SERVICE
Manual

Model No.:
374.288450
(21-7119)

Treadmill
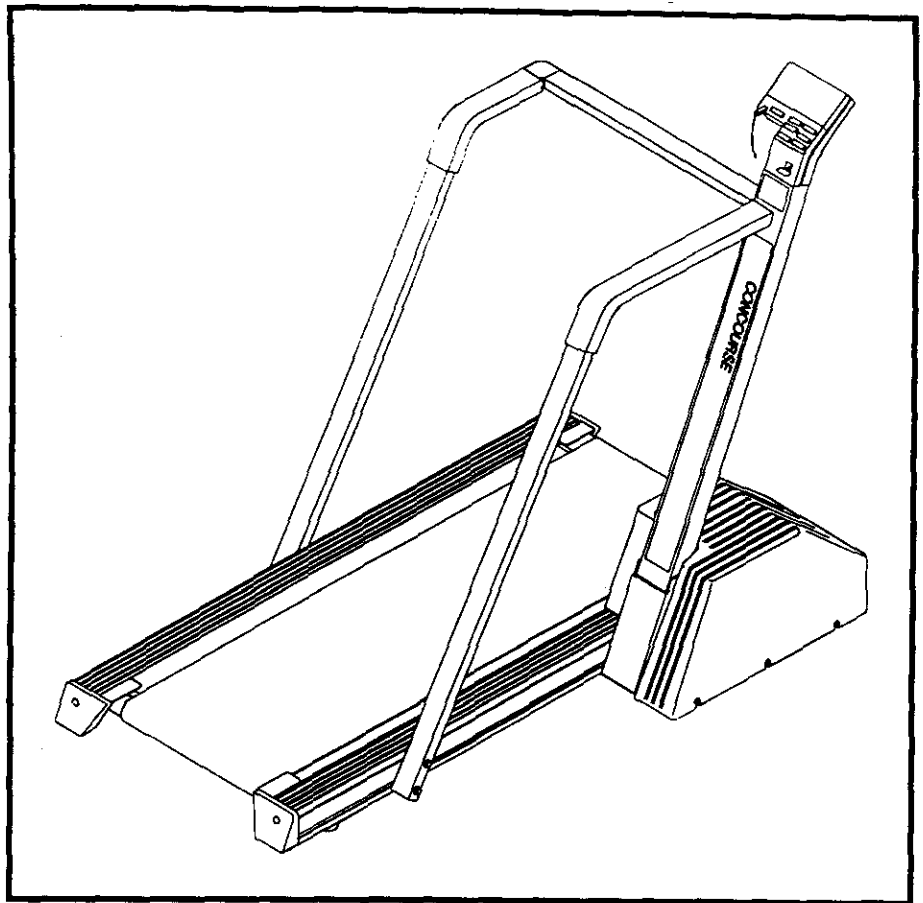
SEARS

MADE IN U.S.A.

Prime Fit™
Concourse 10.55 GI
Treadmill by DP°
Fit for Life

- **Features**
- **Operation**
- **Trouble-Shooting**
- **Parts Replacement**
- **Adjustments**
- **Maintenance**
- **Parts List**
- **Parts Drawings**

08-93

TABLE OF CONTENTS

FEATURES

- New *Walk-Thru* design features a more compact low profile footprint while offering more useable running space. More track, less wasted space. 990 square inches of usable space; 10-15% more than most extended profile designs.

- New *Hard Body* extruded frame provides superior strength; reduces vibration and noise.

- New *Soft Step* cushioned low impact deck with massaging effect.

- New *Fast Track* display features special visual graphics including a 1/4 mile trac and tacho pulse graph. The extra large 2 1/2" x 4 3/4" LCD id fully programmable and allows continuous viewing of time, speed, distance, pulse and calories. *Fast Trac* also features *Fitness Index*, a computer calculated index that allows the user to monitor their fitness level.

- Side mounted 2 HP DC motor from G.E. featuring the new *Silent Mount* system to reduce noise and vibration.

- Includes Power Key (start/stop) for easy-to-use safe operation.

- Gas assist incline allows you to adjust the percent grade for a more demanding workout.

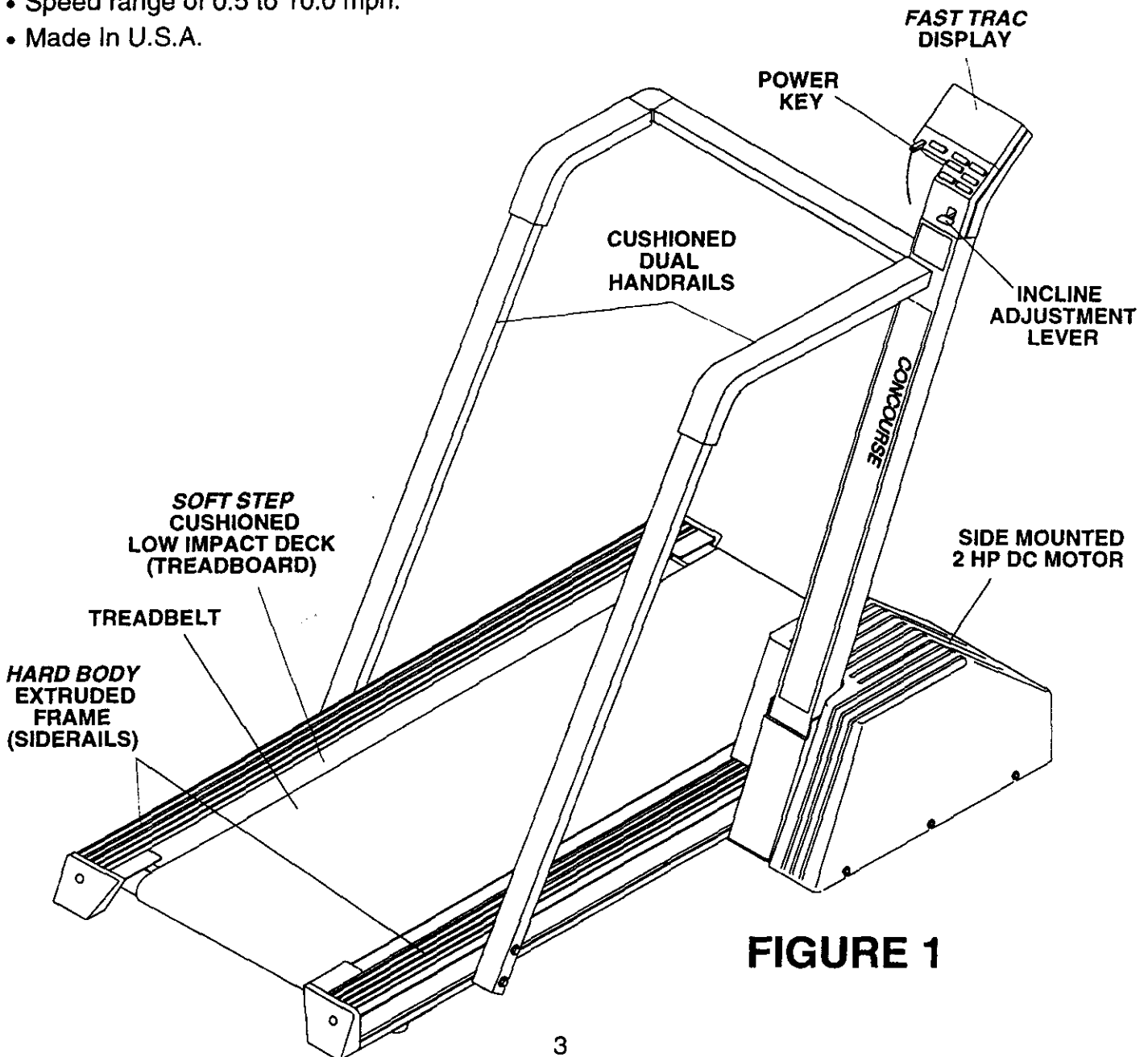- Speed range of 0.5 to 10.0 mph.

- Made In U.S.A.

FIGURE 1

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OPERATION

- *This TREADMILL is intended for home use only.*
- *Be sure your TREADMILL is sitting on a level surface.*
- *The TREADMILL should be plugged into a three prong (grounded) outlet in a 115/120 volt-60 Hz AC circuit separate from all other appliances - see GROUNDING INSTRUCTIONS.*

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING -- *Improper connection of the equipment-grounding conductor can result in a risk of electric shock.*

Check with a qualified electrician or serviceman if 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.

This product uses a nominal 120 volt circuit and has a grounding plug that looks similar to the plug illustrated.

No plug adapter should be used with this product.

The use of an extension cord with this product is not recommended, but if an extension cord is needed, use a short (less than ten feet), heavy gauge (14 gauge or better) extension cord with a three prong (grounded) plug and receptacle.

GROUNDED OUTLET

GROUNDED PIN

PLUG
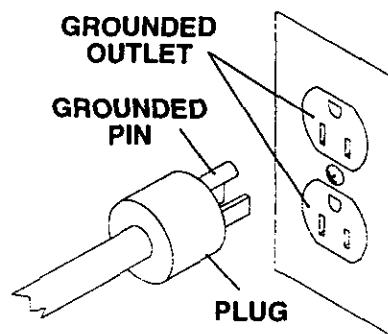
TREADMILL OPERATION

NOTE: Before operating your treadmill, become familiar with all operating parts and controls - their location and function - see FIGURE 3.

To Operate

CAUTION--*To avoid injury, hold onto HANDRAILS while mounting and dismounting TREADMILL.*

Step 1. **Place feet on SIDERAILS. Do not stand on TREADBELT. Securely attach POWER KEY CLIP to your clothing.** If you slip or fall while exercising, POWER KEY will pull out of CONSOLE, turning power off.

Step 2. **Insert POWER KEY fully into SLOT in CONSOLE, to turn treadmill's power "ON".**

Step 3. **Push SPEED CONTROL UP BUTTON to adjust treadmill to slowest speed (0.5 mph).**

Step 4. **Step onto TREADBELT and begin walking.**

Step 5. **Push SPEED CONTROL UP BUTTON until you reach your desired speed.**
NOTE: The TREADMILL is capable of speeds from around "0.5" to "10" miles per hour. Due to manufacturer tolerances, the upper and lower speed limits may vary by + or - 0.2 mph. The speed is read from the DISPLAY in the CONSOLE.

To Stop

Step 1. **Push SPEED CONTROL DOWN BUTTON to adjust treadmill to slowest speed (0.5 mph)**

Step 2. **Hold onto HANDRAILS and place feet on SIDERAILS.**

Step 3. **Push STOP / PAUSE BUTTON.**

Step 4. **Remove POWER KEY, to turn treadmill's power "OFF".**

To Adjust Incline

CAUTION-- *POWER KEY must be removed before incline adjustments are made.*

RAISING - - - - Dismount the treadmill, pull up the INCLINE LEVER and release when the treadmill reaches the desired incline angle.

LOWERING - - - Mount the treadmill, pull up the INCLINE LEVER and release when the treadmill reaches the desired incline angle.

OPERATION

FAST TRAC
FITNESS COMPUTER

SPEED CONTROL
UP / DOWN BUTTONS

SELECT
BUTTONS

DISPLAY

INCLINE
LEVER

STOP / PAUSE
BUTTON

POWER
KEY

CONSOLE

POWER
KEY
CLIP

FITNESS
INDEX
BUTTON

OPERATOR'S VIEW
of CONSOLE

HANDRAILS

CONCOURSE

TREADBELT
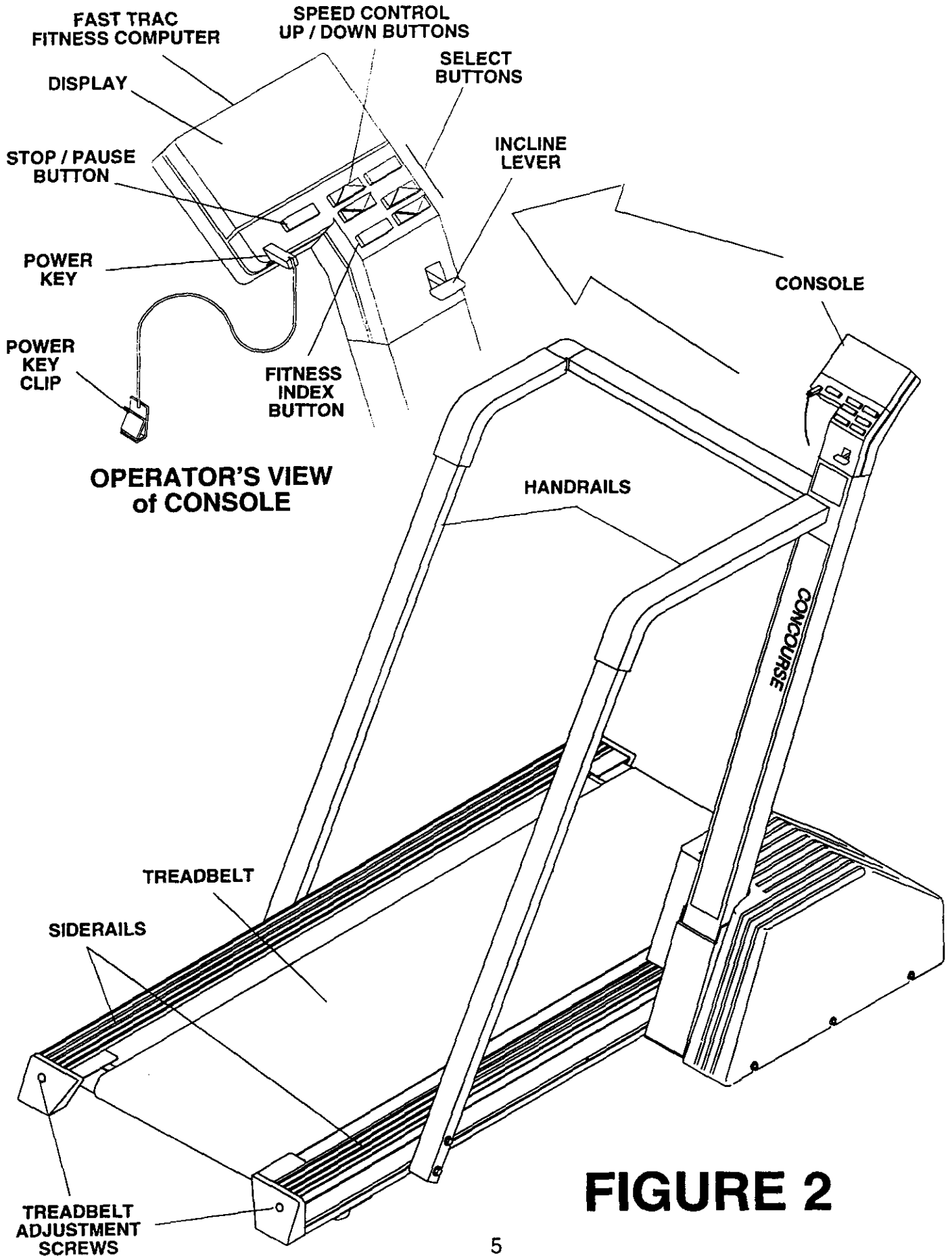
SIDERAILS

TREADBELT
ADJUSTMENT
SCREWS

FIGURE 2

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OPERATION

FITNESS COMPUTER

The FITNESS COMPUTER is designed to provide five functions displayed automatically, four programmable functions and a fitness index function.

Automatically Displayed Functions

1. **TIME:**	Counts up from 0:00.
2. **SPEED:**	Displays speed in miles per hour.
3. **DISTANCE**	
a. MILES:	Counts up from 0 in total miles.
b. LAPS:	Counts up from 0 in total laps. (1 lap = 1/4 mile)
4. **CALORIES:**	Counts up from 0.
PULSE:	Displays your heart rate.

Programmable Functions

1. **TIME:**	Time can be preset from 0:00 to 99.00 in one minute increments.
2. **DISTANCE:**	Distance can be preset from 0 miles (0 laps) to 49 3/4 miles (199 laps) in 1/4 mile (1 lap) increments.
3. **CALORIES:**	Calories can be preset from 0 to 990 in 10 calorie increments.
4. **PULSE TARGET:**	A pulse target can be preset from 90 to 180 in 1 beat per minute increments or "--" for pulse display only.

The **FITNESS INDEX** button tracks your fitness level with computer calculated fitness rating.
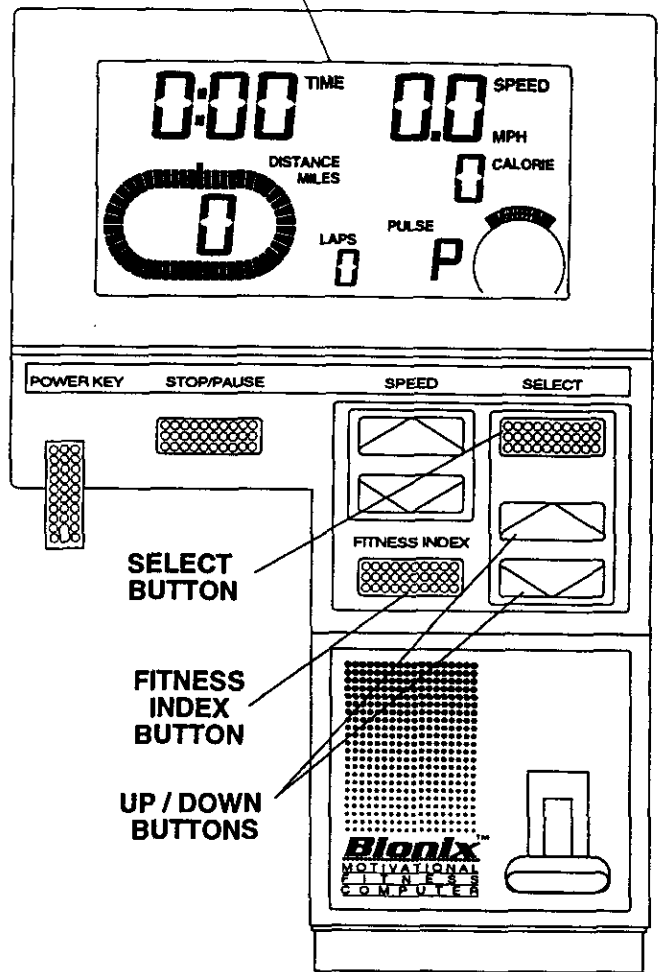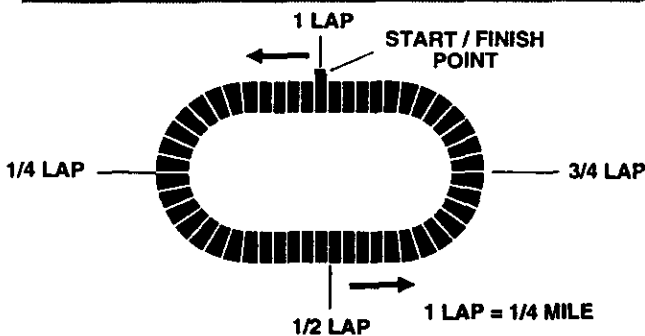
TURN "ON"

Insert **POWER KEY**. Functions will start counting when the treadmill speed is greater than 0 mph.

SET TIME, DISTANCE or CALORIES

Press **SELECT BUTTON** until **only** display area of the desired function to be programed (TIME, DISTANCE or CALORIES) is displayed.

Press **UP or DOWN BUTTON** until desired number is reached. Wait 4 seconds. When treadmill speed is greater than 0 mph, desired programed function (TIME, DISTANCE or CALORIES) will start counting.

READING FAST TRACK

1 LAP
← START / FINISH POINT
1/4 LAP ———— 3/4 LAP
1/2 LAP
1 LAP = 1/4 MILE

FAST TRAC DISPLAY

SELECT BUTTON

FITNESS INDEX BUTTON

UP / DOWN BUTTONS

SET PULSE TARGET

• Refer to TRAINING CHART on page 15 in owner's manual for your recommened PULSE TARGET.
• Refer to "USING THE PULSE EARCLIP" section and attach earclip as directed.

Press **SELECT BUTTON:** until "PULSE" appears in pulse display area.

Press **UP or DOWN BUTTON :** until desired PULSE TARGET set point is reached.

READING PULSE GRAPH
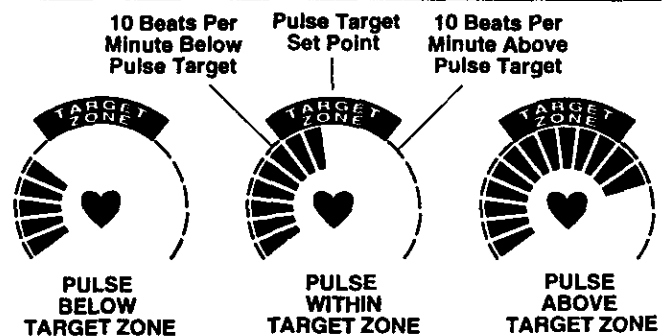
10 Beats Per Minute Below Pulse Target	Pulse Target Set Point	10 Beats Per Minute Above Pulse Target
PULSE BELOW TARGET ZONE	PULSE WITHIN TARGET ZONE	PULSE ABOVE TARGET ZONE

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OPERATION

The FITNESS INDEX button tracks your fitness level with computer calculated fitness rating. The Fitness Computer will calculate your fitness rating from 0 (Poor) to 10 (Good).

Your level of fitness is determined by your pulse rate. As you fitness level increases you will find that you will need to walk or jog faster to stay in the pulse range you have chosen. The FITNESS INDEX button gives you feedback to your increasing fitness level.
NOTE: You must stay consistant in your workouts in order to get an accurate and consistant fitness rating.

Refer to "USING THE PULSE EARCLIP" section and attach earclip as directed.

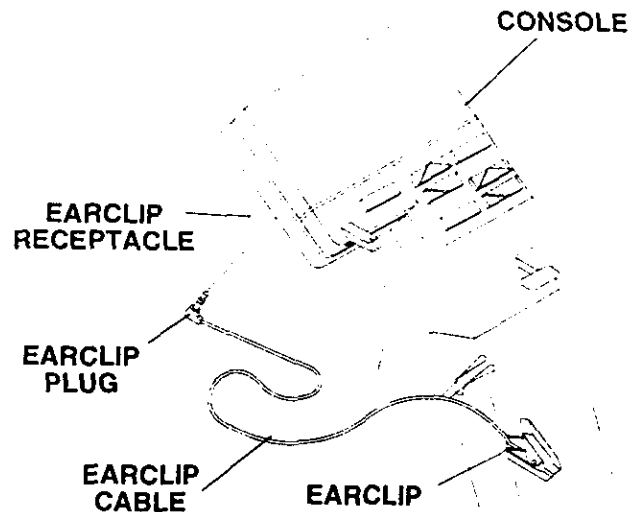After completing your workout, remain still with earclip attached.

Press FITNESS INDEX button. 0:60 will appear in TIME display area. Time will count down to 0:00 and Fitness Computer will calculate your fitness rating from 0 to 10.

Using The PULSE EARCLIP

CAUTION -- This pulse earclip is not a medical device. Readings may not always be accurate. Best readings may be obtained in a still, relaxed position.

IMPORTANT -- When exercising in a vigorous manner the erratic movement of the PULSE EARCLIP or CABLE may cause the "P" to appear in the PULSE window indicating incorrect pulse readings. Try to keep the PULSE EARCLIP and CABLE from unecessary movement when exercising.

1. Insert EARCLIP PLUG into EARCLIP RECEPTACLE on back of CONSOLE - see DETAIL "A".

2. Attach STRAIN RELIEF CLIP to your collar or other piece of clothing - see DETAIL "B".
   NOTE: EARCLIP CABLE must not be allowed to be in a strain.

3. Massage EARLOBE to increase circulation.

4. Attach EARCLIP to EARLOBE in a vertical position - see DETAIL "C".

5. When exercise has been completed remove EARCLIP from earlobe and clip it to EARCLIP CABLE.

CONSOLE

EARCLIP RECEPTACLE

EARCLIP PLUG

EARCLIP CABLE

EARCLIP

DETAIL "A"

EARCLIP CABLE

COLLAR

STRAIN RELIEF CLIP

DETAIL "B"

EARLOBE

EARCLIP

DETAIL "C"

7
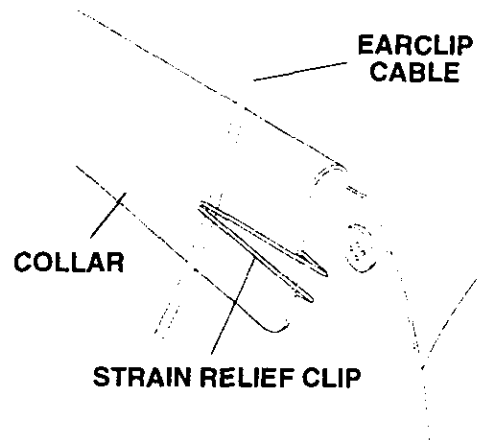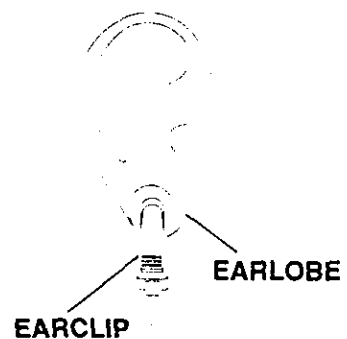
OPERATION

OPERATION TROUBLE-SHOOTING

	PROBLEM		CAUSE		CORRECTION
1.	Treadmill Will Not Start.	1.	Not Plugged In.	1.	Plug Into Three Prong (grounded) 115/120 Volt-60 Hz AC Outlet - See Treadmill Grounding.
		2.	House Circuit Breaker Tripped.	2.	Reset Or Replace Fuse.
		3.	Treadmill Reset Switch Tripped.	3.	Reset Treadmill Reset Switch.
		4.	Unit Plugged Into Insufficient Extension Cord.	4.	Plug Directly Into Wall Outlet Or Use Short (less Than Ten Feet), Heavy Gauge (14 Gauge Or Better) Extension Cord.
		5.	Inadequate Voltage At Outlet.	5.	Have Qualified Electrician Check Voltage.
2.	Treadbelt Does Not Run In Center Of Roller.	1.	Treadbelt Tension Not Even Across The Treadbelt.	1.	See - "Treadbelt Adjustment" on page 17.
3.	Treadbelt Slips While In Use.	1.	Treadbelt Tension Too Light.	1.	See - "Treadbelt Adjustment" on page 17.
4.	Treadbelt Hesitates When Stepped On.	1.	Insufficient Lubricant On Treadbelt.	1.	See "Maintenance" on page 18.
5.	Treadmill Makes "Rumbling" Noise.	1.	Treadbelt Tensioned Too High.	1.	Loosen Treadbelt Adjustment Bolts Till Noise Ceases But Treadbelt Does Not Slip While In Use.
6.	Treadmill Makes "whining" Noise.	1.	Walking Too Close To The Edge Of Treadbelt.	1.	Bring Stride Back Towards Center Of Treadbelt.
7.	Treadmill Is Difficult To Roll.	1.	Treadmill On Thick Carpeting.	1.	Move To Hard Surface Or Low Cut Carpeting.
8.	Black Particles Collecting Under Treadmill.	1.	Drive Belt Is Breaking In.	1.	Vacuum Under Treadmill Periodically
9.	No Display On Fitness Computer in Console.	1.	Treadmill Not Plugged In And Power Key Not Inserted Into Console.	1.	Plug Into Three Prong (grounded) 115/120 Volt-60 Hz AC Outlet - See Treadmill Grounding. Insert Power Key. Adjust Treadbelt Speed greater than 0 mph.
10.	Fitness Computer Does Not Display Speed Or Distance.	1.	Reed Switch Not Aligned Properly.	1.	See - "Reed Switch Adjustment" on page 17.
11.	Fitness Computer Shuts Off.	1.	Magnet Damaged Or Missing From Pulley on Front Roller.	1.	Replace Magnet.
		2.	Reed Switch Not Working Properly.	2.	Replace Reed Switch.
		3.	Fitness Computer Not Working Properly.	3.	Replace Fitness Computer.
12.	No Pulse Displayed On Fitness Computer .	1.	Pulse Earclip Not Plugged Into Console.	1.	Plug Pulse Earclip Into Back of Console.
		2.	Pulse Earclip Not Properly Attached To Earlobe.	2.	Massage Earlobe To Increase Circulation And Reattach Pulse Earclip.- See "Using The Pulse Earclip" On Page 7.
		3.	Pulse Earclip In Direct Sunlight	3.	Place Pulse Earclip On Earlobe Away From Direct Sunlight.
		4.	Pulse Earclip Is Moving Around Too Much.	4.	Use Strain Relief Clip And Try Not To Move Head Erratically - See DETAIL "B" On Page 7.

IF OTHER PROBLEMS ARE ENCOUNTERED OR ANY PROBLEMS CAN NOT BE CORRECTED, PLEASE CALL OUR SERVICE DEPARTMENT TOLL FREE AT 1-800-473-7247.

TROUBLESHOOTING

Console and Motor System

Four components make up the console and motor system; *FAST TRAC* FITNESS COMPUTER, mounted on the console, INTERFACE BOARD, mounted on the bottom motor cover, MOTOR CONTROLLER and MOTOR mounted to the front right rail.

Console

The CONSOLE contains the *FAST TRAC* FITNESS COMPUTER which controls the speed and elevation of the treadmill. It also displays time, speed, distance (miles and laps), calories, and pulse.

The time will display from 0:00 to 99:00 in one minute increments. The speed will read between .5 and 10.0 at .1 MPH. The distance is indicated in miles (0 to 49 $\frac{3}{4}$) and laps (0 to 199). The calories will be displayed from 0 to 990 in 10 calorie increments. The pulse displays your heart rate from 90 to 180 in 1 beat per minute increments. The time, distance, calories, and pulse desired can be programmed into the fitness computer.

Interface Board

The interface board is an electronic circuit board mounted to the bottom motor cover - see FIGURE 3. With the treadmill plugged in and the power key inserted the DC voltage from P_1 to N on the interface board should be 13.6 VDC. The voltage from P_2 to N will vary with the speed;

0   MPH - 0 VDC

.5   MPH - .68 VDC

10.0 MPH - 12.3 VDC

The voltage across the capacitor, C_1, should be 9.56 VDC. When the treadmill is running at .5 MPH the motor should maintain 250 RPM, at 10.0 MPH the motor should maintain 5200 RPM.

Motor Controller

The motor controller is an electronic circuit board mounted to the right rail in front of the motor - see FIGURE 4. From a grounded wall outlet the motor controller receives 120 VAC and converts it to variable DC 0 to 90 V. The monitor and interface board adjust the output of the motor controller from 0 to 90 volts. The motor controller senses the motor speed by the tachometer. The tachometer on the motor tells the motor controller its speed. If a load is placed on the treadbelt the motor controller compares the set point of the speed control to the tachometer and makes adjustments to the DC output voltage to the motor keeping the treadbelt running at a fixed speed. For example, the output voltage will be 9.5 volts at .5 MPH, as a person steps on the treadbelt the output voltage increases to compensate for the extra motor loading, keeping the treadbelt running at .5 MPH.

Motor

This treadmill uses a 2 HP DC motor - see FIGURE 5. When the voltage to a DC motor is changed the speed will vary accordingly. The motor receives 0-90 VDC from the motor controller. The voltage from M_1 to M_2 while the treadmill is running at 10.0 MPH should not exceed 90 VDC and the should be turning at 5200 RPM. The motor has an integral tachometer which tells the motor controller the motor's speed. The tachometer consists of a coil of wire inside a plastic housing. A permanent magnet mounted to the motor, behind the fan, rotates inside the tachometer coil generating a low voltage, proportional to the motor speed.

.66 VAC - 250 RPM

9.40 VAC - 5200 RPM

The tachometer coil should be 300 ohms 25 ohms.
Note: *The tachometer can be measured with an ohmmeter only when disconnected from the motor controller.* The winding resistance should be very low, approximately 1 ohm. Test each winding in the armature (the rotating part inside the motor) by slowly rotating the motor shaft 1 complete revolution. All windings should be less than 2 ohms.
Note: *The windings of the motor can be measured with an ohmmeter only when disconnected from the motor controller.*
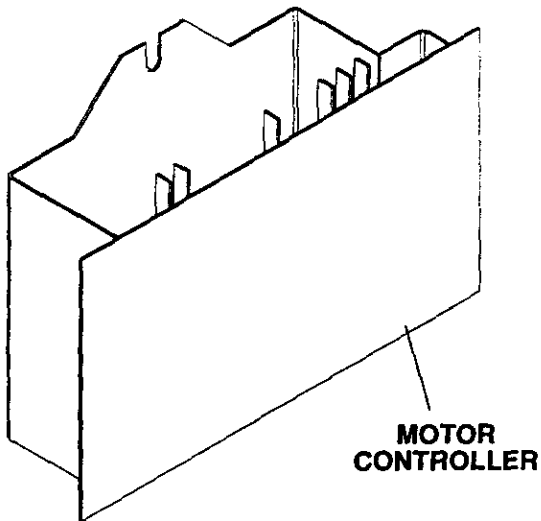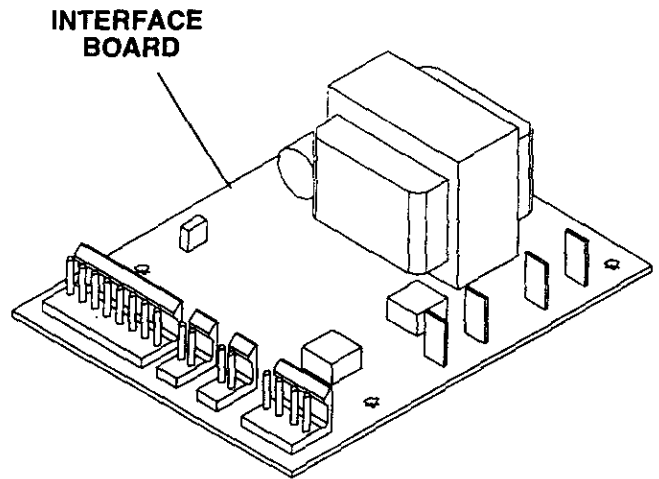
TROUBLESHOOTING

MOTOR
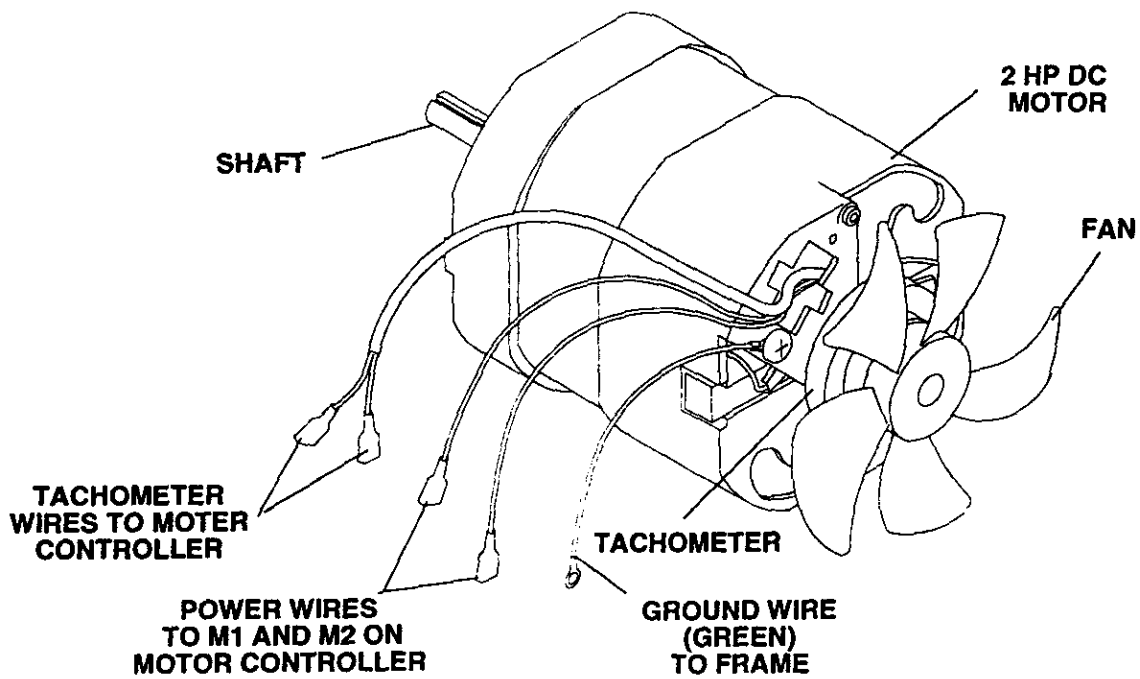CONTROLLER

FIGURE 3

INTERFACE
BOARD

FIGURE 4

SHAFT

2 HP DC
MOTOR

FAN

TACHOMETER
WIRES TO MOTER
CONTROLLER

TACHOMETER

POWER WIRES
TO M1 AND M2 ON
MOTOR CONTROLLER

GROUND WIRE
(GREEN)
TO FRAME

FIGURE 5

TROUBLESHOOTING

SPEED CONTROL SYSTEM TROUBLE-SHOOTING

	PROBLEM		CAUSE		CORRECTION
1.	Treadmill Will Not Start.	1.	Verify Wall Outlet Has Proper Voltage.	1.	Reset Circuit Breaker or Replace Fuse.
		2.	Verify Wall Outlet Is Properly Grounded.	2.	Ground Wall Outlet.
		3.	Check Reset Switch.	3.	Replace Reset Switch.
		4.	Check On/Off Switch. Verify Power Key Activates On/Off Switch.	4.	Replace On/Off Switch.
		5.	Verify Motor Controller Has 120 VAC, Line To Neutral And Line To Frame.	5.	Reset Reset Switch and Insert Power Key Fully.
	:	6.	Check For Open Tachometer Circuit	6.	Replace Motor.
2.	120 VAC Not Present at Motor Controller.	1.	Remove Wall Plug From Wall Outlet. Check Continuity From Line Terminal of Plug To Line Terminal Of Motor Controller. Check Continuity Of Neutral Terminal of Plug To Neutral Terminal of Motor Controller.	1.	Repair Or Replace Loose Wiring / Wire Terminals. Repair Or Replace Reset Switch / On/Off Switch.
3.	120 VAC at Motor Controller, But Motor Does Not Run.	1.	Check Voltage On Motor Terminals M1 And M2. 17 VDC At Low Speed. 70 VDC At High Speed.	1.	Check Motor Wiring. Replace Motor.
		2.	Check For Open Tachometer Circuit	2.	Replace Motor.
		3.	Check For Loose Fan.	3.	Tighten Fan.
4.	Motor Runs Extremely Fast (Greater Than 90 VDC, M1 To M2).	1.	Check For Shorted Tachometer.	1.	Replace Motor.
		2.	Check For Missing Tachometer Magnet / Missing Fan.	2.	Replace Tachometer Magnet /Replace Fan.
		3.	Check For Damaged / Shorted Triac On Motor Control Board.	3.	Replace Motor Control Board.
5.	Treadmill Has No Safety Start.	1.	Motor Controller Bad.	1.	Replace Motor Controller
6.	Flickering Monitor	1.	Capactor Damaged On Interface Board	1.	Replace Interface Board
7.	No Distance Indicated	1.	Reed Switch gives no reading.	1.	a. Align Reed Switch. b. Replace Reed Switch
8.	No High Speed / Low Speed Works	1.	Belt Tension Incorrect.	1.	Adjust Belt Tension.
		2.	Lubrication Incorrect	2.	a.) Add Lubrication If Feels Dry. b.) Wipe Down If Dripping Wet.
		3.	Check P2 To N On Interface Board (12.3 VDC At Max Speed).	3.	Replace Interface Board.
		4.	70 Volts From M1 To M2 At Max Speed. a.) Voltage OK b.) Voltage Bad	4.	a) Replace Motor b.) Replace Motor Controller

TROUBLESHOOTING

SPEED CONTROL SYSTEM TROUBLE-SHOOTING cont.

	PROBLEM		CAUSE		CORRECTION
9.	Console On But Won't Start. Set Speed To 6.0 MPH To Diagnos Cause.	1.	Volts From M1 to M2. a.) Voltage OK b.) Voltage Bad	1.	a.) Replace Motor b.) Check Interface Board P2 - N
		2.	P2 - N Voltage Between 0.6 and 13.0. a.) Good b.) Bad	2.	a.) Replace Motor Controller b.) Check P1 to N
		3.	P1 To N Voltage 13.6. a.) Good b.) Bad	3.	a.) Replace Interface Board. b.) Replace Motor Controller.
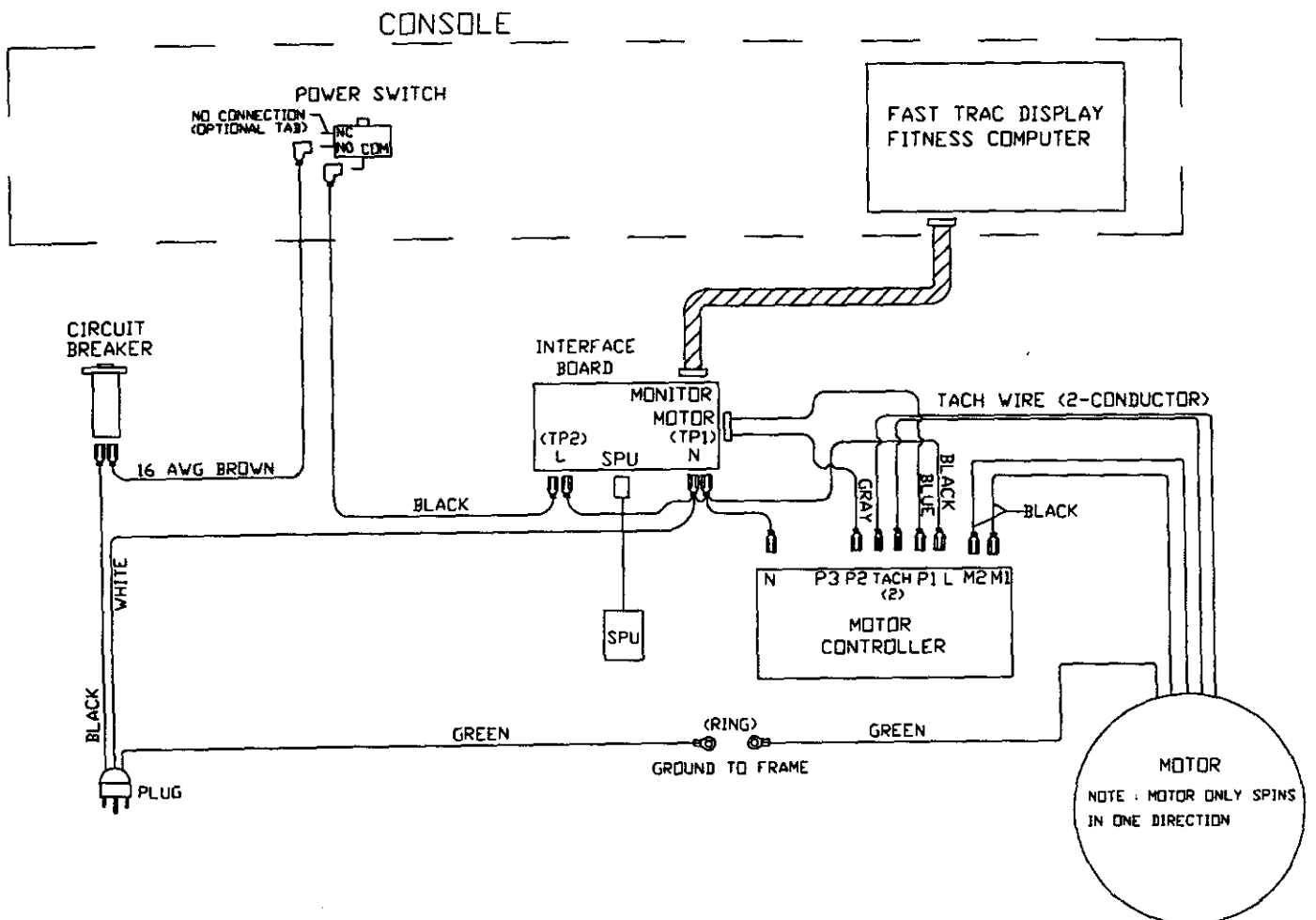
SPEED CONTROL SYSTEM WIRING DIAGRAM

FIGURE 6

PARTS REPLACEMENT

PARTS REMOVAL AND REPLACEMENT

DANGER: *Unplug the TREADMILL from the outlet to reduce the risk of an electric shock.*

Drive Belt (36), Front Roller (13), Treadbelt (12), Treadboard (11), And/or Rear Roller (14) Replacement

Step 1. Remove MOTOR COVER (43).

Step 2. Elevate FRONT end of TREADMILL using INCLINE LEVER (46e) on CONSOLE (46)

Step 3. Remove **two** BOLTS (55) attaching LEFT HANDRAIL to LEFT SIDERAIL (9).

Step 4. Remove REAR ROLLER ADJUSTMENT BOLTS (58), REAR END CAPS (15 RIGHT & 16 LEFT), and REAR GUARDS (18 RIGHT & 19 LEFT).

Step 5. Loosen LOCKNUT (69) on J-BOLT (53) to release DRIVE BELT (36) tension.

Step 6. Remove LOCKNUT (69) and BOLT (59) holding GAS CYLINDER (26) to INCLINE ASSEMBLY (22).

Step 7. Remove INCLINE ASSEMBLY (22).

Step 8. Remove **four** BOLTS (55) attaching INCLINE BRACE(21) to SIDERAILS (9 LEFT & 10 RIGHT). Remove INCLINE BRACE.

Step 9. Remove REAR BOLTS (55) holding INCLINE PIVOT BRACKETS (30) to SIDERAILS (9 LEFT & 10 RIGHT).
NOTE: The INCLINE PIVOT BRACKET does not need to be removed, just the REAR BOLTS.

Step 10. Remove BOLTS (56) attaching TREADBOARD to SIDERAILS (9 LEFT & 10 RIGHT).

Step 11. Remove the FRONT **two** SCREWS (46) from BOTTOM MOTOR COVER(44) / PULLEY COVER (45) and remove PULLEY COVER.

Step 12. Remove BOLTS (56) from FRONT ROLLER (13).

Step 13. Remove LEFT SIDERAIL (9).
NOTE: Slide LEFT RAIL off TREADBOARD.

Step 14. **To replace the FRONT ROLLER (13),** remove FRONT ROLLER and replace. Make sure DRIVE BELT is on before reassembling.
NOTE: It is not necessary to remove REAR ROLLER, TREADBOARD, or TREADBELT.

Step 15. **To replace DRIVE BELT (36),** remove FRONT ROLLER (13) and DRIVE BELT (36). Replace DRIVE BELT and reinstall FRONT ROLLER.
NOTE: It is not necessary to remove REAR ROLLER, TREADBELT, or TREADBOARD.

Step 16. **To replace TREADBELT (12),** slide old TREADBELT off TREADBOARD (11). Replace with new TREAD-BELT.
NOTE: It is not necessary to remove TREADBOARD from RIGHT RAIL, or the FRONT and REAR ROLLERS.

Step 17. **To replace TREADBOARD (11),** remove the FRONT ROLLER (13), REAR ROLLER (14), and TREADBELT (12). Separate the TREADBOARD and RIGHT SIDERAIL (10). Replace TREADBOARD.
NOTE: Make sure the BELT GUIDE BRACKETS are installed on the TREADBOARD.

Step 18. **To replace REAR ROLLER (14),** remove REAR ROLLER and replace.
NOTE: It is not necessary to remove FRONT ROLLER (13), TREADBELT (12) or TREADBOARD (11).

Step 19. Reassembe in reverse order: make sure J-BOLT (53) has been tightened and retention the TREADBELT (12) - see "ADJUSTMENTS" section for proper method of tensioning TREADBELT.
NOTE: When reassembling, make sure the FRONT ROLLER (13) and REAR ROLLER (14) are lined up with the TREADBOARD (11) slot in theLEFT SIDERAIL before installing LEFT SIDERAIL. Also, make sure the DRIVE BELT (36) is on the FRONT ROLLER (13).

PARTS REPLACEMENT

Motor (35b) And Or Flywheel Pulley (35c) Replacement

Step 1. Remove MOTOR COVER (43).

Step 2. Loosen LOCKNUT(69) on J-BOLT (53) to remove DRIVE BELT (36) from FLYWHEEL PULLEY (35c).

Step 3. **To replace the FLYWHEEL PULLEY (35c)**, remove FLYWHEEL PULLEY from MOTOR (35c) by holding the motor shaft with a STANDARD screw driver and turning the flywheel clockwise. Install new Flywheel Pulley On Motor

Step 4. Remove Motor wires from MOTOR CONTROLLER (42) and GREEN wire on RIGHT SIDERAIL (10).

Step 5. Remove **two** MOUNTING STRAPS (35d) attaching MOTOR (35b) to MOTOR MOUNT (35a).

Step 6. Remove MOTOR (35b) with FLYWHEEL PULLEY (35c).

Step 7. Reattach MOTOR (35b) and FLYWHEEL PULLEY (35c) in reverse order using SPEED CONTROL SYSTEM WIRING DIAGRAM - see page 12 to assure proper wiring. Make sure the GROUND WIRES (GREEN) are attached to the RIGHT SIDERAIL (10) and LOCKWASHER (62) is against the SIDERAIL.

Motor Controller (42) Replacement

Step 1. Remove MOTOR COVER (43).

Step 2. Remove wires, **one at a time** to assure proper attachment, and install onto new MOTOR CONTROLLER (42). Refer to SPEED CONTROL SYSTEM WIRING DIAGRAM - see page 12 to assure proper wiring.

Step 3. Remove **two** SCREWS (64) attaching MOTOR CONTROLLER (42) to RIGHT SIDERAIL (10).

Step 4. Reattach MOTOR CONTROLLER (42) to RIGHT SIDERAIL (10) with **two** SCREWS (64).

Step 5. Reattach MOTOR COVER (43).

Interface Board (73) Replacement

Step 1. Remove MOTOR COVER (43).

Step 2. Remove wires, one at a time to assure proper attachment, and install onto new INTERFACE BOARD (73). Refer to SPEED CONTROL SYSTEM WIRING DIAGRAM - see page 12 to assure proper wiring.

Step 3. Remove CIRCUIT BOARD SUPPORTS (54) attaching INTERFACE BOARD (73) to BOTTOM MOTOR COVER (44).

Step 4. Attach new INTERFACE BOARD (73) to BOTTOM MOTOR COVER (44) using CIRCUIT BOARD SUPPORTS (54).

Step 5. Reattach MOTOR COVER (43).

Reed Switch (23) Replacement

Step 1. Remove MOTOR COVER (43).

Step 2. Remove SCREW (64) attaching REED SWITCH (23) to RIGHT SIDERAIL (10).

Step 3. Unplug CONNECTOR END of REED SWITCH (23) from INTERFACE BOARD (73).

Step 4. Route new REED SWITCH (23) wire in same location as old REED SWITCH wire.

Step 5. Install REED SWITCH (23) to RIGHT SIDERAIL (10) with SCREW (64) and TOOTH LOCKWASHER (62). **NOTE:** *Make sure TOOTH LOCKWASHER is on SIDERAIL side.*

Step 6. Plug CONNECTER END of REED SWITCH (23) into INTERFACE BOARD (73).

Step 7. Adjust REED SWITCH (23) - see "ADJUSTMENT" section for proper method of adjusting REED SWITCH.

Step 8. Reattach MOTOR COVER.

PARTS REPLACEMENT

Reset Switch (33) Replacement

Step 1. Remove MOTOR COVER (43).

Step 2. Remove wires from RESET SWITCH (33), **one at a time** to ensure proper attachment and install on new RESET SWITCH. Refer to SPEED CONTROL SYSTEM WIRING DIAGRAM on page 12 if necessary.

Step 3. Remove RESET SWITCH (33) from POWER CORD BRACKET (31).

Step 4. Reinsert RESET SWITCH (33) into POWER CORD BRACKET (31) and attach MOTOR COVER (43).

Console (46), Fitness Computer (46a), And/Or Power Switch Replacement

Step 1. Remove CONSOLE attaching SCREWS (63).

Step 2. Slip CONSOLE (46) out of CONSOLE TUBE (40).

Step 3. Remove four SCREWS(46o) and one SCREW (46m) attaching FITNESS COMPUTER (46a) to CONSOLE BOTTOM (46b).

Step 4. **To replace FITNESS COMPUTER (46a)**, unplug FITNESS COMPUTER (46a) from WIRING HARNESS (46g) and plug in new FITNESS COMPUTER.
NOTE: Replace any monitor casing needed.

Step 5. **To replace POWER SWITCH (46k)**, remove wires from POWER SWITCH and attaching SCREW (46l), snap POWER SWITCH out of the CONSOLE BOTTOM (46b) and replace with new POWER SWITCH.

Step 6. Reassembly in reverse order - see SPEED CONTROL SYSTEM WIRING DIAGRAM if necessary.

Wiring Harness (46g) Replacement

Step 1. Remove MOTOR COVER (43).

Step 2. Remove CONSOLE (46) - see CONSOLEAND/OR POWER SWITCH REPLACEMENT.
NOTE: Steps 2 through 6 required for UPPER WIRING HARNESS replacement.

Step 3. Remove BLACK wires from INTERFACE BOARD (73).

Step 4. Remove BROWN wire from RESET SWITCH (31).

Step 5. Remove LARGE CONNECTOR from INTERFACE BOARD(73).

Step 6. Pull UPPER WIRING HARNESS (64g) from CONSOLE TUBE (40).

Step 7. Remove SMALL CONNECTOR from INTERFACE BOARD (73).
NOTE: Steps 7 through 12 required for LOWER WIRING HARNESS replacement.

Step 8. Remove GRAY and BLUE wire from MOTOR CONTROLLER (42).

Step 9. Remove REED SWITCH (23) - see REED SWITCH REPLACEMENT.

Step 10. Remove WHITE wires from INTERFACE BOARD (73).

Step 11. Remove WHITE wire from MOTOR CONTROLLER (42).

Step 12. Remove LOWER WIRING HARNESS.

Step 13. Replace WIRING HARNESSES and reinstall in reverse order. Refer to SPEED CONTROL SYSTEM WIRING DIAGRAM to assure proper wiring.
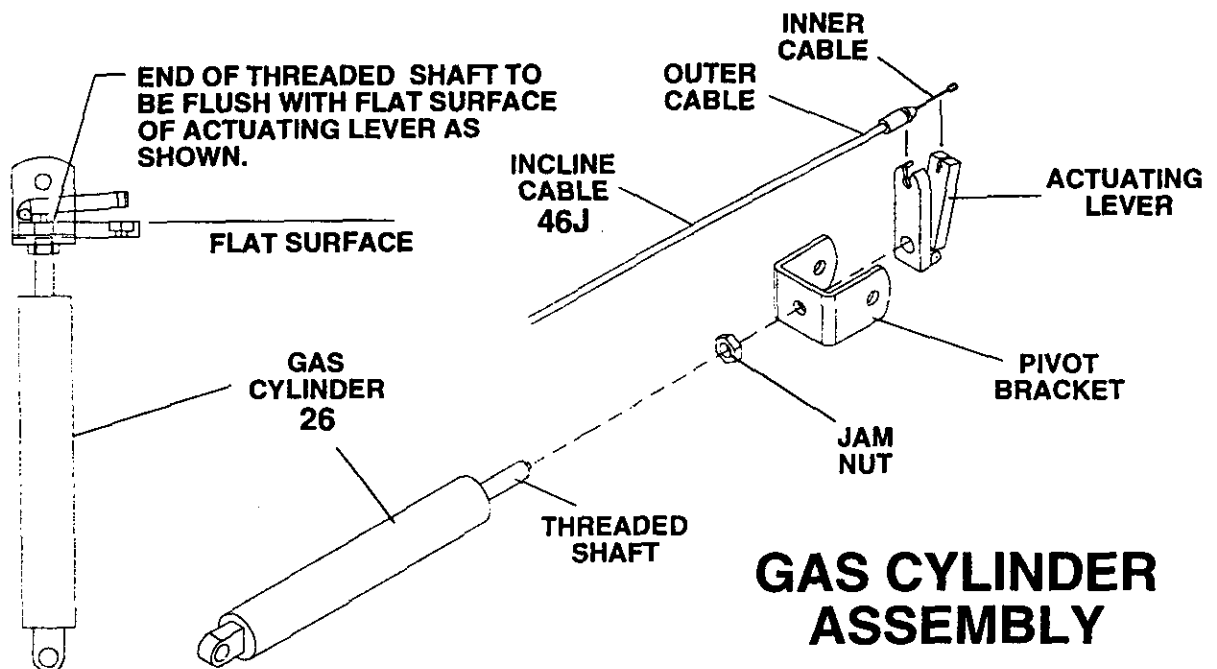
PARTS REPLACEMENT

Incline Lever (46e) Replacement

Step 1. Remove two SCREWS (63) at top of CONSOLE TUBE (40).

Step 2. Remove one SCREW (46o) on lower rear side of CONSOLE BOTTOM (46b).

Step 3. Pull CONSOLE (46) from CONSOLE TUBE (40) and remove two SCREWS (46n) and remove LOWER CONTROL PANEL (46d) from CONSOLE BOTTOM (46b).

Step 4. Reinsert CONSOLE (46) into CONSOLE TUBE (40) for convenience.

Step 5. Remove two SCREWS (46n) attaching INCLINE BRACKET (46f) to back side of LOWER CONTROL PANEL (46d).

Step 6. Remove INCLINE LEVER (46e) from PIVOT SLOTS in back side of LOWER CONTROL PANEL (46d).

Step 7. Detach INCLINE LEVER (46e) from INCLINE CABLE (46j) by sliding CABLE END of INCLINE CABLE into upper hole in INCLINE LEVER and pulling through.

Step 8. Reassemble CONSOLE (46) using REPLACEMENT INCLINE LEVER (46e) by following steps 1 through 8 in reverse order.

Gas Cylinder (26) Replacement

Step 1. Hold INNER CABLE of INCLINE CABLE (46j) at GAS CYLINDER (26) with pliers. Press down on ACTIVATING LEVER and disconnect INNER CABLE from ACTIVATING LEVER.

Step 2. Pull OUTER CABLE of INCLINE CABLE (46j) straight up with pliers to disconnect INCLINE CABLE from ACTIVATING LEVER.

Step 3. Remove front BOLT (59) and LOCKNUT (69) attaching GAS CYLINDER (26) to INCLINE FRAME (22).

Step 4. Remove rear BOLT (60) and LOCKNUT (69) attaching GAS CYLINDER (26) to INCLINE BRACE (21).

Step 5. Replace GAS CYLINDER (26) in reverse order.

END OF THREADED SHAFT TO BE FLUSH WITH FLAT SURFACE OF ACTUATING LEVER AS SHOWN.

FLAT SURFACE

INNER CABLE

OUTER CABLE

INCLINE CABLE 46J

ACTUATING LEVER

GAS CYLINDER 26

PIVOT BRACKET

JAM NUT

THREADED SHAFT

GAS CYLINDER ASSEMBLY

16

ADJUSTMENTS

Treadbelt Adjustment

The TREADBELT (12) has been factory pre-adjusted. However, if the TREADBELT shifts to one side or the other, follow these steps to readjust it - **see FIGURE 2.** Adjust TREADBELT ADJUSTMENT SCREW (58) by using the ALLEN WRENCH (70) provided.
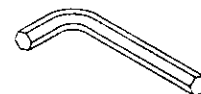
ALLEN WRENCH

Step 1. If TREADBELT has moved to right, tighten right TREADBELT ADJUSTMENT SCREW 1/2 turn using ALLEN WRENCH, while TREADMILL is running and no one is on it. The TREADBELT should move towards left.

Step 2. Let TREADMILL run several turns of TREADBELT and note any sideways movement.

Step 3. If only a small amount of change occurred, loosen left TREADBELT ADJUSTMENT SCREW 1/2 turn using ALLEN WRENCH.

Step 4. Repeat step 2.

Step 5. Repeat steps 1 through 4 until TREADBELT is centered and remains there during use. If TREADBELT has moved to LEFT, follow steps 1-4 but start with LEFT side.
*NOTE: If TREADBELT is slipping it will be necessary to tighten both TREADBELT ADJUSTMENT SCREW until slipping has stopped. It may then be necessary to repeat steps 1 through 4 for alignment.*

IMPORTANT: *DO NOT OVERTIGHTEN TREADBELT. Overtightening is denoted by curling of the edges of the TREADBELT.*

Reed Switch Adjustment

If the CONSOLE (46) does **not** display **SPEED or DISTANCE** the REED SWITCH (23) and MAGNET on the FRONT ROLLER (13) may be misaligned - see **FIGURE 7. Follow these steps to check and realign it:**

Step 1. *DANGER:* *Unplug the TREADMILL to reduce the risk of an electric shock.*

Step 2. Remove MOTOR COVER (43) **- see FIGURE 7.**

Step 3. Check spacing and alignment between MAGNET on right side of FRONT ROLLER (13) and REED SWITCH (23) on the RIGHT SIDE-RAIL (10) - **see DETAIL.** The spacing **must** be 1/8" and the edge of the REED SWITCH **must** be aligned with the center of the MAGNET. Loosen SCREW (64) and move REED SWITCH. Then Retighten SCREW.
NOTE: 1/8" is equal to the thickness of two pennies.

Step 4. Reattach MOTOR COVER (43) **- see FIGURE 7.**

Step 5. Plug-in the TREADMILL and check SPEED or DISTANCE on CONSOLE.
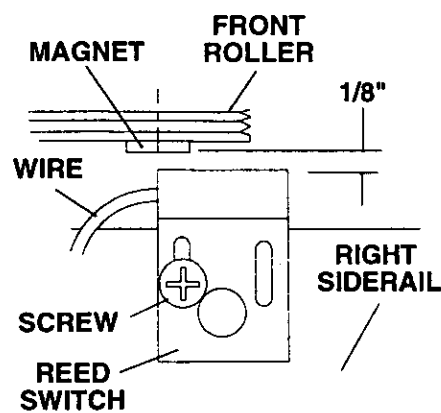
DETAIL

Gas Cylinder Adjustment

Step 1. Remove front BOLT (59) and LOCKNUT (69) attaching GAS CYLINDER (26) to INCLINE FRAME (22).

Step 2. Loosen JAM NUT on GAS CYLINDER (26) holding ACTUATING LEVER to PIVOT BRACKET.

Step 3. Rotate GAS CYLINDER (26) 360° **clockwise.**

Step 4. Tighten JAM NUT on GAS CYLINDER (26) to hold ACTUATING LEVER to PIVOT BRACKET.

Step 5. Reattach GAS CYLINDER (26) to INCLINE FRAME (22) using BOLT (59) and LOCKNUT (69).

Step 6. Test unit for proper incline operation. If unit does not raise and lower properly repeat Steps 1-5.

MAINTENANCE

Your CONCOURSE TREADMILL should require little actual maintenance other than periodically applying LUBRI-CANT under the TREADBELT. Adequate lubrication of the TREADBOARD surface under the TREADBELT will ensure superior performance and extend its life expectancy.

How To Check TREADBELT For Proper Lubrication:

1. Lift one side of TREADBELT and feel the top surface of the TREADBOARD.

2. If the surface is wet (slick) to the touch, then no further lubrication is required.

3. If the surface is dry to the touch, apply one packet of LUBRICANT.

How to apply LUBRICANT:

1. Lift one side of the TREADBELT.

2. Pour one entire LUBRICANT packet under the center of the TREADBELT on the top surface of the TREAD-BOARD.

3. Walk on TREADMILL at slow speed for 3 to 5 minutes to evenly distribute LUBRICANT.

NOTE: Do not over-lubricate TREADBOARD. Excess LUBRICANT may come out from under the TREADBELT. Any excess LUBRICANT on the TREADBOARD should be wiped off.

Lubrication Schedule:

If the TREADMILL is used at low speeds, the TREADBELT will not need to be lubricated as frequently; while high speed use may require more frequent lubrication. If the TREADBELT does not maintain speed during use or hesitates, lubrication may be required. The following lubrication schedule is only a guideline based on average TREADMILL use:

1. After the first 25 hours of use (2-3 months), apply one LUBRICANT packet.

2. Every 50 hours of use (5-8 months), apply an additional LUBRICANT packet.

Two LUBRICANT packets are included with the TREADMILL. Additional LUBRICANT can be ordered in packs of ten, using the form below.

LUBRICANT ORDER FORM
10 packets - 1/3oz ea.

NAME: _____

MAIL TO:

Diversified Products Corporation
P.O. Box 100
Opelika, Al 36803
Attn.: Customer Service

ADDRESS: _____

_____

Include check or money order for $9.95. Checks should be made out to Diversified Products.

AMOUNT ENCLOSED: _____
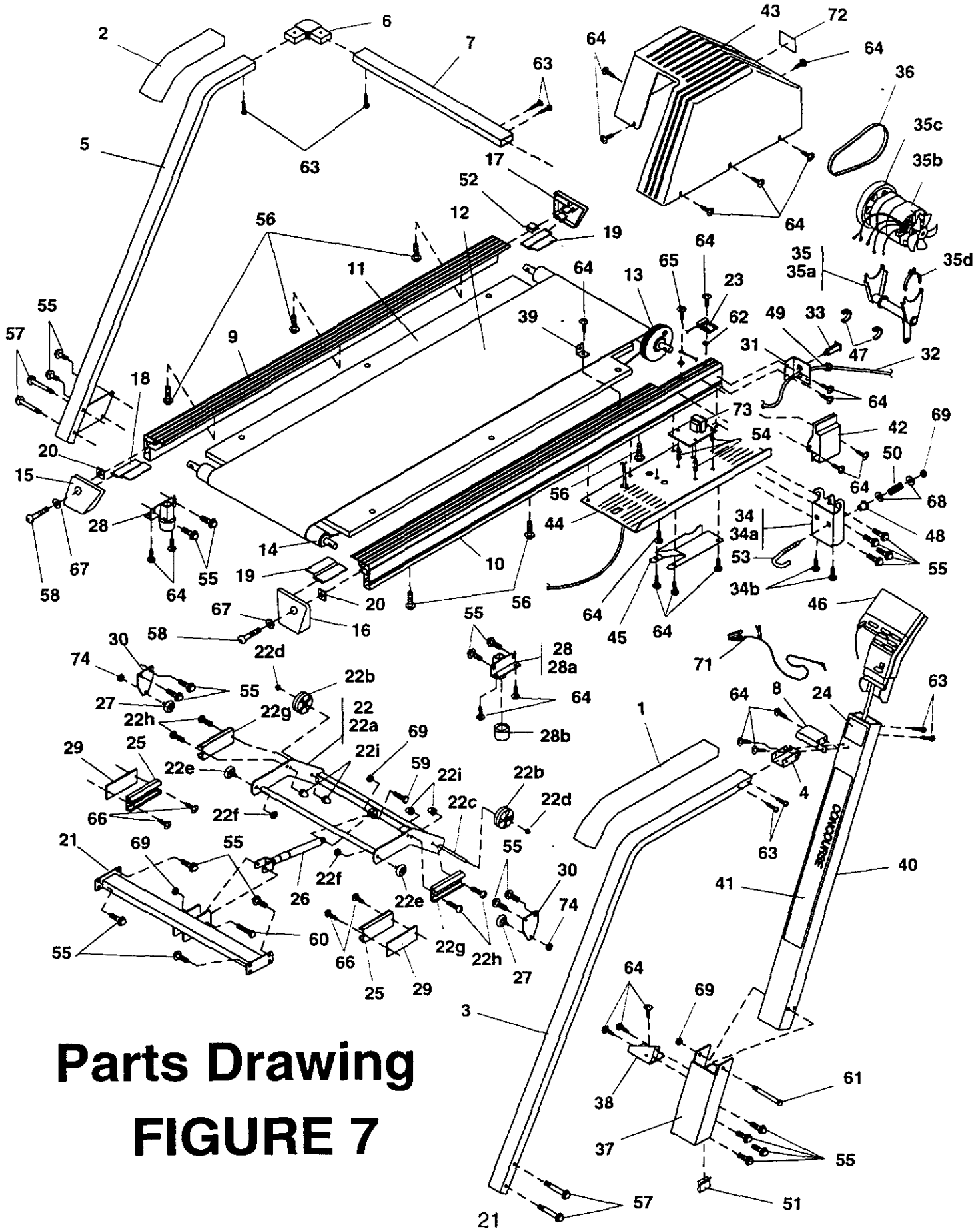
PARTS

Replacement Parts List

ITEM NO.	PART NO.	PART NAME	QUANTITY
1	04043200	Long Sleeve	1
2	04043500	Short Sleeve	1
3	30464216	Right Handrail	1
4	31294116	Right Handrail Bracket	1
5	38375316	Left Handrail	1
6	09169300	Elbow Connector	1
7	30464516	Front Handrail	1
8	31294216	Front Handrail Bracket	1
9	34026910	Left Siderail	1
10	34026610	Right Siderail	1
11	39378500	Treadboard	1
12	09172300	Tread Belt	1
13	39393700	Front Roller	1
14	39386200	Rear Roller	1
15	09168800	Left Rear End Cap	1
16	09168900	Right Rear End Cap	1
17	09169000	Left Front End Cap	1
18	09169100	Left Rear Guard	1
19	09170200	Right Rear & Left Front Guard	2
20	31292710	SquareWasher	2
21	38356816	Incline Brace	1
22	39405300	Incline (Assembly)	1
22a	38373816	Incline Frame	1
22b	09076600	Wheel	2
22c	31184500	Rod	1
22d	25018900	5/16" Pushnut	2
22e	39152200	Roller	2
22f	25014600	5/16" Locknut	2
22g	34029910	Incline Rail	2
22h	21027700	#10 x 5/8" Long Machine Screw	4
22i	25026000	#10 Capnut	4
23	37046100	Reed Switch	1
24	62444100	Operation Decal	1
25	34027810	Incline Rail	2
26	39388300	Gas Cylinder w/ Pivot Bracket	1
27	39152200	Roller	2
28	39393800	Foot (Assembly)	2
28a	38358716	Foot	2
28b	02064000	Foot Cap	2
29	31299710	Spacer Plate	2
30	31299616	Incline Pivot Bracket	2
31	31291816	Power Cord Bracket	1
32	39368900	Power Cord	1
33	37024500	Reset Switch 10 amp	1
34	39379900	Motor Mount Bracket (Assembly)	1
34a	31292510	Motor Mount Bracket	1
34b	20016000	#10 x 1/2" Sheet Metal Screws	2
35	39379300	Motor / Motor Mount (Assembly)	1
35a	38356510	Motor Mount	1
35b	37041200	Motor	1

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PARTS

Replacement Parts List cont.

ITEM NO.	PART NO.	PART NAME	QUANTITY
35c	33021010	Flywheel	1
35d	39195600	Mounting Strap	2
36	09175300	Drive Belt	1
37	31292616	Console Tube Bracket	1
38	31291710	Support Bracket	1
39	31292410	Motor Cover Bracket	1
40	30464116	Console Tube	1
41	62447600	Console Tube Label	1
42	37043200	Controller 10 amp	1
43	09165100	Motor Cover	1
44	31295416	Bottom Motor Cover	1
45	09177200	Pulley Cover	1
46	39394000	Console (Assembly)	1
47	09179500	Grommet	2
48	09169400	Flanged Bushing	1
49	37040100	Strain Relief Bushing	1
50	29452200	Spring	1
51	29447200	"U" Clip	1
52	29449800	S" Clip	1
53	23020800	"J" Bolt"	1
54	09177400	Circuit Board Support	4
55	23021000	1/4" x 3/4" Long Hex Washer Head Screw	22
56	23020900	1/4" x 1 1/2" Long Hex Washer Head Screw	8
57	23021100	1/4" x 2 1/2" Long Hex Washer Head Screw	4
58	22026700	1/4" x 3" Long Button Socket Head Cap Screw	2
59	22020000	5/16" x 1 1/4" Long Hex Head Bolt	1
60	22018100	5/16" x 2" Long Hex Head Bolt	1
61	22027300	5/16" x 4" Long Hex Head Bolt	1
62	26009700	#10 Internal / External Tooth Lockwasher	1
63	20016000	#10 x 1/2" Long Sheet Metal Screw	8
64	20022100	#10 x 5/8" Long Washer Head Sheet Metal Screw (Black)	28
65	20022900	#10 x 5/8" Long Washer Head Sheet Metal Screw (Green)	1
66	20022200	#10 x 1" Long Washer Head Sheet Metal Screw	4
67	26018700	1/4" Flat Washer	2
68	26000400	5/16" Flat Washer	2
69	25014600	5/16" Locknut	4
70	29192500	3/16" Allen Wrench	1
71	37039700	Pulse Earclip w/Strain Relief Clip	1
72	62447400	Power Disconnect Label	1
73	37042800	PCB Interface	1
74	25024200	5/16" Capnut	2
75	60111600	Owner's Manual	1

PARTS

Parts Drawing
FIGURE 7

PARTS

Console (M5410)
Replacement Parts List

ITEM NO.	PART NO.	PART NAME	QUANTITY
46	39394000	Console (Assembly)	1
46a	37046200	Fitness Computer (M5410)	1
46b	09170300	Console Bottom	1
46c	09174400	Upper Control Panel	1
46d	09174800	Lower Control Panel	1
46e	09146100	Incline Lever	1
46f	09145800	Incline Bracket	1
46g	39394100	Wiring Harness	1
46h	39380000	Power Key w/Cord & Belt Clip (Assembly)	1
46i	62445600	Control Panel Decal Sheet	1
46j	29452018	Incline Cable	1
46k	37036400	On/Off Switch	1
46l	21026600	#4 x 7/8" Long Hex Washer Head Machine Screw	1
46m	21027400	#4 x 3/8" Long Machine Screw	1
46n	20022100	#10 x 5/8" Long Washer Head Sheet Metal Screw	4
46o	20020000	#8 x 1/2" Long Sheet Metal Screw	5
46p	25022800	#4 Nut	1
46q	26013000	#4 Internal / External Tooth Lock Washer	1
46r	62443300	Trouble-Shooting Label	1

PARTS

Console (M5410) Parts Drawing

46c

46h

46i

46e

46i

46n

46a

FITNESS COMPUTER CONNECTOR

46d

46f

46j

46k

46q

46p

46l

46o

46n

46m

46g

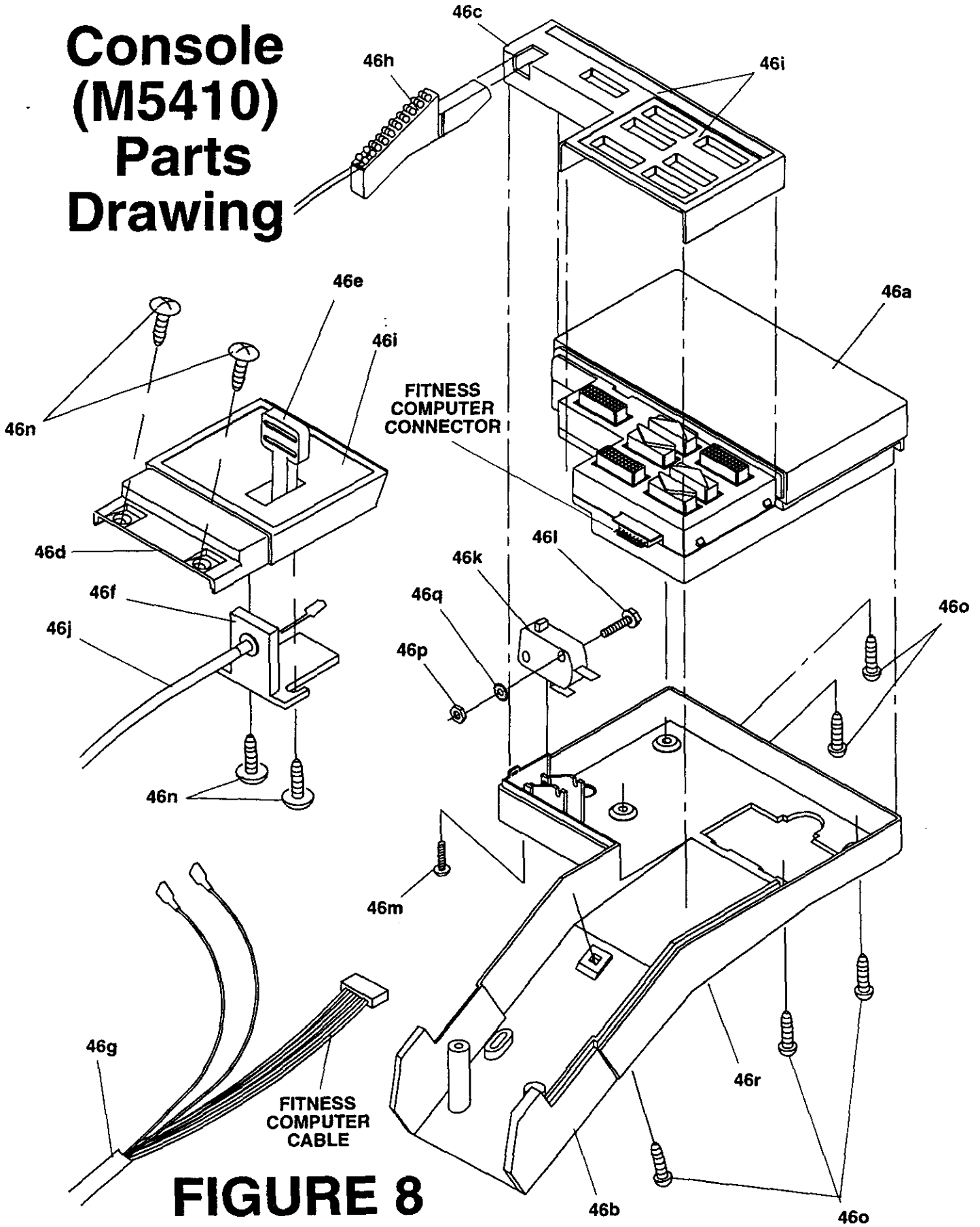FITNESS COMPUTER CABLE

46r

46b

46o

FIGURE 8

PARTS

REPLACEMENT PARTS

For answers to questions not covered in this service manual, please contact our customer service department at the following address or telephone number.

In the United States, call:

1-800-633-5730

or write to:

Diversified Products Corporation
P.O. Box 100
Opelika, AL 36801
Attn.: Customer Service - Parts