Be Strong.™

Model: T514

Model: T516

Model: T518

NAUTILUS® Service Manual

Sport Series

Base Model: T514, T516, T518

Display Model: LE, LE-X, LC

P/N: 001-6868 Rev B (03/2007)

ATTENTION!

FOR DETAILED INSTRUCTIONS AND INFORMATION ON ASSEMBLY AND USE FOR YOUR NAUTILUS® SPORT SERIES TREADMILL, MODELS T514, T516 AND T518, REFER TO THE ASSEMBLY AND OWNER'S MANUALS.

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BASE SERIAL NUMBER LOCATION

The serial number decal on the base can be found on the left hand incline arm. This decal is visible without removing any parts on the treadmill. To more easily view the serial number decal, incline the treadmill to 15%.

The serial number and model number listed on this decal are required when completing the enclosed warranty card and may be required when calling Customer Service. All Sports Series treadmills have a serial label located on the base.

Serial Number Decal Location

LE Display

LE-X Display

LC Display

EXERCISE YOUR INDIVIDUALITY.

With the Nautilus® Sport Series, you can now customize your treadmill. The idea is to find the perfect combination of treadmill deck platform, console display features and software upgrades that match your fitness goals, frequency of use, height and weight, and fitness level. You can choose from three treadmill decks, three displays, and three additional software plug-ins.

Treadmill Deck Platforms

	T514	T516	T518
Continuous HP	2.7 HP	3.0 HP Hyperdrive® Technology	3.0 HP Hyperdrive® Technology
User Weight Limit	350 lbs (159 kgs)	375 lbs (170 kgs)	375 lbs (170 kgs)
Maximum Grade	15%	15%	15%
Running Surface	20" x 57" (51cm x 1.4m)	20" x 57" (51cm x 1.4m)	20" x 60" (51cm x 1.5m)
Belt Ply	Two Ply	SuperSoft® Deck	SuperSoft® Deck
Padding	REACT® Deck	REACT® Deck	REACT® Deck
Board Surface	Phenolic-Rev	Phenolic-Rev	Phenolic-Rev
Power Inlets	Front	Front	Front and Rear
ROC™ Bar	N/A	N/A	Standard
Grip Heart Rate	N/A	N/A	Yes

Console Displays

	LE	LE-X	LC
Languages	English	English, French, German, Spanish	English, French, German, Spanish
Workout Programs	6 Preset, 2 Custom	9 Preset, 3 Custom	12 Preset, 3 Custom
Heart Rate Strap	Yes	Yes	Yes
Heart Rate Program	2 Incline Controlled	2 Incline Controlled	2 Incline Controlled
Speed Range	0.5 - 12 MPH (0.8 - 19.3 KPH)	0.5 - 12 MPH (0.8 - 19.3 KPH)	0.5 - 12 MPH (0.8 - 19.3 KPH)
Optional Workout Software	N/A	My Nautilus™ Software, Heart Strong™ Software, My Nautilus™ LX	My Nautilus™ Software, Heart Strong™ Software, My Nautilus™ LX

When using electrical equipment, always follow these basic precautions:

IMPORTANT SAFETY INSTRUCTIONS

The following definitions apply to the words "Danger" and "Warning" found throughout this manual:

⚠ WARNING **Used to call attention to potential hazards that could result in personal injury or loss of life.**

READ ALL INSTRUCTIONS BEFORE USING THE MACHINE.

⚠ WARNING

To reduce the risk of electrical shock, always unplug the external power supply from the electrical outlet before cleaning, maintaining, or repairing.

To reduce the risk of burns, electric shock, or injury to persons: Read this manual in full before operating the treadmill. Failure to follow these guidelines can produce a serious or possibly fatal electrical shock hazard or other serious injury. Consult a qualified electrician as required.

1. Do not plug the treadmill into an outlet until the final assembly is complete and the motor cover is installed.
2. CONSULT YOUR PHYSICIAN BEFORE STARTING ANY EXERCISE PROGRAM. Only he or she can determine the exercise program that is appropriate for your particular age and condition. If you have not been exercising or are pregnant or have a heart condition or any physical limitation, failure to consult your physician before engaging in physical exercise, such as using a Nautilus® Sport Series treadmill , could result in serious injury or death. If while using a Nautilus® Sport Series treadmill you have any pain or tightness in your chest, an irregular heart beat, shortness of breath, feel faint, light-headed or dizzy or have any pain or discomfort, STOP and consult your physician immediately.
3. Read, understand, and test the SAFETY STOP PROCEDURES in the Owner's Manual before using the treadmill.
4. The Safety Stop Cord does not turn off the electrical current to the treadmill. The treadmill continues to draw power, even when the display is off. To avoid electric shock, do not remove treadmill motor covers or place hands beneath the treadmill while the treadmill is plugged into a power source.
5. Review all of the warning labels on the treadmill before use.
6. The Nautilus® Sport Series Treadmill, models T514, T516 and T518 are intended for home use only. The T514 maximum user weight limit is 350 pounds (159 kilograms). The T516 and T518 maximum user weight limit is 375 pounds (170 kilograms). Do not exceed the maximum user weight limits.
7. Before each use of this equipment, inspect the treadmill for incorrect, worn, or loose components. The machine can be safely used only when it is regularly inspected for damage or wear. Inoperable components should be replaced, repaired, or tightened immediately, or the equipment should be taken out of use until repairs have been made.
8. Do not wear any loose or dangling clothing or jewelry while using the Nautilus® Sport Series treadmill. Always keep your hands, feet, clothing, etc. clear from beneath the treadmill and from all moving parts. Never use your treadmill with the Motor Cover or Frame Covers removed.
9. Always wear rubber-soled athletic shoes on the Nautilus® Sport Series treadmill. Never use the treadmill barefooted or wearing only socks.
10. Do not start the treadmill when someone is standing on the belt. Always stand on the foot rails on each side of the walking belt when starting the treadmill. Be careful when mounting or dismounting the treadmill.
11. Keep speed and incline at the lowest settings when someone is getting on and off the treadmill.
12. Keep the area underneath and around the treadmill clear. Position the treadmill on a clean, level surface and do not place the treadmill on thick carpet as it may interfere with proper ventilation. We recommend the use of a treadmill mat that may be purchased from your treadmill dealer or Nautilus, Inc.

13. Never position the treadmill with the back end (direction of belt travel) facing a wall or any other objects such as furniture or other pieces of fitness equipment. Failure to do so can prevent safe exit of the treadmill in an emergency situation such as falling. Allow a minimum of 79 inches (2 meters) behind the treadmill and 20 inches (.5 meters) on each side.

14. Before each use of this equipment, check the power cord, plug, plug receptacle and outlet for signs of damage. If any of them appears frayed, loose, worn, or otherwise faulty, or if the insulation appears worn or cracked, do not operate the machine. Position the treadmill so that the wall plug is visible and accessible. If the power cord is damaged, it must be replaced with a power cord from Nautilus, Inc.

15. To avoid potential safety and electrical problems, replace with manufacturers' specified parts only.

16. Always disconnect the treadmill from the power outlet before cleaning, maintaining, servicing, or removing the motor cover.

17. This equipment is classified Class I, Type B, ordinary equipment. Not protected against fluid ingress. Rated for continuous operation. Do not operate this equipment in the presence of flammable anesthetic mixtures.

18. Do not let liquid enter the display or motor/controller area. If liquid enters either area, the area(s) must be inspected and tested for safety by an approved technician before it can be used again. Do not place the treadmill near water or outdoors. Do not use the machine in damp or wet conditions.

19. Increased risk due to leakage of electrical current may result if this equipment is not grounded properly.

20. The treadmill must be on an appropriate, dedicated electrical circuit carrying 15 amps (110 Volt model) or 7 amps (220 Volt model). Nothing else should be connected to the circuit.

21. Do not stand on treadmill motor cover or front trim cover.

22. Parents and others in charge of children should be aware that children, because of their natural play instinct and fondness for experimenting, may be tempted to situations and behavior for which the equipment is not intended, with resulting damage to the equipment and injury to the children or others. Children's access to the equipment should therefore be controlled, and they should be instructed about the potential for personal injury and damage if they play with the equipment.

Failure to follow the conditions set forth below shall limit, to the extent allowed by law, Nautilus® Inc. responsibility for the safety, reliability, and performance of this equipment.

- Each user must read the Owner's Manual in full before using the product. Each user must read, understand, and carefully follow all warnings, instructions, and procedures regarding the proper use of the treadmill and its accessories.
- Do not remove the treadmill motor covers: dangerous voltages are present. Components such as the motor, controller, and display are serviceable only by qualified service personnel.
- The electrical wiring within the treadmill setting and the electrical installation of the treadmill must comply with the applicable local or provincial requirements.
- The equipment must be used in accordance with the instructions for use.
- For further information or instruction on use, maintenance or specifications, please contact your Authorized Nautilus® Retail Outlet.

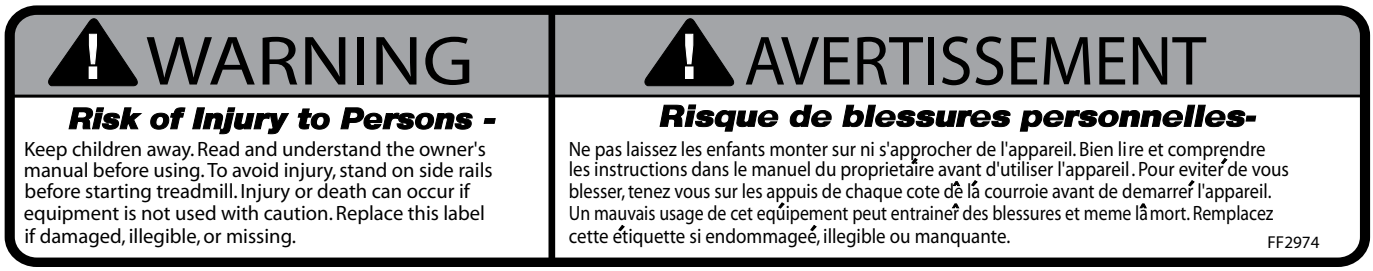
SAFETY WARNING LABELS

The following safety warnings are located on the Nautilus® Sport Series treadmill, models T514, T516 and T518. Please read all safety precautions and warning information prior to using your product. Be sure to replace any warning label if damaged, illegible, or missing. If you need replacement labels, please call a Nautilus Representative at (800) 628-8458.

Label 1: Please make sure all users read, understand, and follow the warning labels on the exercise machine. See Figure 1 for general use safety label.

Location: The warning label in Figure 1 is located on the top right hand side of the handrail cap.

Figure 1



Label 2: "Warning: If you have not been exercising regularly, consult a physician before starting an exercise program. If you feel any unusual pain, shortness of breath, or dizziness STOP. Consult a physician."

"Warning: Remove Safety Key when not in use and store key out of reach of children."

Location: Located on the left hand side of the console assembly, below the water holder.

Safety Label Locations:

Model Shown: T518, LC Display

EMERGENCY STOP PROCEDURES

Your Nautilus® Sport Series treadmill console display, models LE, LE-X and LC, is equipped with a MAGNETIC STOP KEY that can protect you from serious injury and inhibit children from playing with and/or being injured on the Nautilus® Sport Series treadmill. If the Magnetic Stop Key is not fully inserted into the safety keyhole, the Sport Series treadmill will NOT power up.

ALWAYS ATTACH THE MAGNETIC STOP KEY CORD CLIP TO YOUR CLOTHING DURING YOUR WORKOUT.

Always remove the Magnetic Stop Key from the Nautilus® Sport Series treadmill when not in use to prevent children or other persons from using the machine unsupervised.

WARNING

REMOVE THE MAGNETIC STOP KEY WHILE USING THE NAUTILUS® SPORT SERIES TREADMILL ONLY IN AN EMERGENCY. WHEN THE KEY IS REMOVED, THE NAUTILUS® SPORT SERIES TREADMILL WILL STOP INSTANTLY, WHICH COULD CAUSE SOMEBODY USING THE MACHINE TO LOSE BALANCE OR FALL. THIS FEATURE IS MEANT TO PREVENT SERIOUS HARM AND, USED PROPERLY, IS AN EXCELLENT WAY TO PROTECT YOUR SAFETY DURING YOUR WORKOUT.

1.0 - REPLACEMENT OF CROWNED FRONT ROLLER

Tools Needed:

- Phillips Screwdriver
- 3/16 inch Hex Key / Allen Wrench
- 1/2 inch wrench
- 7/16 inch wrench

NOTE: If using a powered driver, it must be on the "LOW TORQUE" setting, otherwise it will strip screws.

WARNING

AS LONG AS THE TREADMILL IS PLUGGED INTO A POWERED OUTLET AND THE TREADMILL CIRCUIT BREAKER IS ON, THE UNIT IS RECEIVING POWER, EVEN IF THE DISPLAY IS TURNED OFF. ALWAYS UNPLUG THE POWER CORD FROM THE OUTLET AND TREADMILL WHEN PERFORMING REPAIRS OR MAINTENANCE.

1-1 Elevate the treadmill, secure power and then unplug the power cord from the wall outlet.

1-2 Remove (4) Phillips head screws with a Phillips screwdriver from the inside, lower right upright plastic cover and (4) Phillips head screws from the outer right side plastic cover. Remove the right side outer plastic cover (Figure 1). Repeat process on the left side.

1-3 Remove the motor cover (Figure 2 & 2A).

1-4 Release the tension from the walking belt by loosening the rear roller bolts using the 3/16 inch Hex Key/Allen wrench provided with the treadmill. Turn the rear roller bolts counter clockwise to release tension.

1-5 With a 3/16 inch hex key, remove the front roller bolt located on the left hand side of the treadmill (Figure 4).

Figure 1:

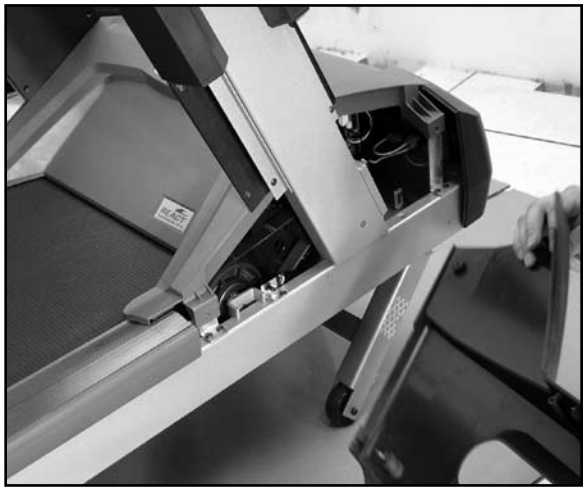
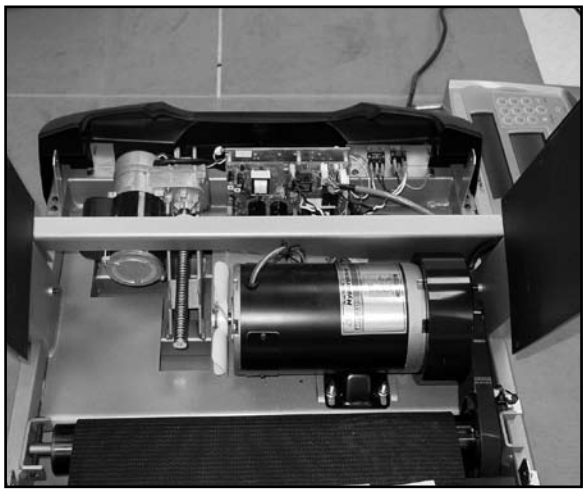


Figure 2:

Figure 2-A:



1-6 Loosen the (4) nuts on the Motor base using a 1⁄2 inch wrench from the underside of the motor pan. Using a 7/16 inch wrench loosen the nut of the "Motor tension bolt" located on the front of the motor (Figure 5). Do not unscrew it all the way, loosen the motor to get enough slack in the drive belt to slide the belt off the motor shaft pulley.

Note: Removal of the bracket upright support (Figure 6) may help in the completion of Step 5, but is not required.

1-7 Remove the drive belt from the roller pulley and slide the roller out.

1-8 Replace the roller and re-assemble in reverse order from Step 1-4 to Step 1-7.

1-9 Replace the motor cover first, then replace the lower outer plastics using (4) Phillips head screws per side, and the lower inside upright plastics using (4) Phillips head screws, per side.

1-10 Check for proper belt tension following the Walking Belt Tension Adjustment and Tracking Adjustment in the Appendix 3.

Figure 3:

Figure 4:

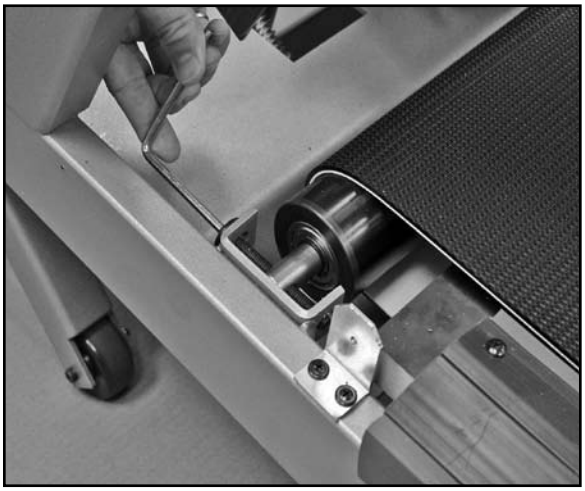


Figure 5:

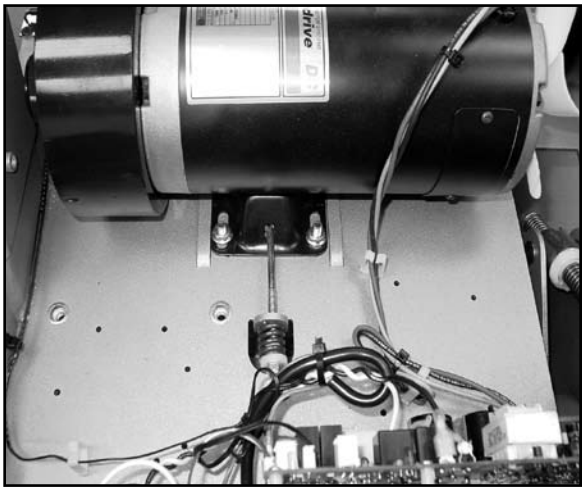
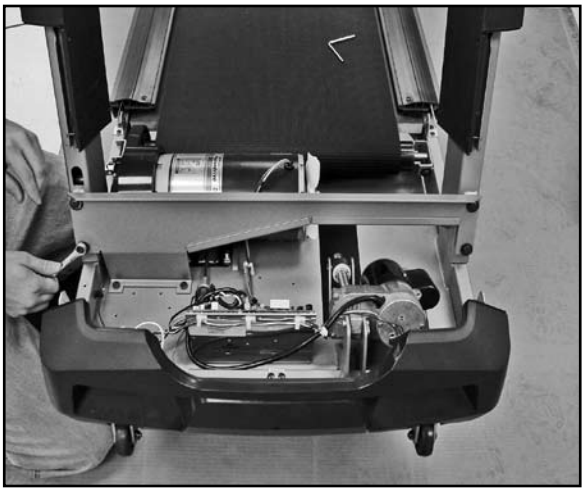


Figure 6:



2.0 - REPLACEMENT OF DRIVE MOTOR

Tools Needed:

- Phillips Screwdriver
- 1/2 inch wrench
- 3/16 inch Allen wrench

NOTE: If using a powered driver, it must be on the "LOW TORQUE" setting, otherwise it will strip screws.

WARNING

AS LONG AS THE TREADMILL IS PLUGGED INTO A POWERED OUTLET AND THE TREADMILL CIRCUIT BREAKER IS ON, THE UNIT IS RECEIVING POWER, EVEN IF THE DISPLAY IS TURNED OFF. ALWAYS UNPLUG THE POWER CORD FROM THE OUTLET AND TREADMILL WHEN PERFORMING REPAIRS OR MAINTENANCE.

2-1 Elevate the treadmill, secure power and then unplug the power cord from the wall outlet.

2-2 Remove (4) Phillips head screws with a Phillips screw driver from the inside, lower right upright plastic cover and (4) Phillips head screws from the outer right side plastic covers.

2-3 Remove the right side outer plastic cover (see Figure 1).

2-4 Repeat Step 2-2 and 2-3 on the left side.

2-5 Remove the Motor Cover (see Figure 2 and 2A).

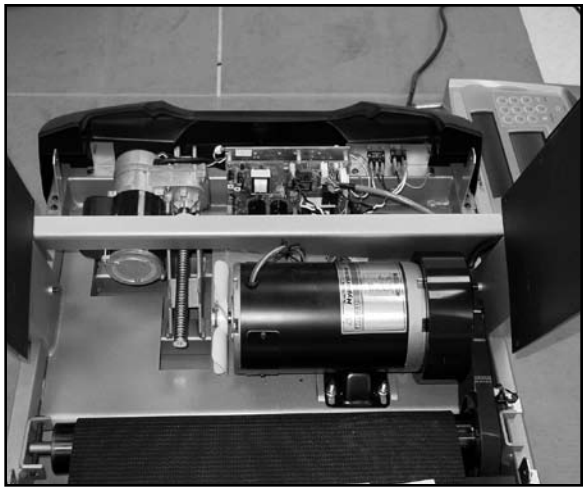
2-6 Remove the (6) 1/2 inch bolts from the bracket upright support (see Figure 3) and remove the bracket.

2-7 Loosen the motor tension bolt located in front of the motor using a 1/2 inch wrench and then remove the (4) 1/2 inch nuts and bolts (bolt heads located under the motor pan) from the motor base (see Figure 4 and 4A).

Figure 1:

Figure 2:

Figure 2A:



2-8 Slide the drive belt off the pulley on the end of the motor shaft.

2-9 Trace the wires going from the motor to the motor controller (see Figure 5). Unplug the red and black wires that connect to the motor controller and remove the Phillips head screw that attaches the green ground wire to the mounting plate to the treadmill motor pan (see Figure 5A).

2-10 Slide the motor towards the belt, then lift the motor out.

NOTE: Depending on the motor type (manufacturer) Steps 2-11, 2-12 and 2-13) may be omitted.

2-11 Remove the motor pulley and flywheel with a 3/16 inch Allen wrench (see Figure 6). Remove the plastic fan by removing the clamp (see Figure 6A) and twisting the fan off the motor shaft.

2-12 Install the flywheel, pulley and plastic fans to the motor shaft.

NOTE: Do not tighten the flywheel/pulley at this time.

2-13 Install the motor and slide the drive belt onto the motor pulley and align the motor pulley with the front roller pulley. Tighten the motor pulley with a 3/16 inch Allen wrench.

- OR -

2-14 Slide the (4) 1/2 inch bolts up through the bottom of the motor pan, through the motor base and attach the (4) nuts. DO NOT TIGHTEN. Install the motor tension bolt and using a 1/2 inch wrench tighten until the drive belt fits with little or no slack on the front roller. At this point, tighten the (4) bolts at the motor base.

Figure 3:

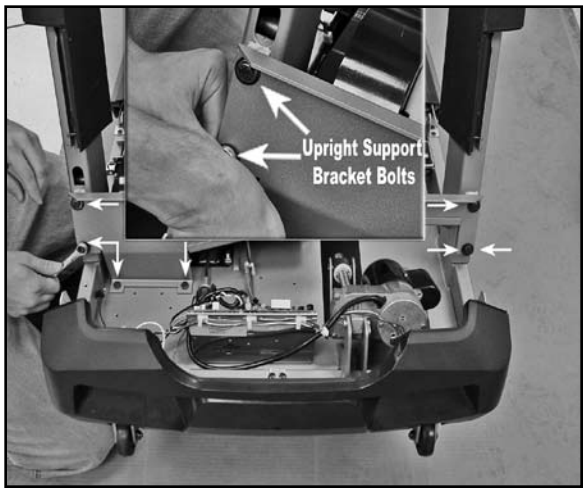


Figure 4:

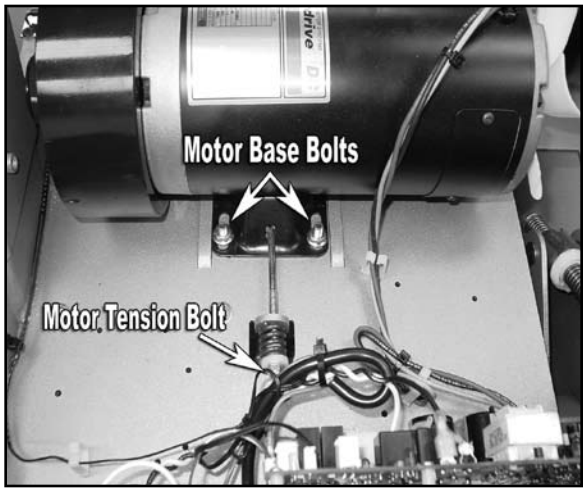
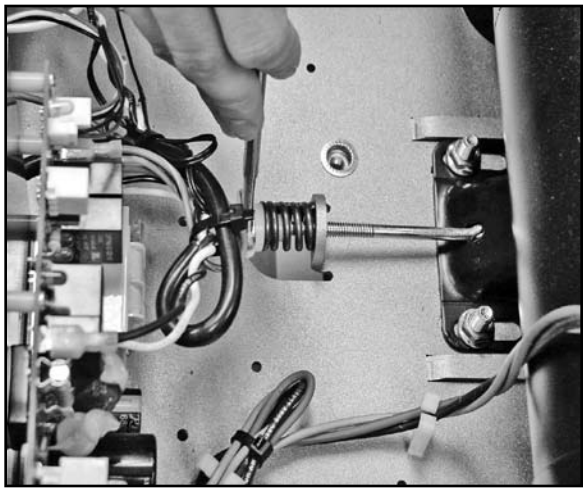


Figure 4A:



2-15 Plug the red and black motor wires onto the motor controller. The red wire goes on the A+ terminal and the black wire goes to the A- terminal. Attach the green ground wire to the controller/frame with the Phillips head screw (see Figure 7 and 7A).

2-16 Replace the motor cover first, then replace the lower outer plastic cover using (4) Phillips head screws per side, and the lower inside upright plastic cover using (4) Phillips head screws, per side.

2-17 Recalibrate the electronics. See the Calibration Procedure in Appendix 4.

Figure 5A:

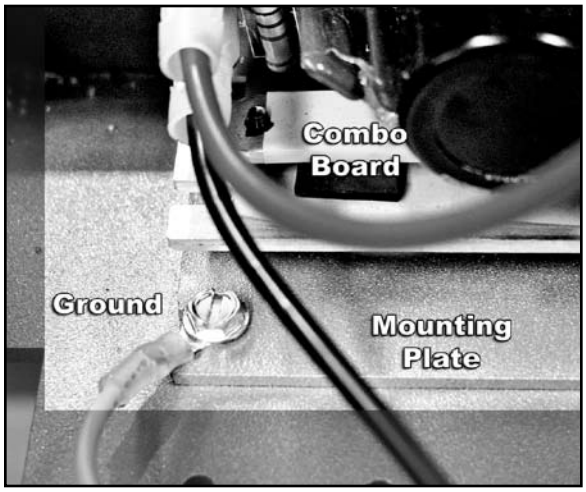


Figure 6A:

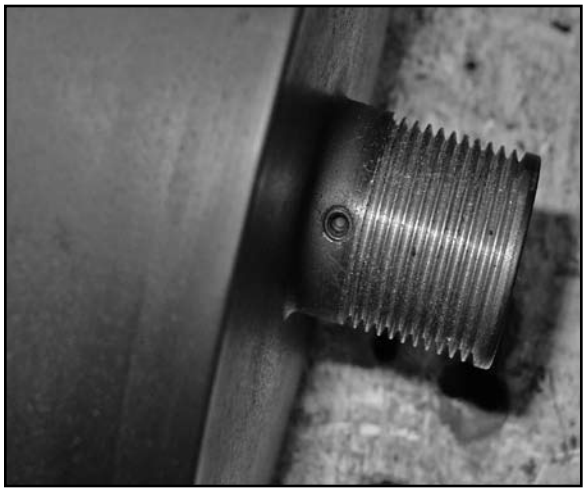


Figure 5:

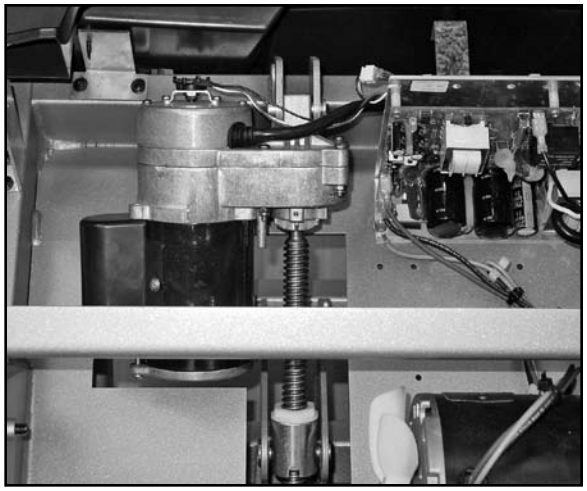


Figure 6:

Figure 6B:

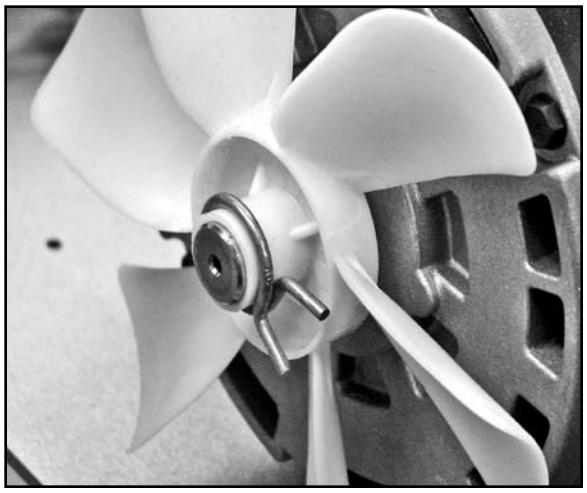


Figure 7:

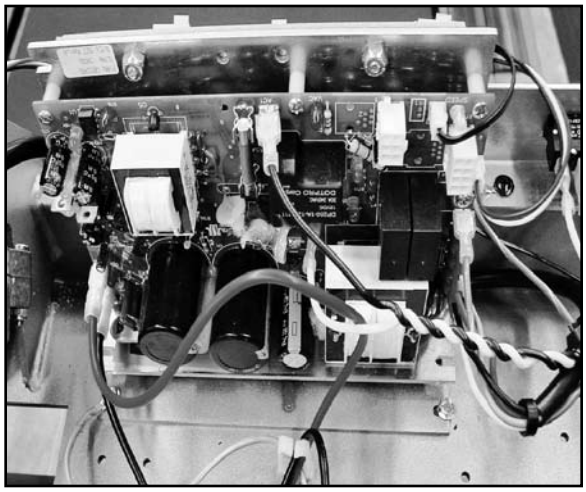
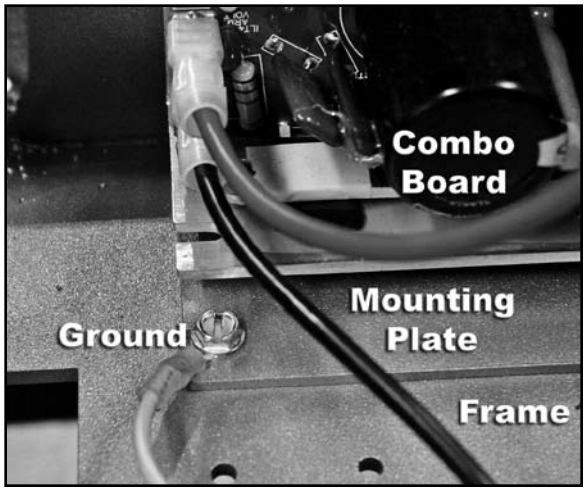


Figure 7A:



MOTOR SPECIFICATIONS

T514	2.7 HP 110V
T516/T518	3.0 HP 110V
T516/T518 (International Models)	3.0 HP 220V

3.0 - REPLACEMENT OF CROWNED REAR ROLLER

Tools Needed:

- Phillips Screwdriver
- 3/16 inch Allen wrench

WARNING

AS LONG AS THE TREADMILL IS PLUGGED INTO A POWERED OUTLET AND THE TREADMILL CIRCUIT BREAKER IS ON, THE UNIT IS RECEIVING POWER, EVEN IF THE DISPLAY IS TURNED OFF. ALWAYS UNPLUG THE POWER CORD FROM THE OUTLET AND TREADMILL WHEN PERFORMING REPAIRS OR MAINTENANCE.

3-1 Turn off the power switch and unplug the power cord from the wall outlet.

3-2 Lift the rubber side rail (back left side) and then using a Phillips head screw driver remove the screw that holds the left end cap to the frame (see Figure 1).

3-3 Remove the (2) Phillips head screws from the back of the end cap (see Figure 2) and remove cap. This will reveal the rear roller bolt.

3-4 Using the 3/16 inch Allen wrench provided with the treadmill, remove the rear roller bolt (see Figure 3).

3-5 Repeat Step 3-2, Step 3-3 and Step 3-4 on the right side of the treadmill.

3-6 Remove rear roller.

3-7 Install the new rear roller using 2 rear roller bolts and tighten them up with the 3/16 inch Allen wrench. Center the roller to the center of the rear roller brackets (left and right side).

3-8 Tighten and align the walking belt using the instructions in Appendix 3.

Figure 1:

Figure 2:

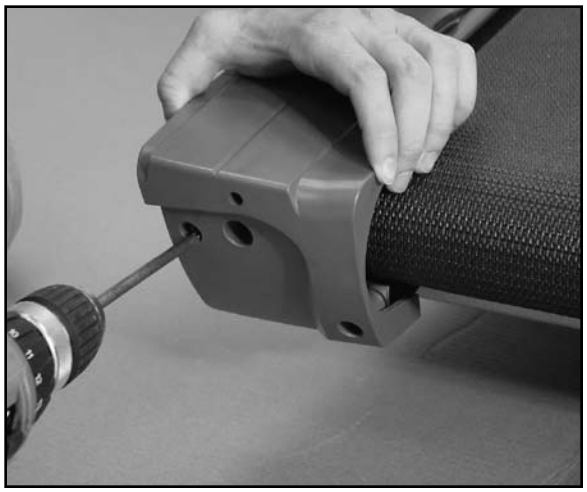
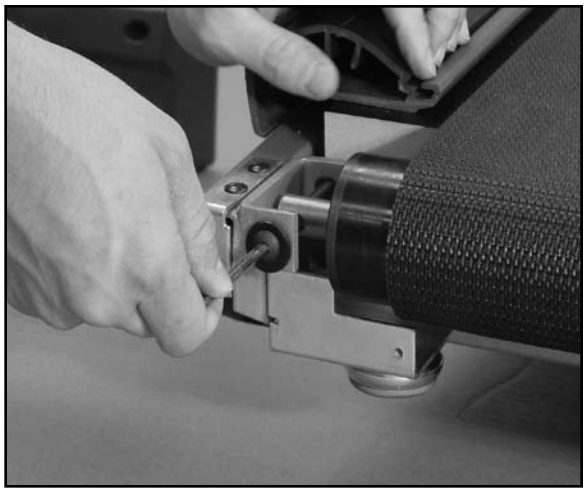


Figure 3:



4.0 - REPLACEMENT OF ELEVATION POTENTIOMETER

Tools Needed:

- Phillips Screwdriver

NOTE: If using a powered driver, it must be on the "LOW TORQUE" setting, otherwise it will strip screws.

WARNING

AS LONG AS THE TREADMILL IS PLUGGED INTO A POWERED OUTLET AND THE TREADMILL CIRCUIT BREAKER IS ON, THE UNIT IS RECEIVING POWER, EVEN IF THE DISPLAY IS TURNED OFF. ALWAYS UNPLUG THE POWER CORD FROM THE OUTLET AND TREADMILL WHEN PERFORMING REPAIRS OR MAINTENANCE.

4-1 Remove (4) Phillips head screws with a Phillips screwdriver from the inside, lower right upright plastic covers and (4) Phillips head screws from the outer right side plastic covers. Remove the right side outer plastic cover.

4-2 Repeat Step 4-1 on the left side

4-3 Remove the motor cover.

4-4 Unplug the elevation cable from the Elevation Pot located on the top of the elevation lift motor (see Figure 1).

4-5 Remove the elevation potentiometer by removing the two screws located on both sides of the pot (see Figure 2).

4-6 Remove the pot by pulling it straight up (see Figure 3).

NOTE: You may need to pry up gently on the bracket holding the pot.

Figure 1:

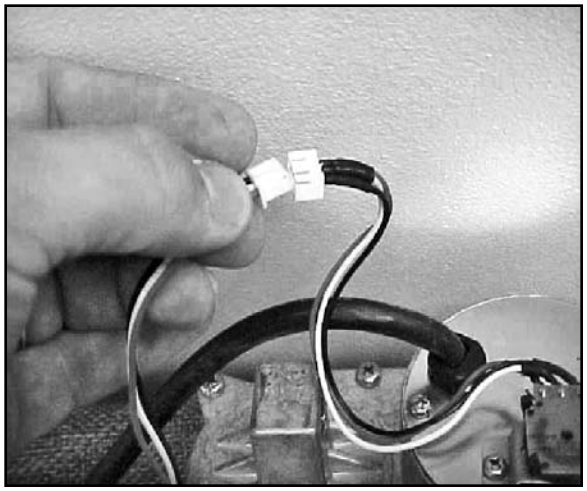


Figure 2:

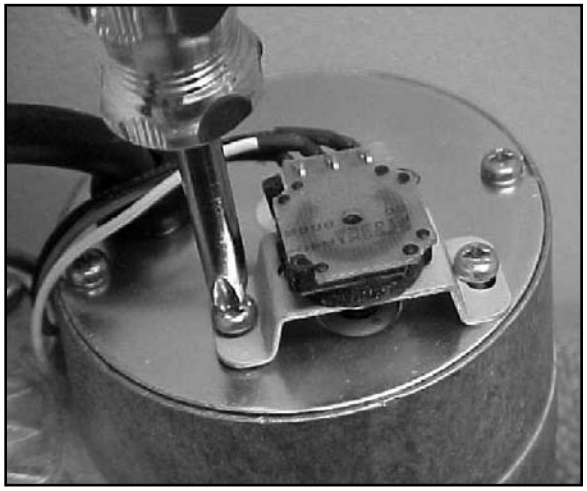
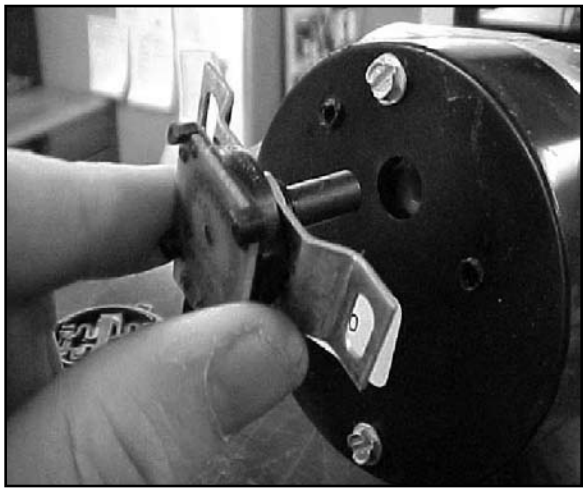


Figure 3:



4-7 Reinstall the elevation potentiometer (see Figure 4) - taking note of the flat spot on the shaft of the pot in relation to the flat spot on the cam inside the elevation motor (see Figure 5).

NOTE: Do not force the elevation pot. It should mate up with little or no pressure.

4-8 Reconnect the elevation cable to the potentiometer making sure that the colors on the two wires match up.

4-9 Replace the motor cover first, then replace the lower outer plastics using (4) Phillips head screws per side. Replace the lower inside upright plastic covers using (4) Phillips head screws, per side.

NOTE: Be sure that all wires are secure and out of the way of any moving parts during reassembly.

4-10 Recalibrate the treadmill (see Appendix 4).

Figure 4:

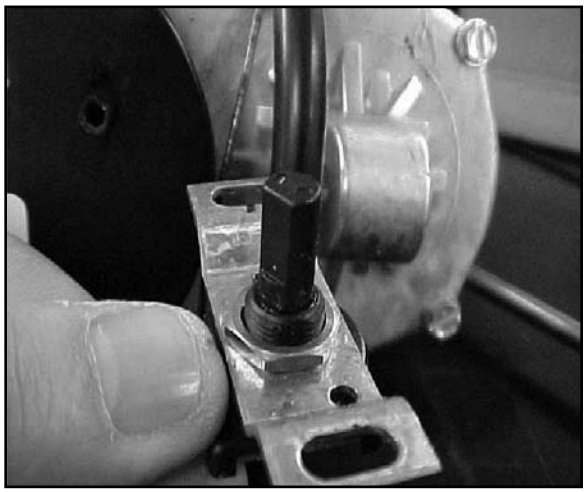


Figure 5:

5.0 - REPLACEMENT OF WALKING BELT

Tools Needed:

- Phillips Screwdriver
- 1/2 inch wrench

NOTE: If using a powered driver, it must be on the "LOW TORQUE" setting, otherwise it will strip screws.

WARNING

AS LONG AS THE TREADMILL IS PLUGGED INTO A POWERED OUTLET AND THE TREADMILL CIRCUIT BREAKER IS ON, THE UNIT IS RECEIVING POWER, EVEN IF THE DISPLAY IS TURNED OFF. ALWAYS UNPLUG THE POWER CORD FROM THE OUTLET AND TREADMILL WHEN PERFORMING REPAIRS OR MAINTENANCE.

IMPORTANT! The followings instructions, given as if you were standing on the treadmill ready to exercise, will explain how to replace a walking belt by sliding it off the left side of the treadmill, and replacing it with a new belt. The instructions should be followed in the exact sequence listed.

5-1 Elevate the treadmill, secure power and then unplug the power cord from the wall outlet.

5-2 Remove (4) Phillips head screws with a Phillips screwdriver from the inside lower upright plastic cover and (4) Phillips head screws from the outer right side plastic cover. Remove the right side outer plastic cover (see Figure 1).

5-3 Repeat Step 5-2 on the left side.

5-4 Remove the motor cover (see Figure 2 and 2A).

Figure 1:

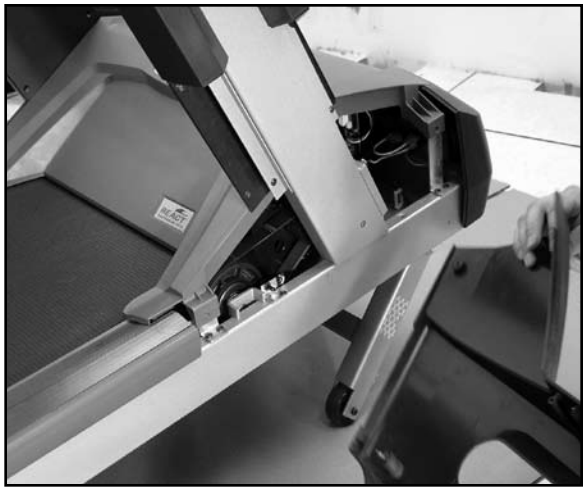
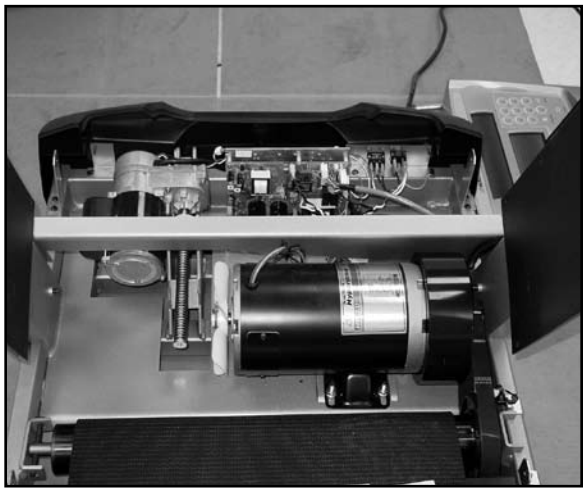


Figure 2:

Figure 2A:



5-5 Loosen the motor tension bolt (see Figure 3) using a 1/2 inch wrench and then loosen the (4) 1/2 inch nuts and bolts (heads located under the motor pan) securing the motor base to the pan, allowing the motor to slide towards the belt.

5-6 Slide the drive belt off the pulley on the end of the motor shaft.

5-7 Remove the front and rear roller following the instructions for replacement of the front and rear roller (Section 1: Replacement of Crowned Front Roller and Section 3: Replacement of Crowned Rear Roller).

5-8 Place the treadmill on its right side (motor side towards the floor).

5-9 Remove the (4) nuts on the underside of the walking board (see Figure 4 and 4A) and loosen the other (4) tall isolators nearest the floor.

5-10 Remove the walking belt by sliding it off the left side of the walking board.

NOTE: It will be necessary to raise the left side of the board slightly from the frame to give clearance to slide off the belt (see Figure 5).

5-11 Install the new belt by sliding it over the front and rear rollers from the left side of the treadmill.

5-12 Reattach the walking board to the frame using the (4) nuts and isolators removed in Step 9. Check the remaining nuts and isolators and tighten.

5-13 Attach the front and rear roller to the frame following the instructions for replacement of front and rear roller (Section 1: Replacement of Crowned Front Roller and Section 3: Replacement of Crowned Rear Roller).

Figure 3:

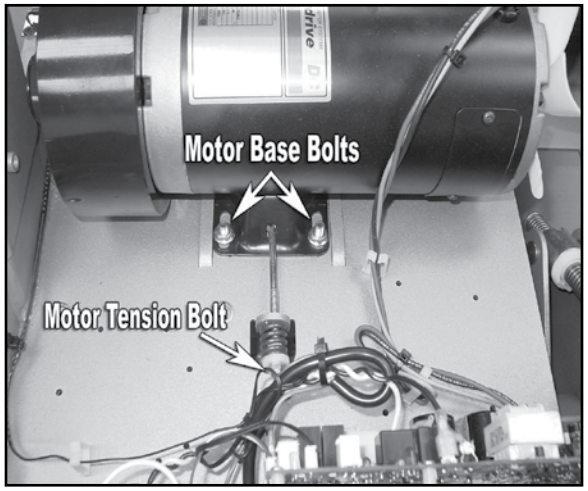


Figure 4:

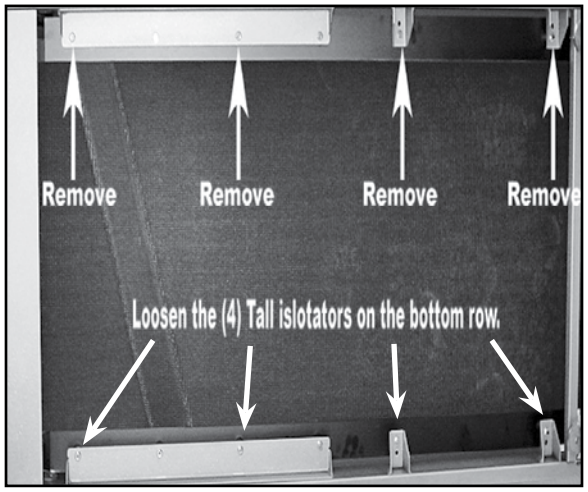
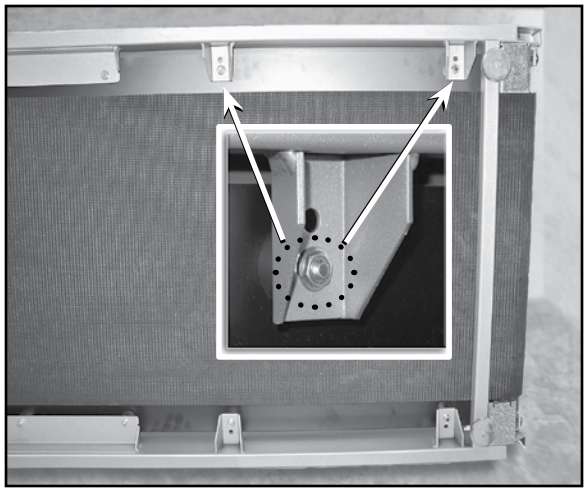


Figure 4A:

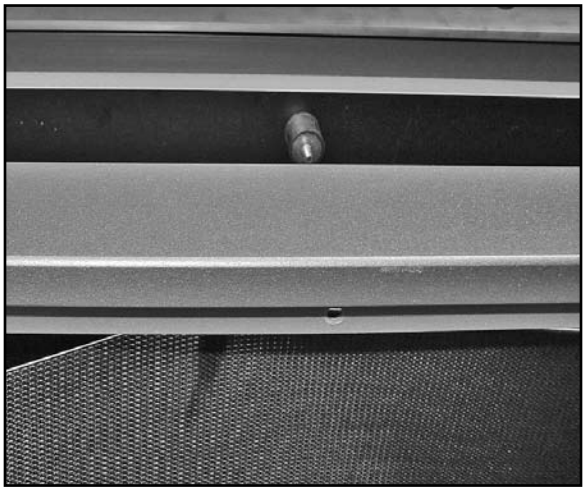


5-14 Place the drive belt over the motor pulley and the drive pulley. Tighten the nut on the motor tension bolt until the spring is nearly closed and tighten the 4 bolts on the motor base.

5-15 Check for proper belt tension following the Walking Belt Tension Adjustment and Tracking Adjustment procedures in Appendix 3.

5-16 Replace the motor and plastic covers.

Figure 5:



6.0 - REPLACEMENT OF WALKING DECK

Tools Needed:

- Phillips Screwdriver
- 1/2 inch Wrench

NOTE: If using a powered driver, it must be on the "LOW TORQUE" setting, otherwise it will strip screws.

WARNING

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6-1 Elevate the treadmill, turn off the power, and unplug the power cord from the wall outlet.

6-2 Remove (4) Phillips head screws with a Phillips screwdriver from the inside, lower upright plastic cover and (4) Phillips head screws from the outer right side plastic cover. Remove the right side plastic cover (see Figure 1).

6-3 Repeat Step 6-2 on the left side.

6-4 Remove the motor cover (see Figure 2).

6-5 Loosen the motor tension bolt (see Figure 3) using a 1/2 inch wrench and then loosen the (4) 1/2 inch nuts and bolts (bolt heads located under the motor pan) securing the motor base to the pan. This will allow the motor to slide towards the belt.

6-6 Slide the drive belt off the pulley on the end of the motor shaft.

Figure 1:

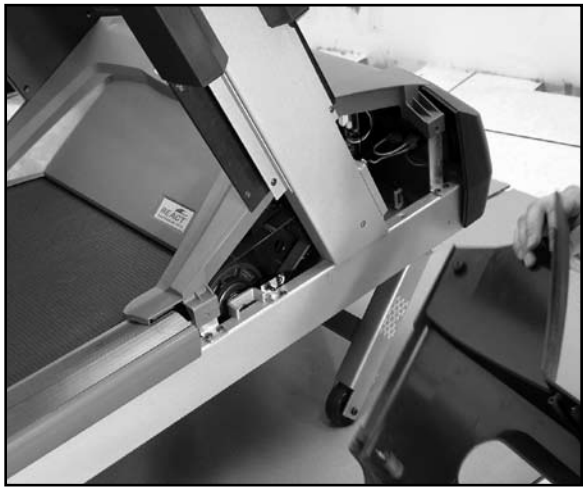
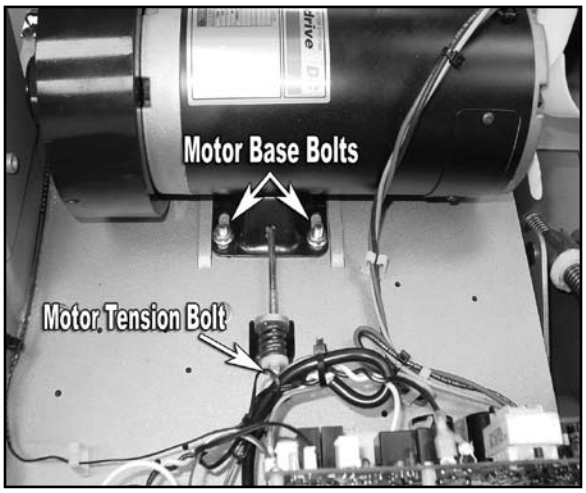


Figure 2:

Figure 3:



6-7 Remove the front and rear roller following the instructions for Replacement of Crowned Front Roller (Section One) and Replacement of Crowned Rear Roller (Section Three).

6-8 Place the treadmill on its right side (motor side towards the floor).

6-9 Remove (8) nuts (tall isolators) on the underside of the walking board (see Figure 4 and 5).

NOTE: Do Not remove the (4) short isolators from the frame.

6-10 Remove the (8) screws holding the side rails on from the under side of the board. Remove the side rails (see Figure 6). Also remove the belt guides.

6-11 Install the new board to the side rails and isolators. Slide the walking belt over the walking board before installing the walking board to the frame. Re-attach the walking board to the frame using the (8) bolts and isolators removed in Steps 6-9 and 6-10.

6-12 Check the remaining nuts and isolators and tighten.

6-13 Attach the front and rear rollers following the instructions for Replacement of Crowned Front Roller (Section One) and Replacement of Crowned Rear Roller (Section Three).

6-14 Place the drive belt over the motor pulley and the drive pulley. Tighten the nut on the motor tension bolt until the spring is nearly closed and tighten the 4 bolts on the motor base.

6-15 Check for proper belt tension following the Walking Belt Tension Adjustment and Tracking Adjustment in Appendix 3.

6-16 Replace the motor cover and side plastic covers.

Figure 4:

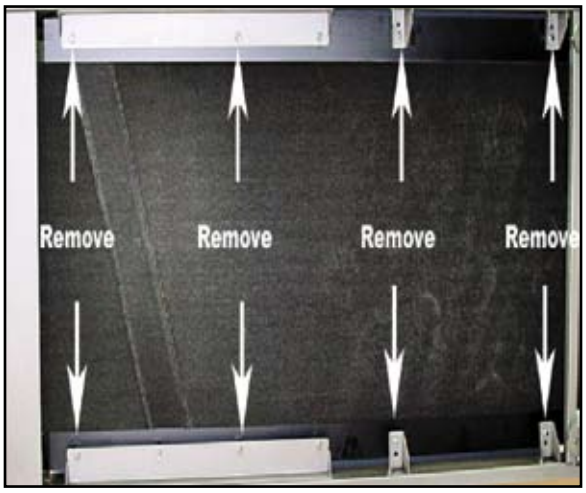


Figure 5:

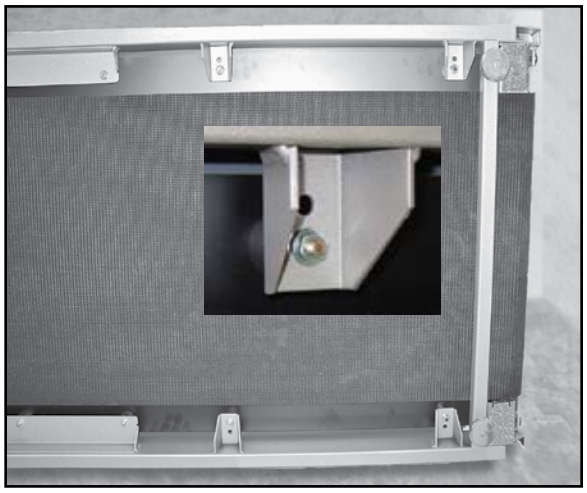
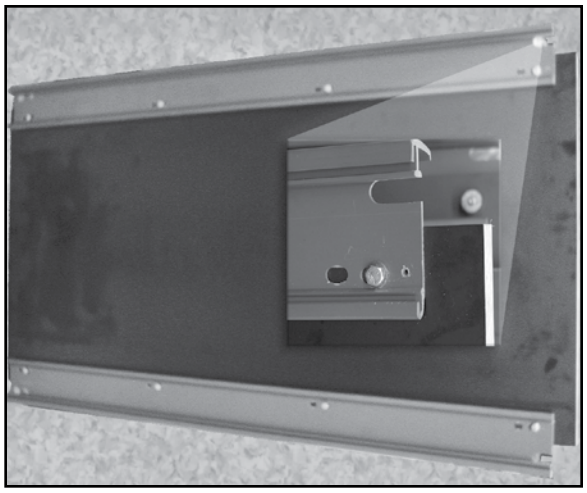


Figure 6:



7.0 - REPLACEMENT OF UPPER ELECTRONICS

Tools Needed:

- Phillips Screwdriver

NOTE: If using a powered driver, it must be on the "LOW TORQUE" setting, otherwise it will strip screws.

WARNING

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7-1 Turn off the power switch and unplug the treadmill from the wall outlet.

7-2 To access the electronic board remove the (6) Phillips head screws holding the access panel in place (see Figure 1).

7-3 Remove all of the jumper wires (see Figure 2 and 2A).

7-4 Remove the (4) small Phillips screws holding the electronics to the console and remove the electronics (see Figure 2).

7-5 Reinstall the new electronics making sure the area between the electronics and the plastic console is free of any obstructions.

7-6 Plug all wires into their original positions making sure that each has made a good contact and replace mounting screws.

7-7 Recalibrate the electronics (see Appendix 4).

Figure 1:

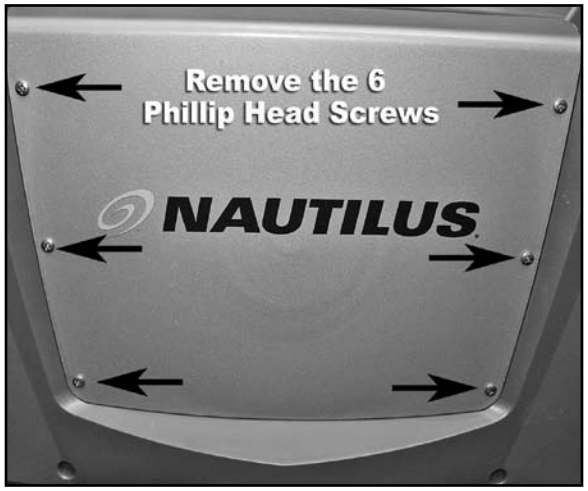

Figure 2:

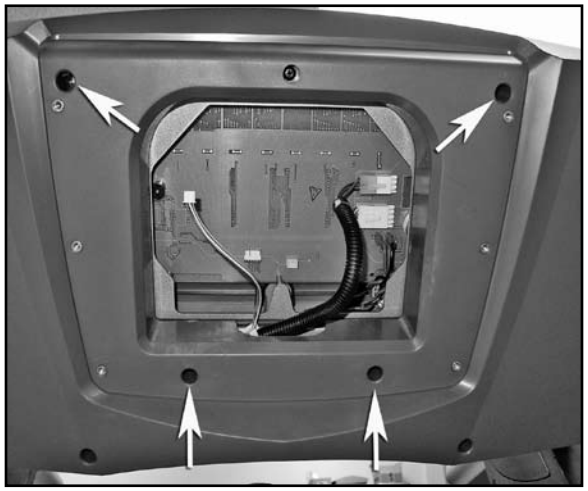

Figure 2A:

8.0 - REPLACEMENT OF ELEVATION MOTOR

Tools Needed:

- Phillips Screwdriver
- Flat Head Screwdriver
- Flat Wooden Blocks

NOTE: If using a powered driver, it must be on the "LOW TORQUE" setting, otherwise it will strip screws.

WARNING

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IMPORTANT! The treadmill should be at its lowest elevation position before performing the steps to replace the elevation motor.

8-1 Unplug the treadmill.

8-2 Remove (4) Phillips head screws with a Phillips screwdriver from the inside, lower right upright plastic covers and (4) Phillips head screws from the outer right side plastic covers. Remove the right side outer plastic cover (see Figure 1).

8-3 Repeat Step 8-2 on the left side.

8-4 Remove the motor cover (see Figure 2).

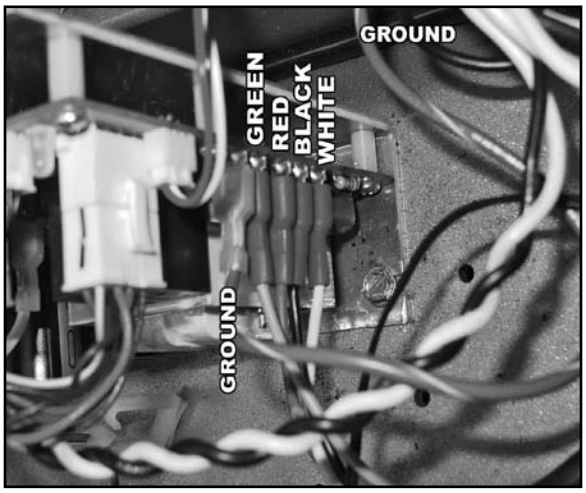
8-5 Unplug the motor wires from the control board (Figure 3) and the elevation potentiometer from the elevation jumper (see Figure 3A).

8-6 Place blocks under the corners of the treadmill to lift the front.

Figure 1:

Figure 2:

Figure 3:



8-7 Locate the two pins, secured by E-clip, that attach the elevation motor to the swing arm assembly. Remove the E-clip, securing the pin furthest from the elevation motor, with a Flat Head Screw Driver (see Figure 4).

8-8 Remove the pin to free the swing arm.

8-9 Remove the clip and bolt securing the elevation motor to the frame brackets (see Figure 5).

8-10 Lift and remove the motor.

8-11 Prepare the elevation motor for instillation by positioning the collar so 3 threads are seen at motor end.

8-12 Attach the elevation motor to the frame with the clip and bolt removed in Step 8-9.

8-13 Position the threaded shaft collar so pin hole is aligned with the collar pin hole.

8-14 Replace the (2) pins removed in Step 8-7 and secure pins with E-Clips (see Figure 5).

8-15 Connect elevation motor wires to control board and elevation pot to jumper.

8-16 Remove block supports from front of treadmill.

8-17 Recalibrate elevation per Appendix 4.

8-18 Re-attach the motor cover following Steps 8-2, 8-3 and 8-4 in reverse.

Figure 5:

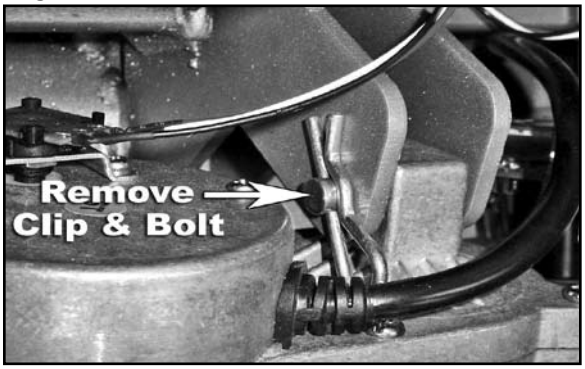


Figure 3A:

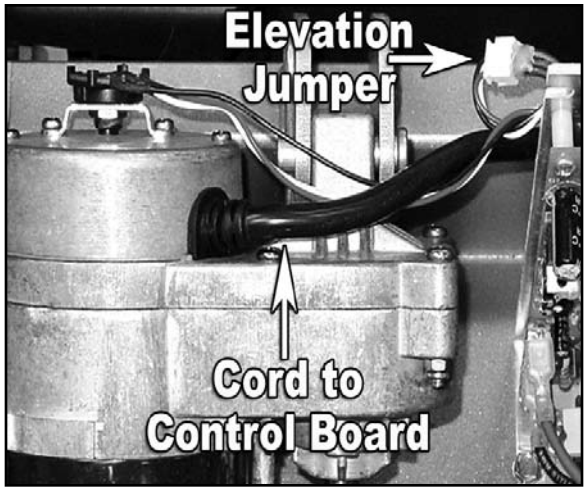


Figure 4:

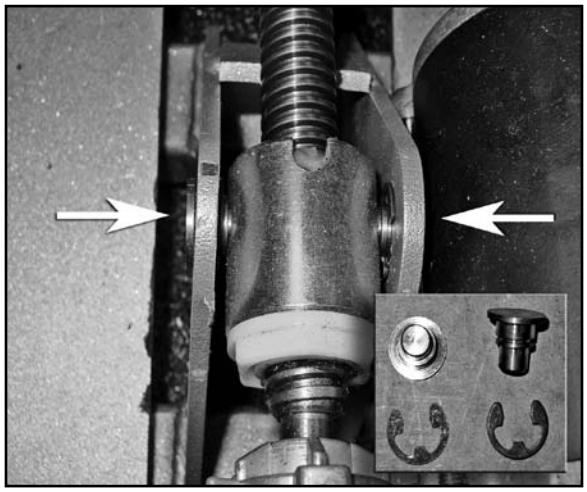
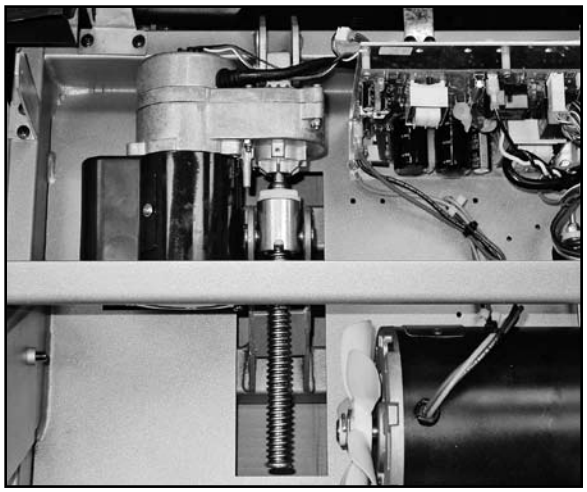


Figure 6:



9.0 - REPLACEMENT OF COMBO BOARD

Tools Needed:

- Phillips Screwdriver
- 1/2 inch wrench

NOTE: If using a powered driver, it must be on the "LOW TORQUE" setting, otherwise it will strip screws.

WARNING

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9-1 Turn off the power switch and unplug the treadmill from the wall outlet.

9-2 Remove (4) Phillips head screws with a Phillips screwdriver from the inside, lower right upright plastic cover and (4) Phillips head screws from the outer right side plastic cover. Remove the right side outer plastic cover (see Figure 1).

9-3 Repeat Step 9-2 on the left side.

9-4 Remove the motor cover.

9-5 Unplug all the wires from the combo board noting where each wire is located (see Figure 2).

9-6 Remove the combo board from the mounting bracket by removing (2) Phillips head screws and (2) Hex head bolts (see Figure 3).

9-7 Install the new combo board (see Figure 3A) utilizing the existing (2) Phillips screws and (2) Hex head bolts.

Figure 1:

Figure 2:

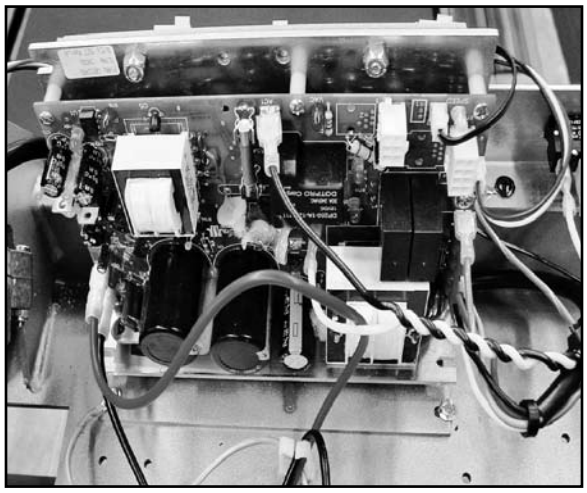
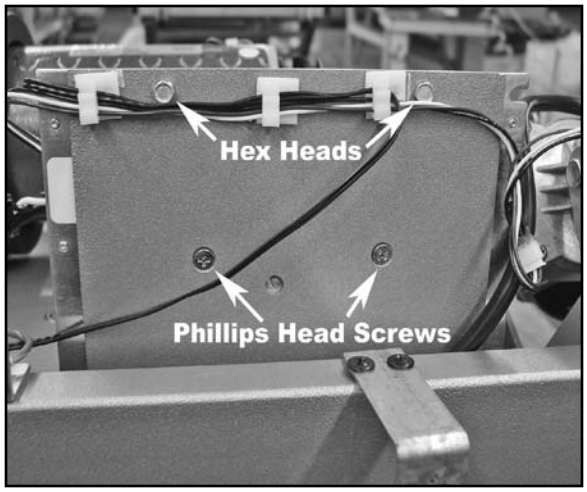


Figure 3:



9-8 Plug the wires into the new dual board using the wiring diagram provided in Appendix 1 and 2 .

9-9 Plug the power cord into the wall outlet and start the treadmill. If the waking belt has a surging motion you can correct this by slightly turning the "IR Comp" adjustment pot on the dual board (see Figure 4 and 4A).

9-10 If the belt speed is too low during calibration adjust the max "speed" pot to achieve proper setting. After changing these settings you should recalibrate (see Figure 4 & 4A).

9-11 Replace the motor cover first, then replace the lower outer plastic covers using (4) Phillips head screws per side, and the lower inside upright plastic cover using (4) Phillips head screws per side.

Figure 3A:

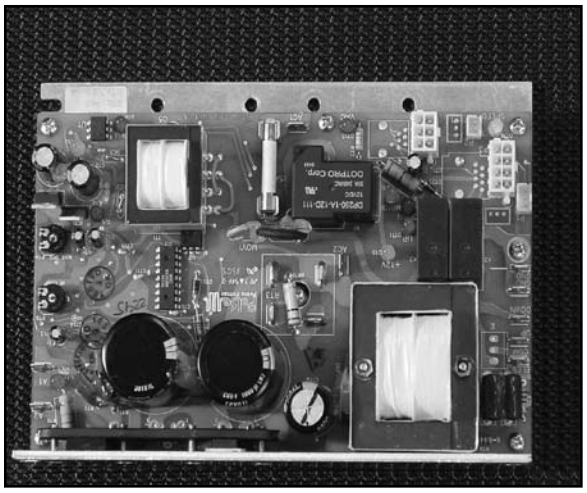


Figure 4:

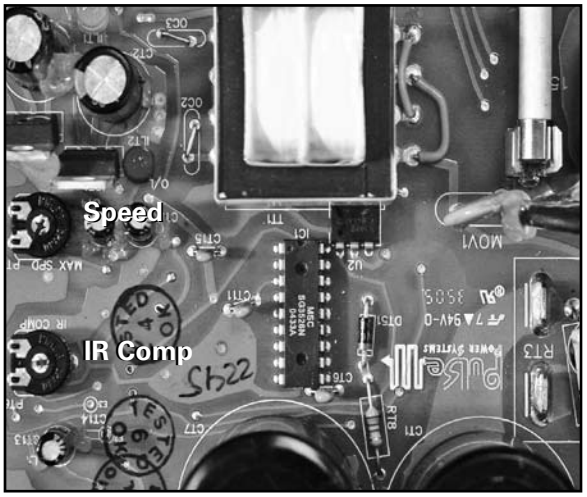
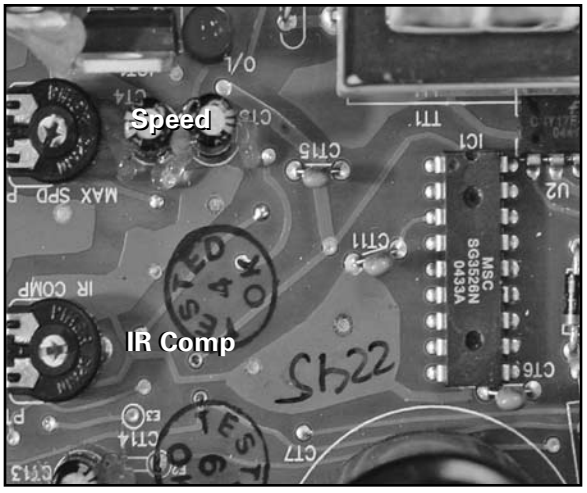


Figure 4A:



	Condition / Problem	Things to Check	Solution
1.	**Knocking noise under the motor cover or at the rear of the treadmill.**	Front and rear roller	Let the rollers run for a week. Sometimes bearings will seat and quiet down.
			Roller continues to knock, replace the roller.
		Running belt tension	If running belt is overtightened, it will put excessive load on roller bearings. Loosen roller adjustment bolts and check for slippage.
		Flywheel / Pulley on applicable motors	Tighten set screw (5/32) on flywheel / pulley.
		white 6 inch fan on applicable motors	Make sure that the 6 inch fan is not hitting anything.
2.	**Chirping or squeaking noise under motor cover.**	Drive Belt Alignment	Adjust the motor pulley and align with roller pulley.
		Drive Belt Grooves	Remove drive belt and check grooves in belt for foreign matter or debris. Clean and/or replace belt. Clean drive motor pulley and roller pulley grooves.
		Motor Brushes on T516 or T518 units only	Remove and inspect the motor brushes. Sand brush surface and clean commutator surface and reinstall.
3.	**Walking belt slips.**	Walking Belt Tension	Tighten walking belt tension. **NOTE: Do Not over tighten walking belt.**
		Drive Belt Tension	Loosen the 4 motor bolts and then tighten the drive belt adjustment bolt, (approximately 2-3 turns) then re-tighten the 4 motor bolts.
		Belt/Deck Lubrication	Spray with NAPA 8300®, Pyroil Silicone® Lubricant or Lube-N-Walk®
		Deck Surface	Check the deck surface and make sure the surface is in good condition and not worn.
4.	**Walking belt hesitates or seems to stick when stepped on.**	Walking Belt Tension	Is the walking belt overtightened? Loosen the walking belt adjustment bolts at the rear roller. Check for slippage.
5.	**Speed loss when treadmill is walked on.**	Belt/Deck Lubrication	Lubricate belt/deck with Napa 8300® or Pyroil Silicone® lubricant or Lube-N-Walk®.
6.	**Motor is making high pitched noise (T516 or T518 models)**	Motor Brushes	Remove and inspect motor brushes. Sand brush surface and clean the commutator and reinstall the brushes.

	Condition / Problem	Things to Check	Solution
		Motor Bearings	Replace the motor.
7.	**No elevation up or elevation down or no elevation but will calibrate.**	Elevation Calibration	See Calibration Procedure in the appendix section. Check the I/O cable connections at console and dual board.
		Elevation Pot Values	During elevation calibration, you should see values from elevation pot in main display screen lower left. The values should count up or down during the elevation calibration procedure. If no value appears as elevation motor moves, then calibration will fail. Check wire from pot to lower control board (LCB) and gray wire connection in 8 PIN I/O cable.
			If value does not change as motor moves, then remove elevation pot and check for ohms reading changes as pot shaft is turned, from white to red and white to black. If ohms readings do not change then replace pot. If readings change test pot jumper. If jumper tests good replace elevation motor.
		Signal to LCB from Console	Apply safety key, then press the START button. When you press the INCLINE UP button, if the Up LED light on the Dual Board does not come on, check VDC between Green and Yellow wires in the 8 PIN I/O cable. Assure Green wire is securely seated in all plugs. If voltage is present, replace LCB. If no voltage can be read replace Upper Electronics. If LED lights up, then you will need to check the elevation pots at Elevation Common and the up post and you should be getting 120 volts. If you are getting 120 volts then you will need to replace the Elevation Motor. If you do not get 120 volts then you will need to replace the LCB.
		Elevation Rheostat and the jumper to the Dual Board.	Check the connectors, if good, replace: 1st - The Elevation Rheostat and jumper to the Dual Board. Then calibrate the elevation.
			2nd - Replace the I/O cable.
			3rd - Replace the Upper Electronics.
			4th - Replace the Dual Board.

	Condition / Problem	Things to Check	Solution
8.	**No Power.**	Power Source	Check for power at outlet.
		Safety Key (Magnetic)	Make sure Safety Key is in place.
		Treadmill Circuit Breaker Switch	Reset or replace the circuit breaker (check continuity on the circuit breaker).
		Dual Board LED's	If the 115VAC and +12V LED are off, check household circuit breaker. If good check the 15 amp fuse on the Dual Board. If both are good then replace the power cord.
		If 115VAC light is on and 12V light is off	Replace Dual Board.
		If both 115VAC and 12V lights are on	Insert Safety Key. If LED's flash, replace the upper electronics
9.	**No belt movement with elevation.**	Signal to Dual Board	Check the following LED lights and make sure they are lit in the Dual Board: 1 - DT6/MC PWM 2 - DT9/Motor Power 3 - ILT4/Arm Volt If the DT6/PWM LED is not lit, then you will need to check Yellow wire seating in 6-pin I/O plugs and check VDC between Blue and Yellow wires. If reading 12 VDC+ then replace LCB. If not, replace Upper Electronics. If the MC/Sig LED is lit and the other 2 are not, you will need to replace the Dual Board.
			If all 3 of the LED's are not lit then you will change 1) the I/O cables, 2) the upper Electronic Board.
			If all 3 LED's are lit, then check for DC voltage at the A1 & A2 posts. If you are getting DC voltage then change the Motor, if not then change the Dual Board.
10.	**Fuses continue to blow or circuit breaker switch trips.**	Running Belt	Check the lubrication between the belt and deck. If the lubrication is good, then check the condition of the deck surface and the surface on the underneath side of the belt. Also check the tension of the walking belt.
11.	**Console powers up, No belt movement, No elevation.**	I/O Cable Connectors	Check I/O cables.

	Condition / Problem	Things to Check	Solution
		Dual Board	Press POWER button, then the START button. On the Dual Board the VAC, +12V, MCSig, -15V, and the ARM Volt LED's should be lit. If not: 1 - Replace the Upper Electronics 2 - Replace the Dual Board
12.	**Segments Missing.**		Replace Upper Electronics.
13.	**No Speed Reading**	Front Roller Pulley	Does the front roller pulley have a magnet? If not replace the front roller.
		Speed Sensor	Is the speed sensor in line with the magnet on the front roller pulley? Speed sensor needs to be approximately 1/8 inch away from magnet. If that is okay, then make sure that the DT-6/SPEED LED is lit, as the magnet passes the speed sensor. If it is not replace speed sensor.
		I/O Cables	Check the I/O cable.
14.	**Electronics shut down when changing speed or elevation during workout.**	Electronics	Replace the Upper Electronics board.
15.	**Treadmill surges at low speeds.**	IR Comp on Motor Controller	At 0.5 MPH using a step and stopping to feel if surging is occuring. Adjust the IR Comp on the Dual Board. Set the speed at approximately 2.0 MPH. Turn the IR Comp counter clockwise very slowly counter clockwise until the surging stops. If you turn the IR Comp down all the way and it still surges, then replace the Dual Board.
16.	**Heart Rate does not read consistently.**	Appliances	Check to see that TV's, computers, two way radios, microwaves, etc are not operating anywhere within approximately 8-10 feet of the treadmill.
		Chest Strap	Try the Chest Strap upside down, then check the Chest Strap out on the floor model or check another Chest Strap at the customer's location which ever is more convenient. Make sure the Chest Strap is being positioned correctly, moistened well and pulled tight.

	Condition / Problem	Things to Check	Solution
		Heart Rate Receiver	Try the following 3 procedures: 1 - Move the Heart Rate Receiver as far away from the upper electronics as possible. 2 - Mount the Heart Rate Receiver to the upright. 3 - Mount the Heart Rate Receiver using a small piece of foam to soften the vibration. Or replace Heart Rate Receiver.
		Electronics	If all of the above is fine, then change the electronics and calibrate.
17.	**Speed Display is inaccurate.**	Electronics in MPH or KPH	Push the START button - the speed should be at .5 MPH. If at .8 KPH, it is in KPH mode. Change to MPH. See the Conversion to Metric Procedure.
18.	**Rock BAR does not work.**	Check Connection to Console and Check Connection to Rock BAR CHN	If all connections are okay change cable. If still does not work, change Rock BAR.
19.	**Grip Heart Rate Monitor.**	Connection to the Grip Heart Rate. Connection to the Heart Rate Board. Check for any damage to the cable from Grip to HR-board.	If all connections are okay, change HR-board.
20.	**Speed Display is Inaccurate.**	Calculate the Belt Speed.	Set speed at 3 MPH and count revolutions of running belt in 1 minute. Then do the following calcualtion: T514 or T516: (Revolutions x 10.2917 x 60) divided by 5280 = _____ MPH. T518: (Revolutions x 10.7917 x 60) divided by 5280 = _____ MPH.

CONSOLE CODE ERRORS

During calibration, all 3 electronics, could display:

"CAL FAIL" AUTO CALIBRATION HAS EXCEEDED 3 MINUTES

NOTE: Error is normally speed related.

- Make sure the PWM does not exceed 250.

"CAL FAIL ERR EL" INDICATES GRADE POT OR GRADE MOTOR FAILURE

- Check wire connection especially connection from actuator to LCB and from LCB to upper board by making sure there is no loose connection. If no loose connection change the code/wire. In case none of these work change the actuator (in isolated incidences you may need to change LCB).
- Before changing parts try to recalibrate the unit this in some cases solves the problem.
- Could be due to any of the Grade Errors Listed Below.

NOTE: LE Operating error codes will freeze electronics. Switch by power cord must be recycled - turn the switch off for 30 seconds.

"ERR LS" INDICATES LOSS OF SPEED SENSOR SIGNAL

NOTE: If belt moves Sensor could be out of position or wire connection.
If belt does not move wire connection or Lower Control Board.

- If you had belt movement before this error was displayed, check speed sensor and make sure it is close enough to pick up a signal from the magnet. Also try to manually move the belt and see if LED (DT16) will light up.

"ERR OS" OVER SPEED

NOTE: Signals indicate belt is moving faster than speed called for by 3 MPH or higher.

- Check sensor position and recalibrate.

"ERR GRD1" GRADE MOTOR STALLS OR OVERHEATS

Occurs when grade change is called for but pot signal does not change in 4 seconds.

- Check grade LED bulbs on Lower Control Board (LCB) when grade up or down is pressed to assure signal is received at LCB.

NOTE: If DT11 is lit on LCB use voltmeter to check for household voltage between Elevation WHITE wire and BLACK wire. If it is lit but there is no voltage then replace LCB. Or if there is voltage but no

movement then replace elevation motor.

"ERR GRAD2" GRADE MOTOR MOVES WITHOUT COMMAND

Indicates grade pot count changes by 3% or more.

- Change grade motor.

"ERR GRAD3" GRADE POT COUNT IS 1%+ OUT OF CALIBRATED RANGE

- Recalibrate and if not corrected then replace motor.

LE STUCK KEY TEST

At power up if any key switch in overlay is stuck the appropriate error code will identify which key.

NOTE: Pressing key may free up switch but overlay should be replaced.

KEY:	ERROR DISPLAYED:
STOP	"Err STOP"
UP	"Err UP"
DOWN	"Err DOWN"
FAST	"Err FAST"
SLOW	"Err SLOW"
ENTER	"Err ENTER"
START	"Err START"
PROGRAM	"Err PROGRAM

NOTE: LEX and LC error codes will freeze electronics. Switch by power cord must be recycled- turn the switch off for 30 seconds.

"LOSS OF SIGNAL"

SEE "ERR LS" ABOVE.

"OVERSPEED ERROR"

SEE "ERR OS" ABOVE.

"GRADE ERROR 1"

SEE "ERR GRD1"ABOVE.

"GRADE ERROR 2"

SEE "ERR GRAD2" ABOVE.

"GRADE ERROR 3"

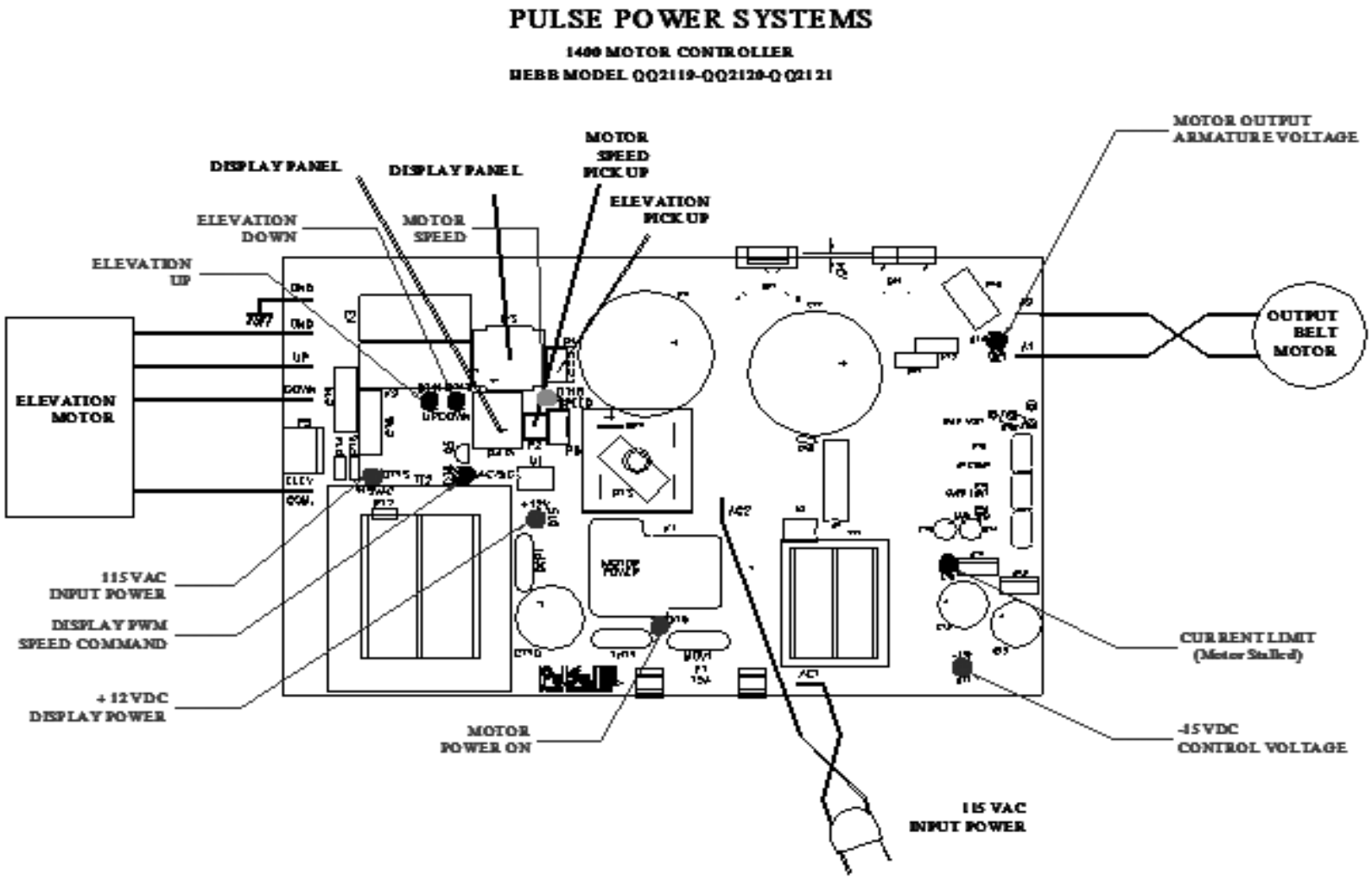
SEE "ERR GRAD3" ABOVE.

LC STUCK KEY TEST

At power up if any key switch in overlay is stuck the appropriate error code will identify which key.

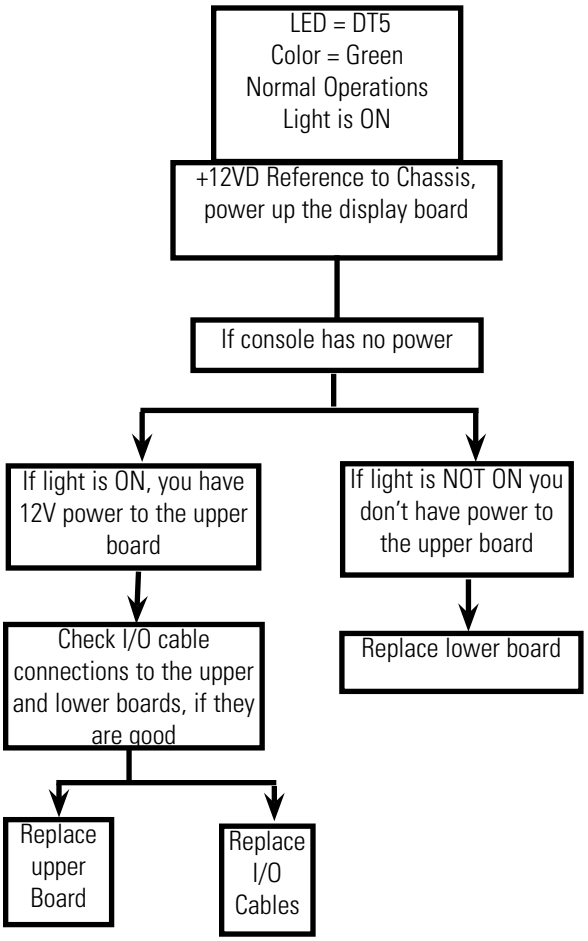
NOTE: Pressing key may free up switch but overlay should be replaced.

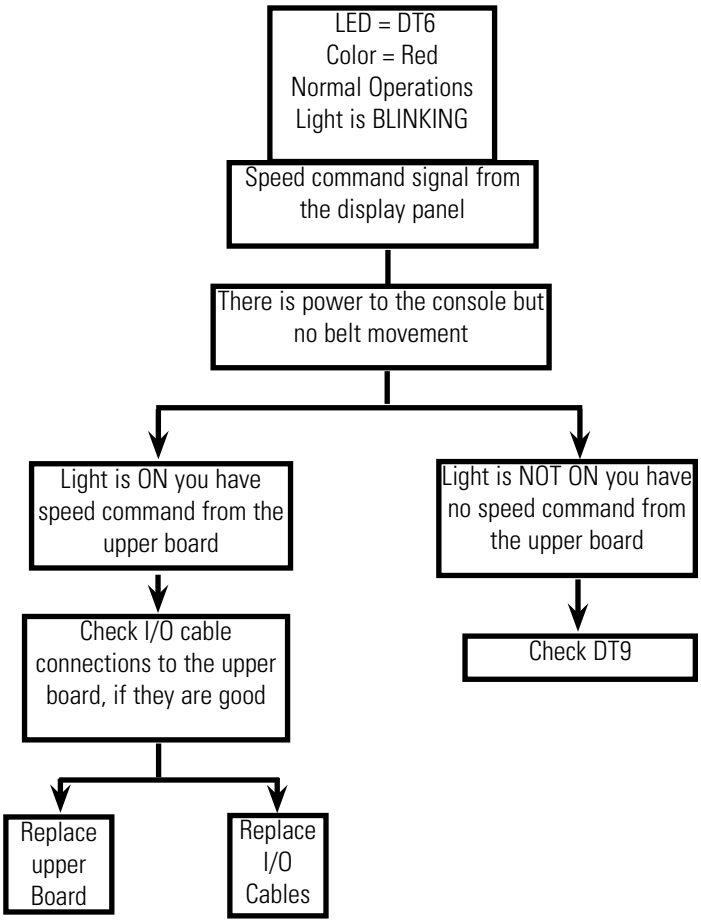
KEY:	ERROR CODE:
0	"Err 0"
1	"Err 1"
2	"Err 2"
3	"Err 3"
4	"Err 4'
5	"Err 5"
6	"Err 6"
7	"Err 7"
8	"Err 8"
9	"Err 9"
STOP	"Err STOP"
UP	"Err UP"
DOWN	"Err DOWN"
FAST	"Err FAST"
SLOW	"Err SLOW"
ENTER	"Err ENTER"
START	"Err START"
SCAN	"Err SCAN"
USER	"Err USER"
PROGRAM	"Err PROGRAM"

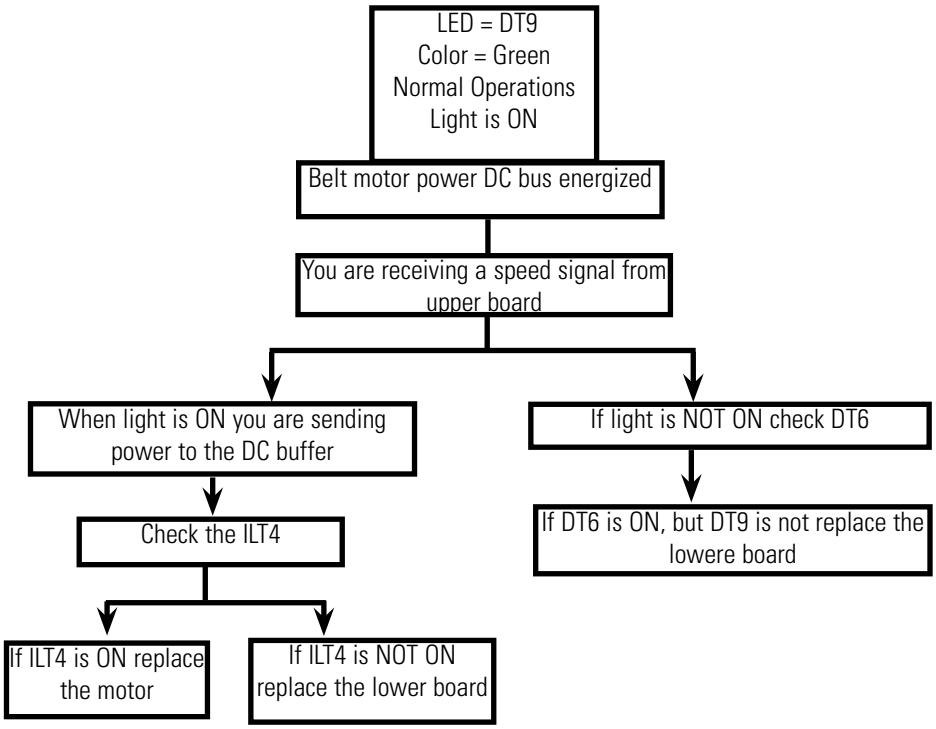


LED #	Color	Function
DT5	Green	+12VDC Reference to Chassis, powers up the display board.
DT6	Red	Speed command signal from the display panel.
DT9	Green	Belt motor power DC bus energized.
DT11	Red	Elevation up relay on.
DT13	Red	Elevation down relay on.
DT15	Green	(220 volt models) Red (110 volt models) AC input power on.
DT16	Yellow	Belt speed indicator.
ILT1	Green	-15VDC Reference to logic common., powers up control logic.
ILT2	Red	Motor at current limit indicator.
ILT4	Red	Belt motor armature voltage level.

1400 MOTOR CONTROLLER - FREESPIRIT MODELS QQ2187 - QQ2197







MANAGEMENT MENU

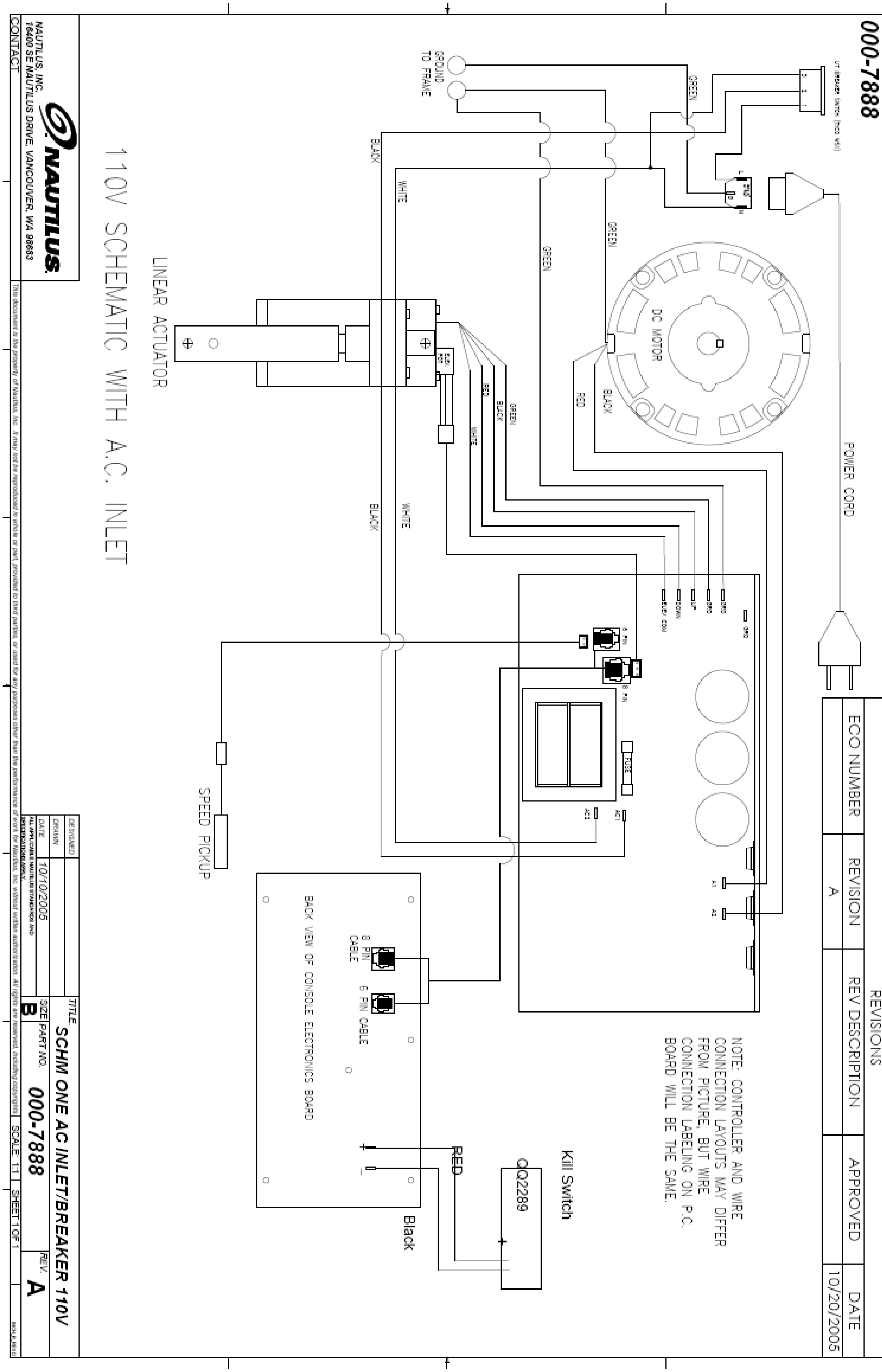
To access the Management Menu, press and hold the SPEED UP and SPEED DOWN Keys for three seconds while in Standby Mode. Treadmill is now in Management Menu Mode.

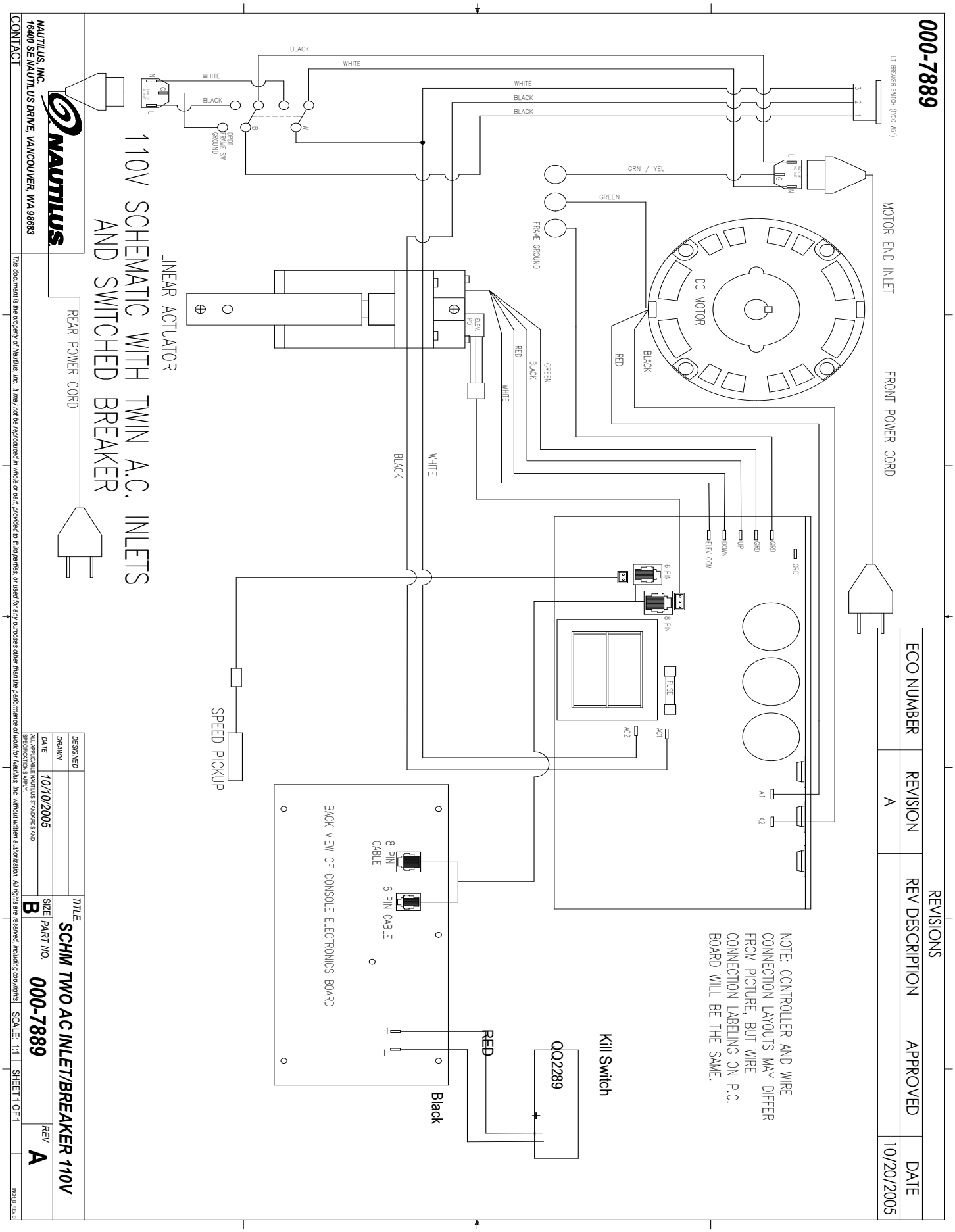
LE Display:

1. **TOTAL HOURS** will be shown on the display, press ENTER Key to advance.
2. **TOTAL MILES/KMs** will be shown on the display, press ENTER Key to advance.
3. **UNITS** will be shown on the display, press SPEED UP/DOWN or INCLINE UP/DOWN to change units from English to Metric or from Metric to English. Press ENTER Key to advance.
4. **SOFTWARE VERSION** will be shown on the display, press ENTER Key.
5. Treadmill will now exit Management Menu Mode and return to the Standby Mode.

LE-X and LC Display:

1. **TOTAL HOURS** will be shown on the display, press the ENTER Key to advance.
2. **TOTAL MILES/KMs** will be shown on the display, press the ENTER Key to advance.
3. **MAX SPEED** will now be shown on the display and the treadmill's current maximum operating speed will be displayed. To change this max speed use the SPEED UP/DOWN Keys or numeric keypad and press the ENTER Key to confirm. Note: The treadmill is preset from the factory to its highest operating speed. If the treadmill is to be used in an unsupervised area, limit the MAX SPEED to a lower value.
4. **MAX TIME** will now be shown on the display and the treadmill's current maximum workout time will be displayed. The time can be adjusted up or down using the SPEED UP/DOWN Keys or numeric keypad if you wish to limit the maximum workout time. Press the ENTER Key to confirm and advance.
5. **UNITS – ENGLISH** will now be shown in the display. Use the SPEED UP/DOWN Keys to select between ENGLISH or METRIC units. Press the ENTER Key to confirm and advance.
6. ***(LC Model Only)* UP LCD CONTRAST** will now be shown in the display window. Use the SPEED UP/DOWN Keys to adjust the display contrast for the upper display window as needed. Default value is 7. Press the ENTER Key to confirm and advance.
7. ***(LC Model Only)* LOW LCD CONTRAST** will now be shown in the display window. Use the SPEED UP/DOWN Keys to adjust the display contrast for the dot matrix window as needed. Default value is 7. Press the ENTER Key to confirm and advance.
8. **LANGUAGE** – ENGLISH will now be shown in the display. Use the SPEED UP/DOWN Keys to select English, French, German or Spanish languages. Press the ENTER Key to confirm and advance.
9. **SOFTWARE VERSION** will now be shown in the display. Press ENTER Key.
10. Treadmill will now exit Management Menu Mode and return to the Standby Mode.


000-7888
GROUND TO FRAME
GREEN
BLACK
WHITE
RED
DC MOTOR
POWER CORD
LINEAR ACTUATOR
110V SCHEMATIC WITH A.C. INLET
SPEED PICKUP
FUSE
6 PIN
8 PIN
8 PIN CABLE
6 PIN CABLE
BACK VIEW OF CONSOLE ELECTRONICS BOARD
Kill Switch
QQ2289
Black
NOTE: CONTROLLER AND WIRE CONNECTION LAYOUTS MAY DIFFER FROM PICTURE, BUT WIRE CONNECTION LABELING ON P.C. BOARD WILL BE THE SAME.
REVISIONS
ECO NUMBER
REVISION
REV DESCRIPTION
APPROVED
DATE
A
10/20/2005
NAUTILUS, INC.
16400 SE NAUTILUS DRIVE, VANCOUVER, WA 98683
NAUTILUS
CONTACT
DESIGNED
DRAWN
DATE
10/10/2005
TITLE
SCHM ONE AC INLET/BREAKER 110V
SIZE
B
PART NO.
000-7888
REV.
A
SCALE: 1:1
SHEET 1 OF 1



Tension Adjustment

Tools Needed:
- Hex Key

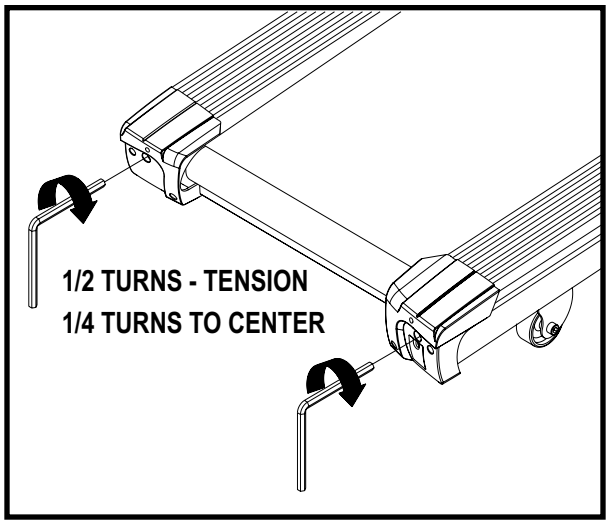
1 - Using a hex key, turn the left and right adjusting bolts clockwise 1/2 turn (see Figure 1 and 1A).

NOTE: Use care to make each adjustment equal to ensure proper belt alignment.

2 - Test the belt by running on the belt at approximately 4 MPH. Then hold the handrail lightly and resist the belt movement with your feet. If walking belt slips, repeat Step 1.

Figure 1:

Figure 1A:



Tracking Adjustment

Tools Needed:
- Hex Key

1 - Start the treadmill at minimum speed and incline.

2- Increase speed to 5 MPH and make the following adjustment:

a: If the belt moves to the right, turn the right tension bolt one 1/4 turn clockwise.

b: If the belt moves to the left, turn the left tension bolt 1/4 turn clockwise.

NOTE: Run the belt for a minimum of 20 seconds after making the first adjustment and before making the second adjustment to the belt tracking.

3 - After making an initial adjustment, run the treadmill for five minutes and observe how the belt tracks. If the belt continues to move away from the center, adjust the appropriate side as in Step 2 until properly centered.

Calibration Procedures

1 - Plug the treadmill into the power outlet, insert the safety key and turn the front power switch on.

2 - Simultaneously press the [INCLINE UP] and the [INCLINE DOWN] keys.

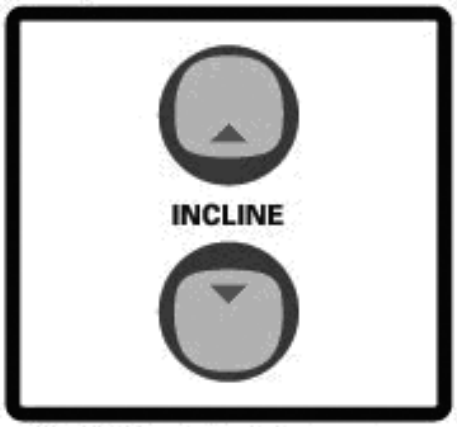
3 - Press [START] to begin calibration.

4 - "CAL PASS" will be displayed on the monitor. Press [STOP] to exit.

step **1.**

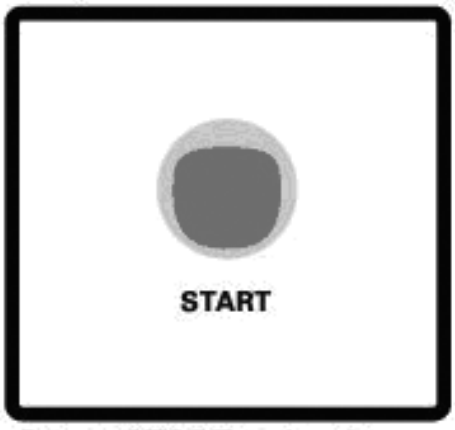
PLUG THE TREADMILL INTO THE POWER OUTLET, TURN THE FRONT POWER SWITCH ON AND INSERT THE MAGNETIC SAFETY KEY INTO THE DISPLAY.

step **2.**



SIMULTANEOUSLY PRESS THE [INCLINE UP] AND THE [INCLINE DOWN] KEYS.

step **3.**



PRESS [START] TO BEGIN CALIBRATION.

step **4.**

"CAL PASS" WILL BE DISPLAYED ON THE MONITOR. PRESS [STOP] KEY TO EXIT.

APPENDIX 5 - INTERFACE CONNECTORS DC VOLTS

8 - PINS			
Description	Molex / AMP #	Wire Color	Volts
Elevation Pot Wiper	8	Gray	5 VDC+
A/D 5 VDC +	7	Purple	5 VDC+
VDC to Electronics	6	Blue	12 VDC+
Elevation Up	5	Green	12 VDC+
A/D Ground Reference	4	Yellow	Gnd Ref
Chas Gnd	3	Orange	Chas Gnd
Run/Stop Relay	2	Red	12 VDC+
Elevation Down	1	Brown	12 VDC+

6 - PINS			
Description	Molex / AMP #	Wire Color	Volts
Chas Ground	6	Blue	Gnd Ref
-	5	Green	-
PWM Speed Command	4	Yellow	12 VDC +
Speed Sensor Signal	3	Orange	5 VDC +
-	2	Red	-
-	1	Brown	-

If you need assistance, please have both the serial number of your machine and the date of purchase available when you contact the appropriate Nautilus office listed below.

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Model: **T514**

Model: **T516**

Model: **T518**

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