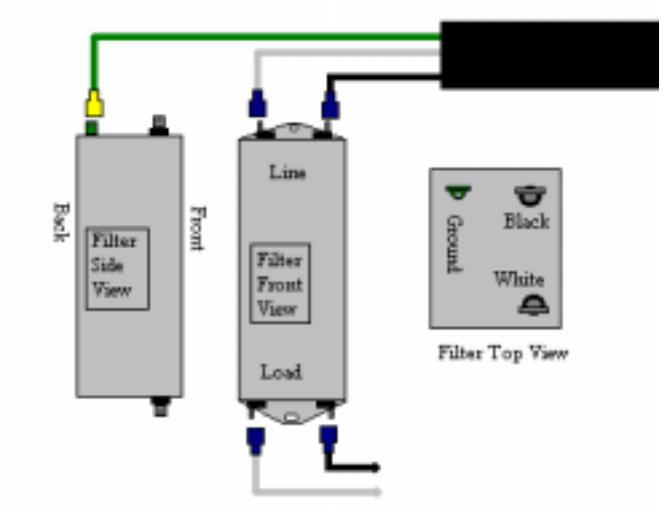


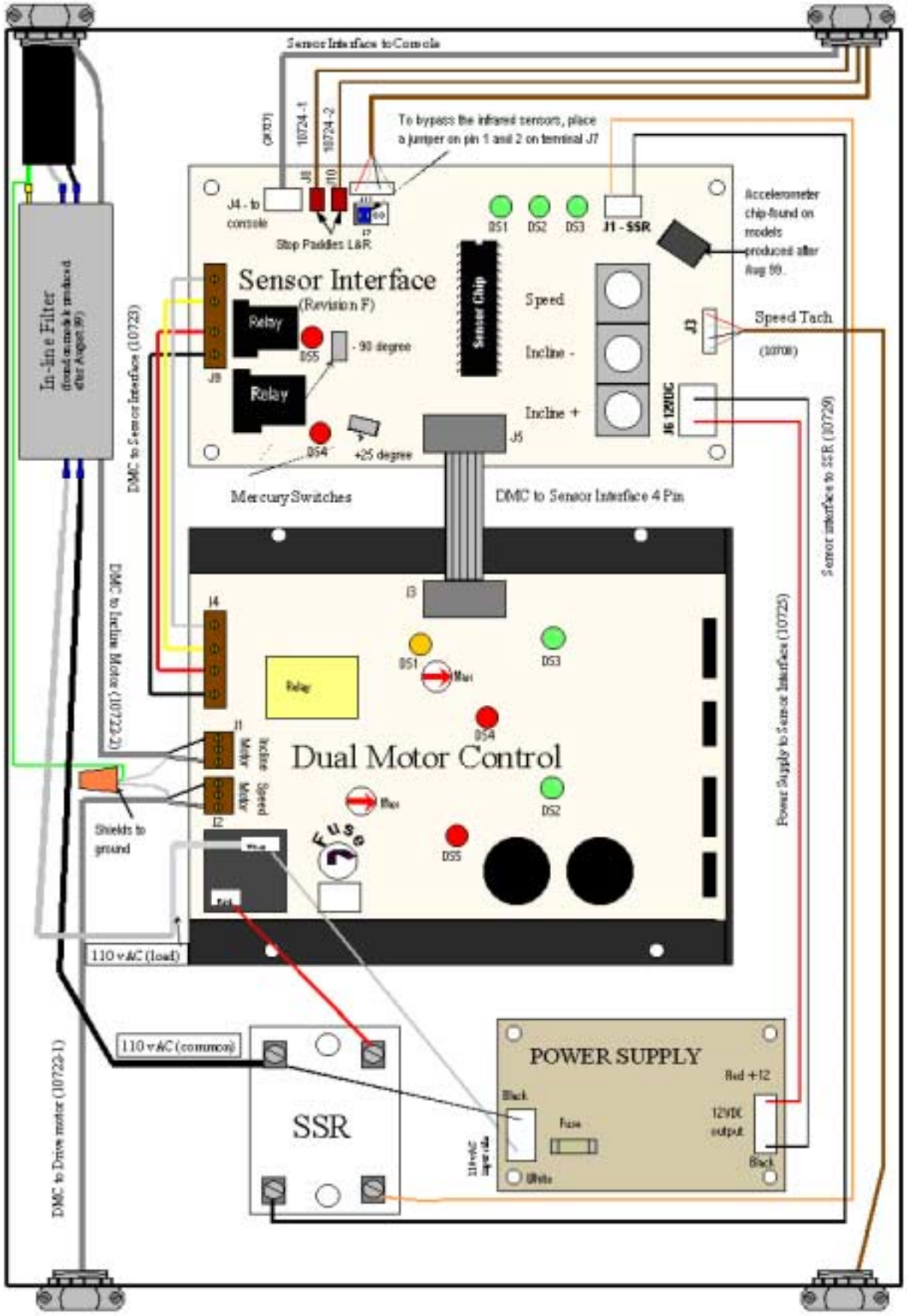
Power Supply Board – converts 110V~220V ac to 12vdc to power the components of the Rock.

PLEASE REFER TO FIGURE 13.1 FOR A COLOR DIAGRAM OF EACH STEP EXPLAINED BELOW.

Figure 11.1

1. Attach the power box to the left rail using bolt kit part # **(HK-36030 ELEC-BOX NUTS)**, with the Sensor Interface board on top as in Figure 11.1
2. Remove the tape attaching the Grey console wire (10727), brown left stop paddle wire (10724-1) and the thick black power cable (10726) to the center axle. Pass these wires through the access hole in the left side rail above the power box.
3. Pull the Grey Console wire (10727) through the top right hole in the power box and plug it onto terminal J4 on the Sensor Interface board.
4. Pull the two brown stop paddle wires (10724-1 and 10724-2) through the top right hole in the power box and plug them onto terminal J8 and J10 on the Sensor Interface board.
5. Pull the Incline motor wire (10722-2) through the top left hole of the power box and plug it onto terminal J1 (labeled INCLINE)
6. Pull the drive motor wire (10722-1) through the bottom left hole of the power box and plug it onto J2 (labeled SPEED).
7. Pull the drive motor tachometer wire (10708) through the bottom right hole in the power box and connect it to J3 on the Sensor Interface board.
8. Pull the thick black power cord through the top left hole and plug the green wire onto the ground terminal on the filter.
9. Plug the Black wire onto the corresponding terminal on the filter.
10. Plug the White wire onto the corresponding terminal on the filter.




Sensor Interface to Console
To bypass the infrared sensors, place a jumper on pin 1 and 2 on terminal J7
J4 - to console
Stop Paddles L&R
DS1
DS2
DS3
J1 - SSR
Accelerometer chip found on models produced after Aug 99.
In-line Filter
Sensor Interface
(Revision F)
Relay
Relay
DS5
- 90 degree
+25 degree
DS4
Sensor Chip
Speed
Incline -
Incline +
J3
Speed Tach
(10708)
J6 12VDC
J5
Mercury Switches
DMC to Sensor Interface 4 Pin
DMC to Sensor Interface (10723)
DMC to Incline Motor (10722-2)
Dual Motor Control
Relay
Incline Motor
Speed Motor
Shields to ground
Fuse
110 v AC (load)
110 v AC (common)
DMC to Drive motor (10722-1)
SSR
POWER SUPPLY
Red +12
Black
Fuse
12VDC output
White
Power Supply to Sensor Interface (10725)
Sensor interface to SSR (10729)

11. On the plastic cover (on models produced after May 2000 this part can be found on the sheet metal part of the arm itself instead of the cover), of the console arm locate the three pronged power inlet module (Figure 11.2), connect the green wire from the power cable to the center pole (ground), the white wire to the outside N (neutral) pole on the power inlet module. There should be a black wire that runs from the L (in) pole of the power inlet module to the lower plug on the fuse holder and another black wire from the upper plug on the fuse holder to the bottom plug on the power switch.
12. Connect the black wire on the power cable to the empty terminal on the power switch.

Figure 11.2

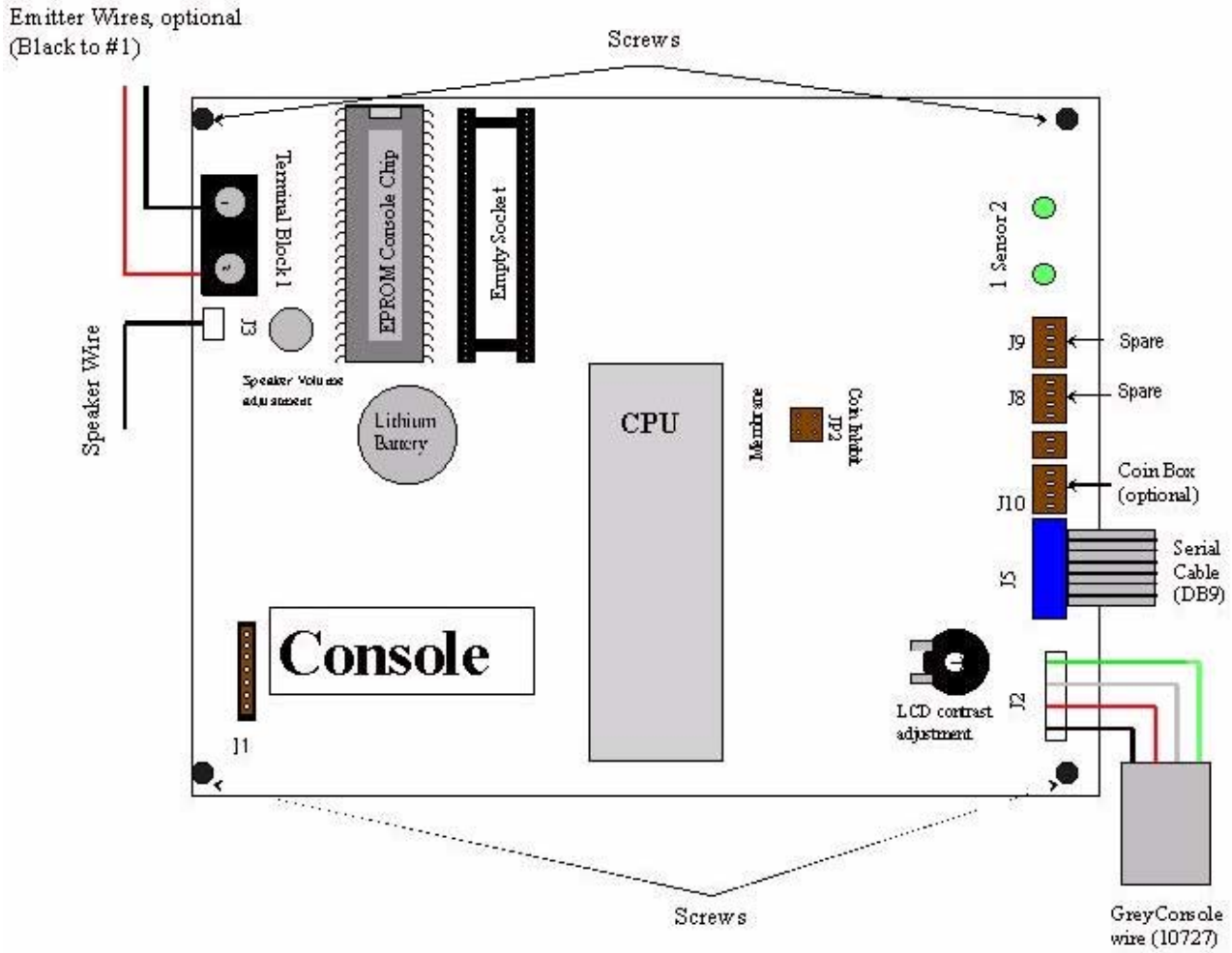


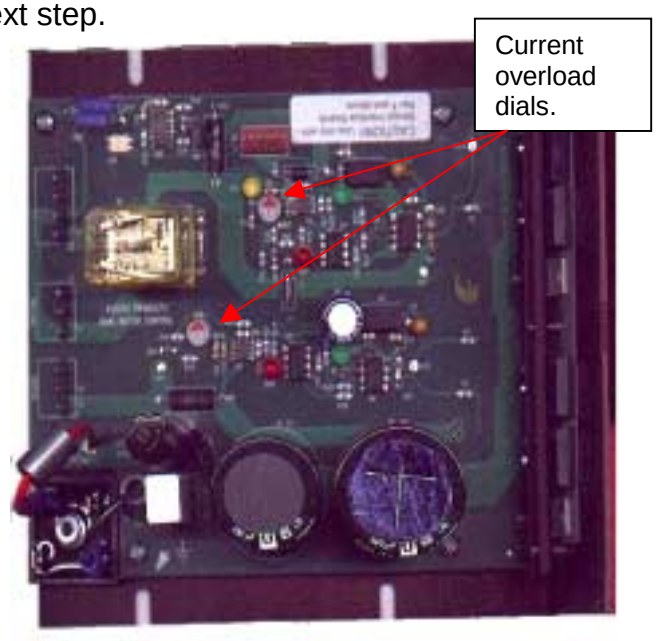
Figure 12.1

11. On the console connect the Grey console wire (10727) to the lower right terminal labeled J2 (see Figure 12.1). **The green wire should be on the top.**

12. Attach the 9-pin ribbon cable to the serial port labeled J5 on the console.
13. At this time you may want to attach the stop arm and console arm plastic side covers with 2-3 **(HK-24188-CONSOLE/STOP ARM)** screws to hold in place while testing the electronics.

Testing Electronics

1. After all connections have been made, Power-up the Rock.
2. All three green LEDs should be lit on the sensor interface board (top PC board in the power box). **NOTE.** *If any of the LEDs fail to light, check the connections on your stop paddles and check to see that there is either a jumper on the Sensor Interface Board terminal J7 or the sensors are fully connected.*
3. With the two transmitter tubes wired to the console board (red to red and black to black), and the two receiver tubes plugged onto the Sensor interface board, you are ready to test the sensors.
4. The red LED on each tube should be illuminated. If there is a red LED not illuminated on the tubes on the right hand side, check all of your connections for broken wires or loose crimps on the connectors. If the red LED on the tubes on the left side are not illuminated, but the right side is, the tubes need to be adjusted so that the red LEDs are pointing perpendicular to the surface of the machine.
5. Once you have all 4 LEDs illuminated, go to the next step.
6. Turn the two white dials on the Dual Motor Control to Max. (Full clockwise to MAX).
7. Use the 3 manual over ride buttons on the Sensor Interface Board to test the functions of the Rock. These are the large white buttons labeled Speed /S3, (-)/S4, (+)/S5.
8. The Speed button controls the lower drive motor. The (-) button runs the incline motor in a negative direction and the (+) button drives the incline motor in positive direction.
9. There are five LEDs on the Dual Motor Controller (middle PC board). The bottom green LED (DS2) should light when the top button is pressed. The yellow LED (DS1) and the top green LED (DS3) should light when the middle button is pressed. The top green LED (DS3) should light when the bottom button is pressed. *These are indicators that the Dual Motor Control is functioning properly.*



10. There are two red LEDs that warn of current overload situations on the motors. If DS4 stays illuminated when attempting to change the incline, it is an indication that the motor is drawing too much current. If DS5 stays illuminated when attempting to run the track, it is an indication that the drive/speed motor is drawing too much current.
11. If any of the LEDs are not lit, or if the machine does not respond, check all connections and then consult the troubleshooting guide of this manual.
12. Attach the plastic side covers on the left control arm (15 screws) and the right stop arm (10 screws) using **(HK-24188-CONSOLE /STOP ARM)** Allen cap screws.

Upper Axle:

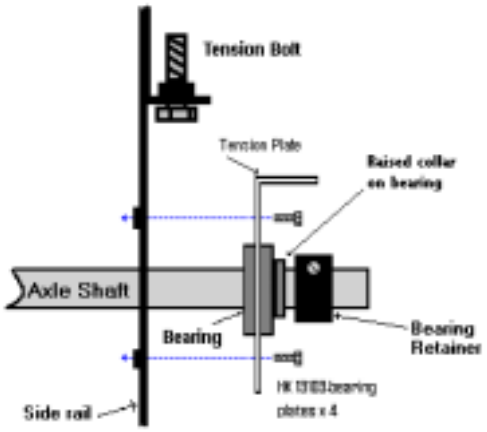


Figure 10.1

1. The top axle can be identified by its square tubing for the main body of the axle, and the 1" shaft on each end.
2. Slide the 1" I.D. sprockets onto the top axle shafts and rotate until the holes in the sprocket line up with the holes in the axle end plate.
3. Using thread locker bolt the sprockets to the axle plates using bolt kit part # **(HK #13109-UP/LWR SPROCKET)**, and torque to 23 ft/ pounds. **Caution:** While on the floor the teeth of the sprockets should line up exactly and be perfectly flat. In order to correctly install the track, the teeth of the sprockets must be properly aligned.
4. Slide a tension plate on each side of the axle with the raised collar of the bearing facing out and the flange facing the tension adjustment bolts (fig. 10.1).
5. Using the Incline (-) button on the Sensor Interface board, incline the machine so that it is in the –90-degree position (horizontal).
6. Slide the axle into the open slots on the top of the rail and bolt into place with **HK (13103-BEARING PLATES)** bolts. Leave the bolts slightly loose for later adjustments.
7. Center the axle between the rails, slide the bearing retainers onto the bearings, and rotate the bearing retainers clockwise and tap the retainer using a punch inserted in the indentation hole of the retainer, to lock the bearing in place. Tighten the setscrew.
8. Using a 1/2" wrench and socket, tighten the three bearing collar bolts surrounding the axle bearings. There are two axle bearings on the top axle and one on the lower axle (side opposite the drive motor). Torque=18 ft/lbs

Side cover mounting brackets

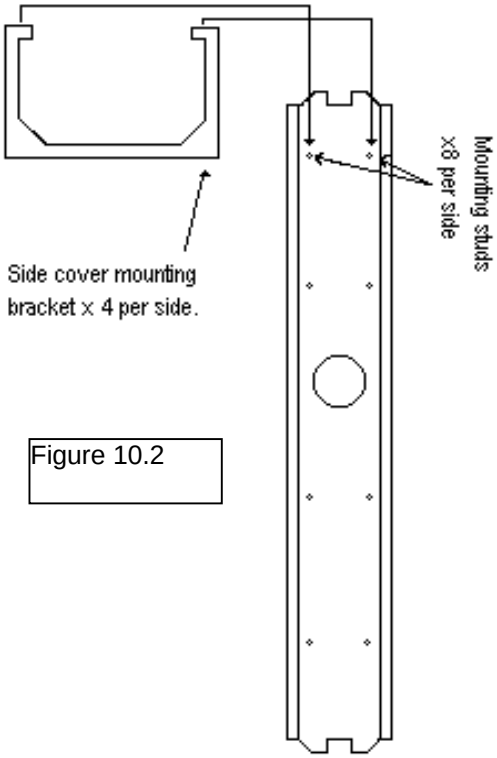


Figure 10.2

1. On some models the rail has already been provided with PEM studs. If your machine does not have PEM studs, follow the instructions in step 2 otherwise skip to step 3.
2. Insert the bolts **(HK-24049/SD CVR MNT BRKT)** through the threaded inserts on the side rails. The bolts should be attached from the inside of the rail towards the outside. Approximately 1/4" of thread should extend from the outer side rail.
3. Slide the mounting bracket onto the threaded studs on the rail (fig. 10.2). Using 1/4-20 nuts provided in **HK (36102-Side/CVR Nuts)**, firmly attach the eight brackets to the machine (4 per side).
4. Using a 7/16" wrench tighten the nuts firmly onto the mounting extensions.

Installation of the Infrared Sensors:

1 Place the machine in a -90 degree position. This will make it easier to reach the top boltholes.

2 Each tube is individually labeled with a sticker to help identify where they are to be located. There are two different tubes in the IR system. The transmitter tube has no connector on the end of the wire and has a red LED and a purple LED. The red LED will illuminate when there is power in the tube. This tube is called the transmitter tube. The other type of tube is called the receiver. It collects the light from the transmitter tube and completes the circuit. The receiver tubes go on the left side of the machine.

3 There are two boltholes for each tube that allow you to bolt the sensors to the rail.

4 After bolting all four arms to the rail, you will want to route the wiring.

5 The Transmitter wires are routed through the plastic clips on the side rail (see figure 10.3)

6 There is a long brown two-wire cable that in the center axle. This is the power wire for the transmitter boards. Just butt-connect the two red wires from the transmitter cables to the red wire on the transmitter power cable. Do the same for the black wires.

7 This same brown cable runs through the center axle and comes out the left side of the pipe with the rest of the wire harness. It then connects to the console board. Don't connect the wire at this time. It will be done in later steps.

8 Route the wires for the tubes on the left side in the same manner.

9 Pull the brown wire (10728 –lowsenint) from the lower Infrared Sensor Receiver (bottom left tube) through the bottom right hole in the power box and plug it onto terminal J7 on the Sensor Interface Board.

10 Pull the brown wire (10728 –uppersenint) from the top Infrared Sensor Receiver (top left tube) through the top right hole in the power box and plug it onto terminal J11 on the Sensor Interface Board.

11 Tighten all four clamps on the power box onto the wires.

12 Connect the power wire for the transmitter (right tubes) on the Infrared Sensor system, to the terminal block on the console. The black wire goes on top and the red wire goes on the bottom.

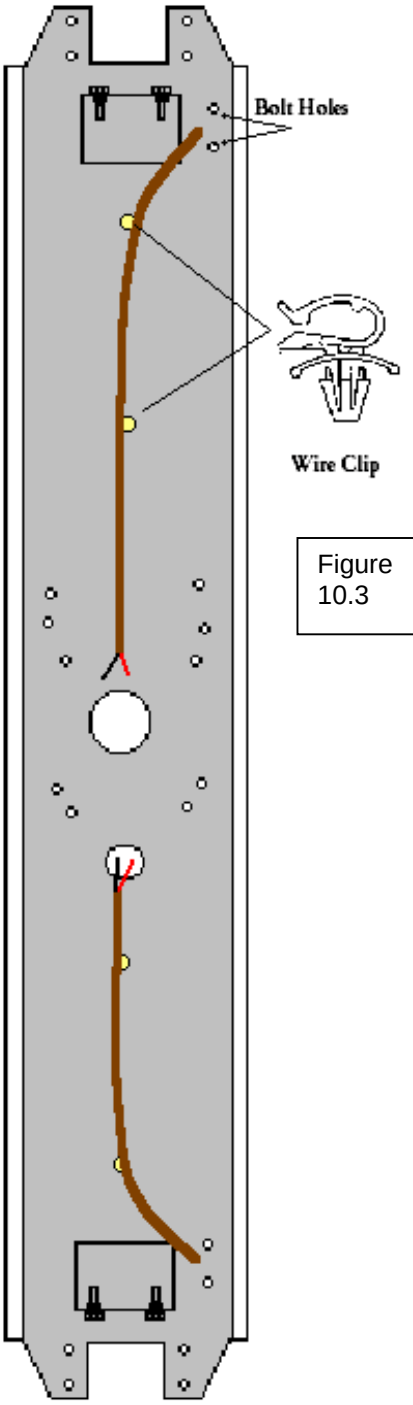


Figure 10.3

ALUMINUM

The installation of the aluminum may require two people.

1. The aluminum is packed in sets of five panels.
2. Pull one panel off the first set and place it to the side. This will be the key to lock the track together.
3. Using the configuration shown in figure 18.1, the end caps should be installed on the aluminum first. This is achieved by using a rubber mallet and lightly tapping the end caps into place.
4. Check to see that there is no gap between the aluminum and the end cap.
5. Place a drop of silicon into one of the four holes in the end cap and put in one **HK-32123-SELF TAP SCREWS**. **Caution:** Do not over tighten the screws or they will strip the hole.

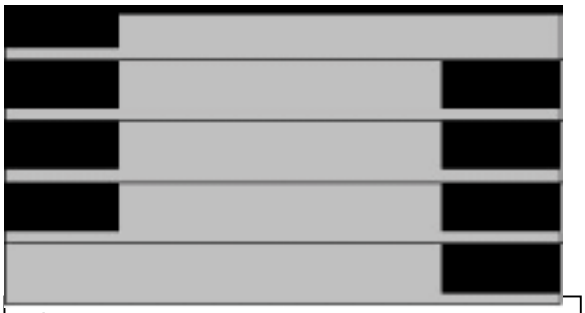


Figure 18.1 **-** If loading from the left side, use this configuration for the end caps. The thick black line on top indicates the plastic side of the aluminum. If loading from the right side, reverse the configuration.

6. Using the middle (Incline -) manual button on the sensor interface board, place the Rock in the -90 degree position.
7. Lift the first four panels onto the drive sprockets. *Note: It is easier to slide the panels together if you load the side with the plastic sleeve on first, but it will work either way.*
8. Use the speed button on the sensor interface board to advance the aluminum until the end caps begin to slide onto the rails. **Caution: Make sure that the end caps and aluminum are centered correctly on the rails or else they will bind and damage will occur.**
9. Stop the rotation of the drive sprocket so that the aluminum hangs just below the sprocket.

Figure 18.2 – Aluminum being loaded

10. Pick up the next set of five aluminum panels with the plastic side up. Align the inner hinge (plastic end) with the outer hinge and slide the panels on. **Note:** *The aluminum panels will not slide when flat. Bend the hinge a little and they will slide much easier.*
11. Continue to load the aluminum in this manner until they get near the top/front sprocket.
12. When near the front sprockets, turn the axle so that the teeth of the sprocket line up with the hinge of the track.
13. Check to see that the aluminum is aligned straight on the machine.

Figure 18.3 – Aluminum is being held tight against the sprocket teeth.

14. As the aluminum is advanced, it should be pulled tight against the front sprocket at all times. To achieve this, pull on the panels from underneath as the aluminum is advanced.
15. Repeat steps 7 through 14 for the remaining aluminum.

After all of the aluminum panels are on, use the key panel that was set to the side to lock the track together.

NOTE: If the aluminum is too far apart to insert the key.
1. Check to see that the aluminum is tight against the front sprocket.
2. Loosen the tension adjustment bolts on the upper axle and push on the front of the track to loosen it up.

16. Slide the remaining end caps on the aluminum and retain them with a self-tapping screw.

FINAL ADJUSTMENTS

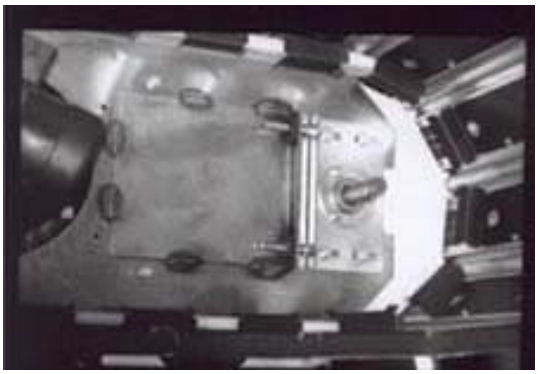


Figure 19.1

1. Begin by adjusting the two tension plates located at the top of the machine on the rail (Figure 19.1). With the four set bolts loose, turn the large tension bolts to tighten the track. The teeth of the sprockets should fully engage the aluminum. **DO NOT** over tighten the track or excessive noise will be created.
2. Position the machine in the vertical position and inspect the teeth of the lower sprocket. The teeth of the sprocket should be fully engaged in the aluminum (Figure 18.3)
3. Tighten the four tension mounting bolts to 32 foot/pounds once the track tension is adjusted correctly.
4. The final adjustments need to be made to the mercury switches on the sensor interface board. Review page 13 for the location of the switches.
5. Run the machine to a positive fifteen degrees and locate the +20 degree mercury switch on the sensor interface board. This switch should engage if the machine goes past 15 degrees to protect the worm gear from coming off of the Ring gear.
6. Test the switch by pressing the bottom button on the Sensor Interface board and run the machine past +15 degrees. The switch should engage around +20~25 degrees and a red LED (DS4) should illuminate.
7. Use the middle button to bring the machine back to normal operating conditions.
8. If the Mercury switch does not trigger between +20~25 degrees, set the machine at +20~25 degrees and adjust it by lightly pushing the switch up until the red LED lights. Then adjust it back just a little. This should set the switch.
9. Run the incline back to zero degrees or until the red LED goes off.
10. Run the machine back to fifteen degrees to make sure that the switch does not engage prematurely.
11. Run the machine to the minus ninety degree position and locate the -95 degree mercury switch on the sensor interface board.
12. This switch should engage if the machine goes past the -90 degree, horizontal orientation.
13. Adjust according to instructions in steps 6 through 10.
14. Attach the cover of the power box
15. Install the support rods to the legs and rear crossbar using a 5/16 nut on each end with an additional washer inside the rear crossbar. The shorter threaded end of the rod with the

nut welded to the top should be at the top.

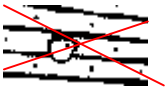
16. Attach the four large plastic covers to the side cover brackets using **4 self-tapping** screws through the plastic and into the bracket. It may be necessary to cut a notch in the cover to allow clearance for the Infrared sensor arms.
17. Stuff the foam into the mat covers and place the mats under the machine with the Velcro flap on the bottom.

SET-UP OF HAND HOLDS

There is no specific way that the holds have to be set up. Use your best judgment when placing the holds on the Rock. The routes should be challenging but not too difficult.

1 Use the proper size bolt for the hold. The bolt should never extend more than 1 inch from the back of the hold.

2 The holds should never extend beyond the surface of the panel they are mounted onto. **If a hold overlaps a panel onto another panel, serious hand injuries may occur.**



3 Use a combination of large and small holds to create one or two routes around the Rock.

4 The easiest way to install the holds is to set the Rock at approximately 3-4 ft/min. and work your way around the track. If the machine gets ahead, use the stop paddles to stop the Rock.

5 After the route has been established, step back from the machine and inspect the routes for open spaces or difficult spots.

6 Adjust the holds accordingly to eliminate the open spaces.

OPERATION

The Rock features a high-performance lubricant that coats the hinges of the aluminum panels. Never spray aerosol based lubricants or other substances on to the hinges. Failure to do so may result in deterioration of lubricant and severe damage to the Rock.

HOW TO PLUG IN THE POWER CORD

Your Rock, like any other type of sophisticated electronic equipment, can be seriously damaged by sudden voltage changes in your power supply. Voltage surges, spikes, and noise interference can result from weather conditions or from other appliances being turned on or off. **To decrease the possibility of the Rock being damaged, always use a surge protector (not included).**

Surge protectors are sold at most hardware stores and department stores. Use only an UL-listed surge protector, rated at 15 amps, with a 14-gauge cord of five feet or less in length.

This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord containing an equipment-grounding conductor and a grounding plug. **Plug the power cord into a surge protector and plug the surge**

protector into an outlet installed and grounded in accordance with all local codes and ordinances.

The product is for use on a nominal 120-volt circuit, and has a grounding plug that looks like the plug illustrated in drawing 1 (Diagram #22). A temporary adapter that looks like the adapter illustrated in drawing 2 may be used to connect the surge protector to a 2-pole receptacle as shown in drawing 2 if a properly grounded outlet is not available.

The green-colored rigid ear, lug, or the like extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used it must be held in place by a metal screw. **Some 2-pole receptacle outlet box covers are not grounded. Contact a qualified electrician to determine if the outlet box cover is grounded before using an adapter.**

DANGER: Improper connection of the equipment-grounding conductor can result in increased risk of electric shock. Check with a qualified electrician or serviceman of you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product if it will not fit the outlet. Have a proper outlet installed by a qualified electrician.

TECHNICAL ASSISTANCE

Need technical assistance? Following the simple steps below can solve most problems. Find the symptom that applies to your climbing wall and follow the steps listed. The solutions are listed in order of easiest to most complex. If further assistance is needed, please call our Customer Service Department number listed below. Please have all serial and Model number and all symptom information ready when calling.

Contacting Ascent Products Inc.
Phone: 406-582-5842
Fax: 406-582-5885
Internet: www.ascentrock.com or www.ascentrock.net
Email (Technical assistance): customersupport@ascentrock.com
Email (Sales): sales@ascentrock.com

SYMPTOM 1: Nothing happens when you turn on the unit:

A) Make sure the power cord is plugged into a properly grounded outlet (see OPERATIONS in this manual). If an extension cord is needed, use only a 14-gauge General-purpose cord of ten feet or less with three prongs.

B) Check the on/off switch located on the plastic cover of the Console near the power cord. The switch must be in the on position.

C) Check the circuit breaker at your facility and the fuses on The Rock™. Refer to *CHANGING FUSES* in the SERVICE AND MAINTENANCE section of this manual for the

location and type of fuses to use. The fuses are covered in ceramic so you will need a voltmeter to check and see if they are blown or broken.

D) Remove the plastic cover of the Console arm and check the white/green/black wires on the inlet module. If they have pulled off, they may need to be crimped a little to make them squeeze onto the terminal tighter. The black goes on the N, the green in the middle and the white on the C.

E) Remove the large plastic cover from the lower section of The Rock™ track and remove the cover from the black power box Check to see if any of the boards show green lights. If there are **no** green lights, there may be a problem with the power supply board. If there **are green lights**, check all wire connections to make sure nothing is loose.

F) If there is a humming sound coming from one of the boards, turn the power off for 10 seconds. Power-up The Rock™ again. This should allow the board to reset. If the humming continues, see

SYMPTOM 2: The power turned off during use:

A) Check the circuit breaker in your facility and the main fuse on The Rock™ located near the on/off switch.

SYMPTOM 3: The Rock™ won't download information from the PC:

A) Make sure the Rock is turned on.
B) Check the connections on the serial cable.
C) Check the Serial port section in the graphics software, to ensure that the proper serial port has been selected. (COM 1 or COM 2)

SYMPTOM 4: The Rock™ displays a Speed tachometer motor problem.

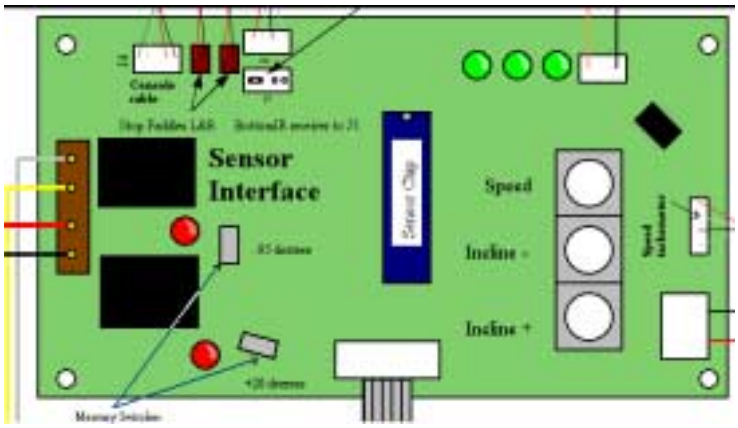
A) If you have upper or lower IR sensors, check to see that they are not blocked and the red LED on the sensor tubes (left side) are lit.
B) Tachometer on the top of the speed motor is dirty or is not reading properly.
   a) Remove the large plastic covers from the left side of the track. There should be four screws for each cover.
   b) Check the tachometer located on the top of the drive motor. The tachometer should be stuck down tight to the cap of the blue Leeson motor.
   c) Check to see that there is no dust or damage to the top of the motor and the black and silver tachometer disk located inside the cap of the motor. If there is dust, you can easily remove it using canned air, for electronics, to blow the dust out.
C) Dual Motor control board has blown a fuse or may be damaged.
   a) Remove the large plastic cover from the lower section of The Rock™ track and remove the cover from the black power box. Check the fuse on the middle PC board. It is in the black cylinder on the Dual Motor Control board. (See *CHANGING FUSES* in the SERVICE AND MAINTENANCE section of this manual) If the fuse is blown, replace it with a 12A ceramic fuse.

SYMPTOM 5: Incline problems.

A) It is possible that one of the mercury switches is stuck on. The red LEDs on the sensor Interface board should not be lit. If the Rock is within normal operating range (+15 to –

90 degrees), and one or both of the LEDs are lit, you need to tap the mercury switch (1/2 inch silver cylinder located near the LED) with your finger until the LED goes out. This can occur if the machine has been transported or was just recently installed. If this problem persists, it may be necessary to adjust the mercury switch so that it doesn't come on too early. –Call Rock Technical Support if you suspect that this is your problem or continue to **step B**.

B) There are several steps listed below to manually test the incline and drive motors to determine if they are damaged.



a) Locate the electronic board shown on the right, in the power box on the left side of the machine under the lower black plastic cover on the track. This board has three white buttons on it. Use the buttons to test the functions of The Rock™.

(1) The top button when pressed will run the drive motor and a green LED on the middle electronic board should light up.

(2) The middle button when pressed will run the incline in the negative direction and a green and amber LED on the middle electronic board will light up.

(3) The bottom button when pressed will run the incline in the positive direction and a green LED will light up.

(4) If any of the LED's fail to light up at the proper time, it is an indication that the top board (Sensor Interface) is not functioning properly or the ribbon between the two boards is damaged.

(5) If the proper LEDs light but there is no response when pressing and holding any one of the buttons, this is an indication that:

(a) The wires to the motors may have a poor connection.

(b) A motor may be damaged.

(c) The fuse on the board is damaged and needs to be replaced. (See changing fuses in this manual).

(d) The Dual Motor Control board (middle board) is defective and should be replaced.

(e) If you get a red LED on the top of the middle board, see symptom 7 below. If you get a red LED in the middle of the middle board, see symptom 6 below.

(6) Remove the top plastic cover on the left side of the track and check the Gearbox assembly to see if the machine is grinding gears. If the machine appears to be grinding gears, call Rock Technical Service.

(7) May be related to Infrared Sensors.

(a) Light from other games or from another source could be affecting the infrared beam. Make sure no surrounding light is shining directly at the left side of the machine.

(b) Check to see that the upper/lower sensors are not blocked and that the red LEDs on the left hand side (tubes) are lit.

SYMPTOM 6: The Console displays *SPEED MOTOR CURRENT OVERLOAD.*

A) This is an indication that the motor indicated is drawing more amperage than what the current limiter is set for on the Dual Motor Control board.
   a) Check the track tension to see that it is not too tight.
   b) It may be possible that the plastic slide rails need to be lubricated. This is usually the case when the machine is first assembled and is going through its break-in period. You may lubricate the slide rails with a silicon spray.
   c) If the message continues, call Ascent technical assistance for further instruction.

SYMPTOM 7: The Console displays *INCLINE MOTOR CURRENT OVERLOAD.*

A) This is an indication that the motor indicated is drawing excess amperage.
   a) Remove the top plastic cover on the left side of the track.
   b) Inspect the incline gearbox and half gear on the leg for wear. If there are signs of high wear or metal, the gear may need to be replaced.

SYMPTOM 8: The console displays *SAFETY SENSOR STOP*

A) One of the Infrared sensors is blocked.
B) The Infrared sensors are misaligned. (See the section on Infrared sensors for more information)
C) There are no sensors on your machine and a jumper is missing on Terminal J7 on the Sensor Interface board.

SYMPTOM 9: The Rock™ powers-up, but there is no text on the console.

A) The program chip on the console has been damaged and needs to be replaced.

SYMPTOM 10: The machine will start and run for a half-second and then pauses again.

A) There are no Infrared safety sensors on the machine and the Sensor Interface board is missing a jumper on the first two pins (left to right) of terminal J7.
   a) Replace the jumper on terminal J7. All three green LEDs on the Sensor interface board should be lit. The first two (left to right) are indicators that the stop paddles are functioning. The LED on the far right is an indicator that the lower sensor is aligned properly (when equipped) or the jumper is on the proper pins of J7.
B) A stop paddle is stuck on or needs adjustment.
C) One of the Infrared safety sensors is blocked or is out of alignment.

* For more information on the Infrared safety sensor system, please refer to the Add-on Accessories section of this manual.

SYMPTOM 11: The Coin box or Dollar Bill Acceptor will not register coins.

A) Check the wire from the box to the console to see that it is not pinched or broken.
B) The wires are not connected to the proper terminals on the console.
   a) The coin box wire should be plugged onto terminal J10 on the console.

C) The micro-switch in the coin box is damaged or the wires are connected to the wrong terminals of the switch.
   a) They should be on the first and third blades of the switch. The middle blade should be left empty.

SYMPTOM 12: The aluminum squeaks or is noisy.

A) The hinges need more silicone lubricant.
B) The track is too tight and needs to be loosened.
C) The track is too loose and has come off the sprockets.
   a) Loosen the track.
   b) Remove end caps on the end where the track is off the sprockets.
   c) Remove one panel of the track.
   d) Work the aluminum forward and back until it lines up with the sprocket properly.
   e) Gently slide the locking panel back into the track to link the track together.
   f) Tighten the track. (See *checking track tension* in the service section of this manual).

SYMPTOM 13: There is a humming sound coming from one of the boards and the Rock™ will not function properly.

A) Turn the power off for 10 seconds and power the Rock™ up again. This should reset the board. If the humming continues, continue to **step B**.
B) The Power Supply board is not functioning properly.
C) One of the receivers in the Infrared sensor system has a short. Unplug each receiver from the Sensor Interface board to determine which Receiver has the short. When you unplug the bad receiver, the LEDs on the board should light up.
D) The Sensor Interface board is damaged.
E) The Console is drawing excessive amperage.
F) The Rock™ is wired incorrectly – Call Rock Technical Service.

SYMPTOM 14: Console runs but machine stops.

A) Sensor Interface to Console communication is not working well. Check to make sure that the white and green wires in Grey Console cable (10727) are plugged in properly.
B) The lower sensors could be blocked or not aligned properly.

SYMPTOM 15: Machine position does not match position as read on the Rock's Console (machine is out of calibration).

A) If it is off by + or – 1 degree that is normal.
B) If it is off by + or – 5 degrees when the incline is set at –90 degrees that is normal.
C) If it is anything other than step A or B, call Rock technical Service.

SYMPTOM 16: Console locks up when a program is selected.

A) In version 2.3, the Console may have lost communication with the Leader board.

SYMPTOM 17: Problem with the Leader Board – “Console communication error” is displayed on the computer.

This error message will only be displayed when attempting to download or change parameter of the Console using a PC and a Serial connection to the Rock™.

A) Check the DB-9 serial cable connection.
B) For machines that have console version 2.2 or higher, the console has lost communication with the Leader board. The Host is in Leader board mode (meaning that Coin Operation Mode has both ‘Enabled’ and ‘Operator Present’ checked) and The Rock™ is **not** linked to a computer.

SYMPTOM 18: Machine stops running with two climbers on it.

A) This can happen if two climbers get on the machine and push one of the Start/stop paddles before the machine is at the angle at which the climb begins. Before the climbers get on the machine, allow the machine to change incline to the angle at which the climb begins.

SYMPTOM 19: Machine stops at random with no error message.

A) A stop paddle could be stuck on. Otherwise, check to make sure that the stop paddle wires are plugged in properly to the Sensor Interface board.

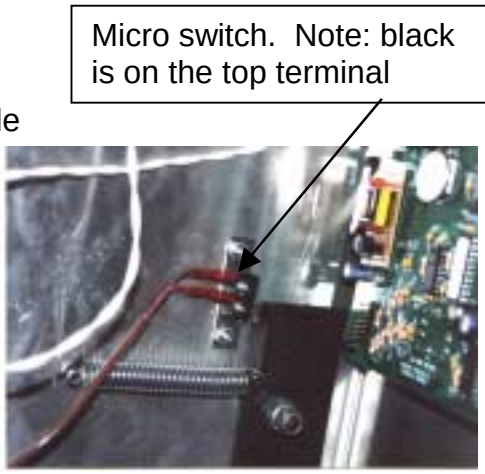
B) If your machine has a Leader board with switch mats, you may be stepping on the pad and triggering the switch mats.

SYMPTOM 20: The console screen goes blank with no text but is still illuminated.

A) The program chip in the console may be damaged.
B) May need to upgrade console chip to display the correct error messages. A blank screen can be indicating that there is an error message being sent to the console by the sensor interface board, but the proper text is not in the older console chip so it displays a blank page instead.

SYMPTOM 21: The stop paddles won’t work.

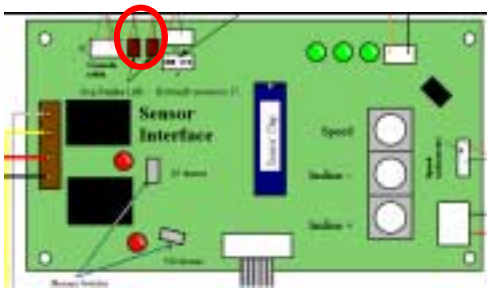
A) The Micro switch that comes in contact with the stop paddle may not be working or is out of adjustment.
   a) To adjust the switch, loosen the two nuts on the micro switch bracket and slide the switch so that it makes contact with the paddle arm.
B) There may be a loose connection on the switch.
   a) Check the plugs on the switch. Push them on tight.
C) The plug may be loose on the Sensor Interface board.
   a) This board is located in the power box. The power box is on the left side of the machine under the black



plastic cover on the track.

b) Remove the black cover and remove the cover from the power box.

c) Locate the board shown on the right. Check the plugs for the stop paddles. They are circled on the diagram on the right.



The Symptoms listed below apply only to the FunROCK™

SYMPTOM 22: The Kiosk screen displays “301 keyboard error” when the computer is starting up.

A) The cause of this error is from a switch mat that is stuck on. You can determine which mat is causing the problem by the LED on the wedge board in the kiosk.
   i. LED DS1 is for switch mat 1 which should be under the left pad.
   ii. LED DS2 is for switch mat 2 which should be under the right pad.
   iii. If one of those LEDs is on, check the mat for debris on or under. Also check to see that the floor is level. These switch mats are very sensitive and can be triggered if the cord of the mat is lying over the mat and the foam pad is on top. Once the problem has been remedied, reboot the computer.
   iv. If the light will not go out, disconnect the mat from the wedge board and call Ascent.

SYMPTOM 23: The computer freezes on the screen “Moving Rock to Initial Incline”

A) If the computer freezes on the “Moving Rock to Initial Incline” screen, it is because there is an error with the Wall.
   i. Check the Current overload dials to verify that they are set at max. Press the Speed button on the Sensor Interface board to run the track. If the track turns and there are no red LEDs on the Dual Motor Control board, the error is with the tachometer.
   ii. Check the plug for the speed motor tachometer and verify that it is connected to terminal J3 on the sensor Interface board.
   iii. It may be possible that the Tachometer is dirty and needs to be cleaned.
      1. Remove the fan shroud of the speed motor. See figure 27.1
      2. The eye of the tachometer looks through a hole that has been drilled in the fan shroud.
      3. Clean the eye of the tachometer with a soft cloth.
      4. Re-attach the fan shroud.
      5. Re-boot the software on the Computer.

Figure 27.1