SPORTSART

8100

8100...

TROUBLE SHOOTING MANUAL

COMMERCIAL GRADE

ELLIPTICAL

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SPORTS ART 8100
COMMERCIAL GRADE ELLIPTICAL
TROUBLE SHOOTING MANUAL

It is recommended that only certified technicians with expert knowledge of this elliptical allowed to service this equipment to prevent harms or damage to the equipment.

To service this equipment, what you need are as follows:
. One extra electronics package
. One extra drive board
. One extra long 16 pin cable
. One extra short 16 pin cable

Please note: The 16 pin ribbon cable in your machine may be equipped with retaining clip connector or with two screw pins connector, both the replacement procedure are the same, only the connectors different.

A. BLANK DISPLAY

If you turn on the POWER SWITCH and there is no words appear on the display, please see below:

1. IF THE POWER SWITCH IS NO LIGHT, PLEASE CHECK IT AS BELOW PROCEDURE:

   a. Check if the power cord is plugged securely into the wall socket. Make sure the voltage is normal. (Please refer to Fig.1-1).

   b. Make sure the POWER SWITCH is in the " | " (ON) position. (Please refer to the fig1-1)

   c. If the POWER SWITCH is still not lit after the steps above have been performed, then POWER FUSE needs to be replaced. (Please refer to POWER FUSE REMOVAL AND INSTALLATION PROCEDURE (page. 44) for more details.

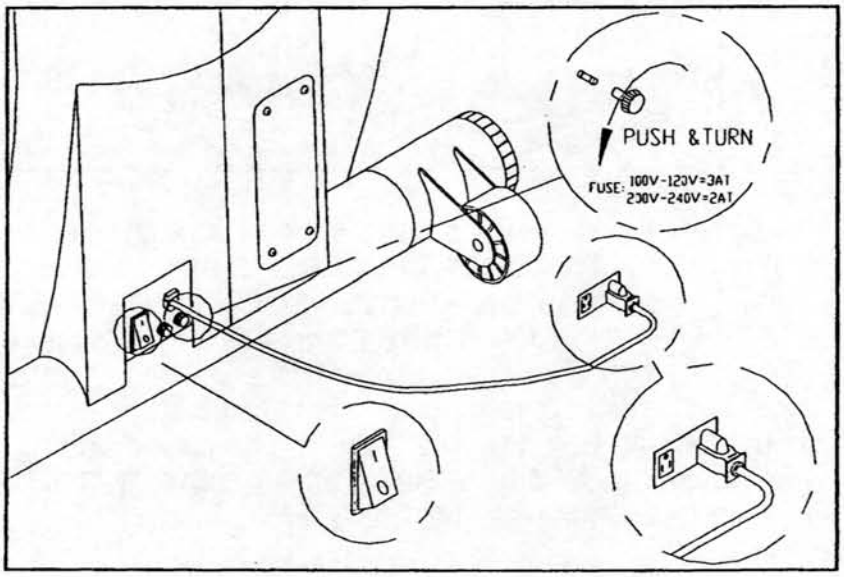

Fig.1-1

d. If the POWER SWITCH is still not lit after replacing the fuse, then the POWER SWITCH may be damaged and must be replaced. (see Page. 45)

e. If the POWER SWITCH is still not lit after replacing the power switch, the POWER CORD must be replaced.

f. If the fuse is broken at once after switch on, please check as below procedures:

1. Make sure all the cords on the DRIVE BOARD, POWER SUPPLY BOARD are plugged in a corrective position and securely. (see fig.1-2~1-3)

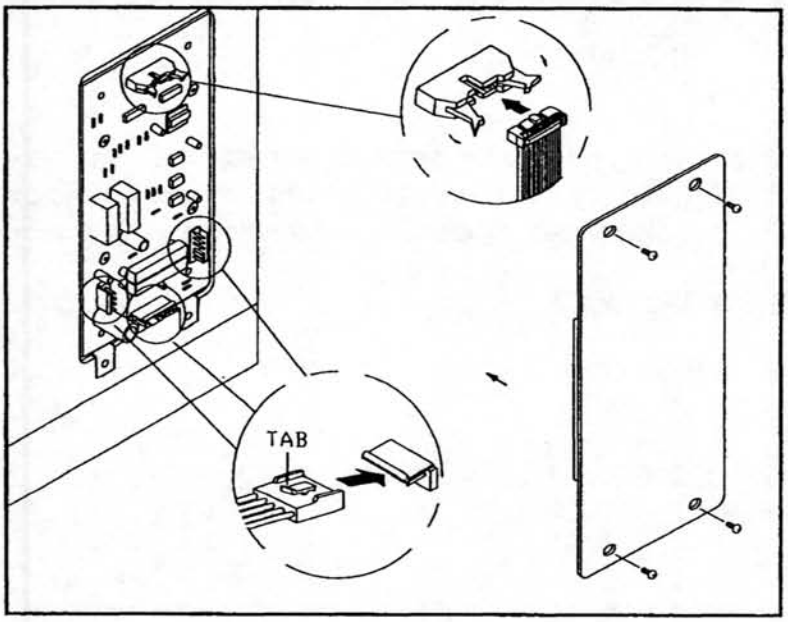

Fig.1-2

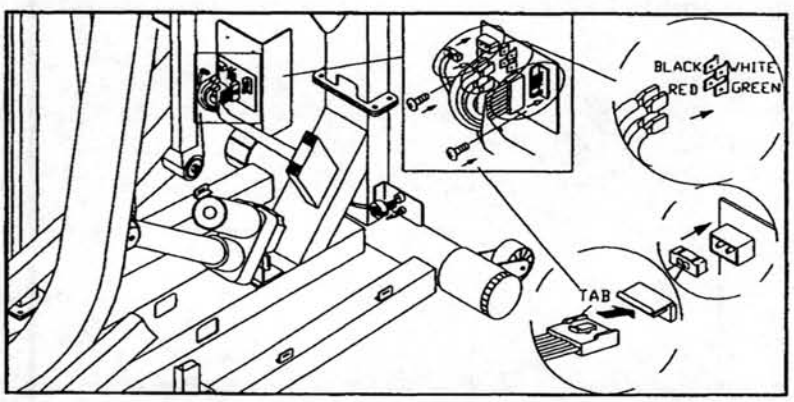

Fig.1-3

2. If it still refuses to respond after all the listed steps are performed as instructed, the POWER SUPPLY BOARD may be damaged and must be replaced. Please refer the POWER SUPPLY BOARD REMOVAL AND INSTALLATION PROCEDURE (page 43) for more information.

3. If it still refuses to respond after all the listed steps are performed as instructed, the DRIVE BOARD may be damaged and must be replaced. Please refer to the DRIVE BOARD REMOVAL AND INSTALLATION PROCEDURE (page 12) for more information.

2. IF THE POWER SWITCH IS NO LIGHT, PLEASE CHECK IT AS BELOW PROCEDURE:

a. Make sure the 16 pin connector to the electronics package to be secured in place (see Fig.1-4).

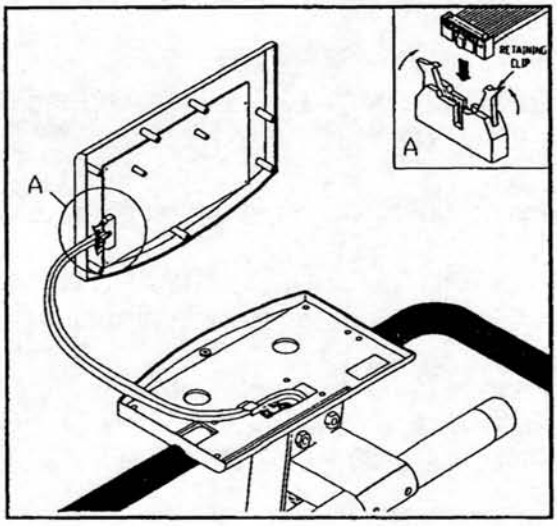

Fig.1-4

b. If the display is still blank, make sure the UPPER RIBBON CABLE from the UPRIGHT COLUMN (handlebar support) is plugged and secured by two screws firmly. (see Fig. 1-5)

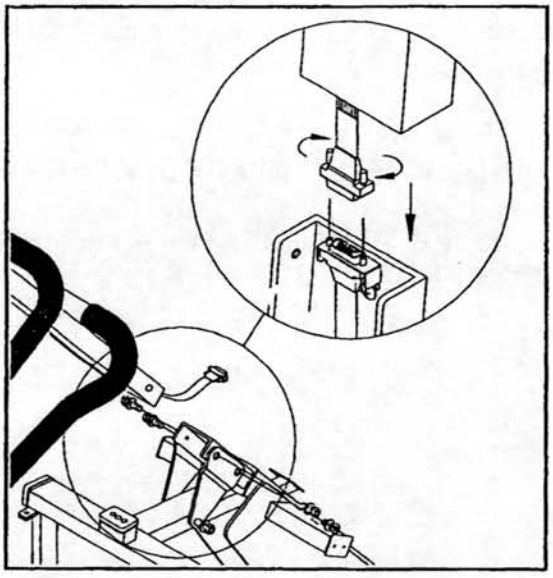

Fig.1-5

c. Make sure all connectors to the drive board are correct securely in place (see Fig. 1-2).

e. If the unit still fails to respond, please refer to the QUICK EXAMINATION PROCEDURE (page 7) for more details.

f. If, after the QUICK EXAMINATION PROCEDURE has been performed, the display still refuses to respond, then try to replace the POWER SUPPLY BOARD and please refer the POWER SUPPLY BOARD REMOVAL AND INSTALLATION PROCEDURE (page 43) for more details.

B. IF THE TENSION (LOAD) DOES NOT RESPOND PROPERLY

1. IF THE DISPLAY HAS "STEP/MINUTE" READING AND NORMAL DATA AFTER STEPPING, PLEASE CHECK AS BELOW:

   a. Please repair the unit as referring to the QUICK EXAMINATION PROCEDURE (page 7).

   b. Replace 6 PIN RIBBON CABLE as referring the 6 PIN CABLE REMOVAL AND INSTALLATION PROCEDURE (page 13).

   c. If it is no tension (load) during your stepping, please change the POWER SUPPLY PC BOARD on trial.
   Please refer the POWER SUPPLY BOARD REMOVAL AND INSTALLATION PROCEDURE (page 43) for more information.

   d. If it still improperly to respond after all the listed steps are performed as instructed, please replace the pulley wheel on trial. Please refer the PULLEY WHEEL REMOVAL AND INSTALLATION PROCEDURE (Page. 15) for more information.

2. IF THERE IS NO TENSION (LOAD) , AND THE DISPLAY HAS NO "STEP/ MINUTE" READING OR RESPONDS IMPROPERLY WHILE YOU ARE STEPPING PLEASE SEE BELOW:

   a. Please repair the unit on trial as referring the QUICK EXAMINATION PROCEDURE (page 7) for details.

   b. Replace the OPTICAL SWITCH on trial and please refer to OPTICAL SWITCH REMOVAL AND INSTALLATION PROCEDURE (page 19)

   c. Replace 6 PIN RIBBON CABLE as referring the 6 PIN CABLE REMOVAL AND INSTALLATION PROCEDURE (page 13).

C. THE TROUBLE SOLUTION OF "ERRx" MASSAGES (THE UNIT MUST BE RESTARTED WHEN APPEAR "ERRx" MASSAGES)

a. ERR 6:

An ERR 6 message means that the operation of ELEVATOR SYSTEM (RAMP unit) is abnormal and please check the unit as below steps:

1. Make sure the 16 pin connector to the electronics package to be secured in place (see Fig.1-4)

2. If the display is still blank, make sure the 16 PIN UPPER RIBBON CABLE from the UPRIGHT COLUMN (handlebar support) is plugged and secured by two screws firmly. (see Fig. 1-5)

3. Make sure all connectors to the drive board are correct securely in place (see Fig. 1-2).

4. Replace the 4A fuse of the ELEVATOR SYSTEM and please refer the FUSE OF ELEVATOR REMOVAL AND INSTALLATION PROCEDURE (page 20) for more details.

5. If the unit still appear the "ERR6" message, please refer to the QUICK EXAMINATION PROCEDURE (page 7) for more details.

6. If it still to appear the "ERR6" message after all the listed steps are performed as instructed, please change the VR unit according to the VR REMOVAL AND INSTALLATION PROCEDURE (page 21) .

7. If it still to appear the "ERR6" message after all the listed steps are performed as instructed, please replace the ELEVATOR according to the ELEVATOR REMOVAL AND INSTALLATION PROCEDURE (page 24).

b. ERR 7:

It means the ELECTRONICS PACKAGE can't detect the voltage from theVR and must check the unit as below steps:

1. Make sure the 16 pin connector to the electronics package to be secured in place (see Fig.1-4)

2. If the display is still blank, make sure the UPPER RIBBON CABLE from the UPRIGHT COLUMN (Handlebar Support) is plugged and secured by two screws firmly. (see Fig.1-5)

3. Make sure all connectors to the DRIVE BOARD are correct securely in place (see Fig.1-2).

4. If the unit still appear the "ERR7" message, please refer to the QUICK EXAMINATION PROCEDURE (page 7) for more details.

5. If the unit still appear the "ERR7" message after all the listed steps are performed as instructed, please change the VR unit according to the VR REMOVAL AND INSTALLATION PROCEDURE (page 21) .

D. QUICK EXAMINATION PROCEDURE

To examine damaged parts, you may need the following:

- One extra electronics package
- One extra drive board
- One extra long 16 pin cable
- One extra short 16 pin cable

a. If, after trying all the listed steps as instructed, the unit still responds improperly, please take a new ELECTRONICS PACKAGE and connect it to a new 16 pin cable, then plug the 16 pin cable into the socket on the original DRIVE BOARD.

b. To restart the unit again and if it appears as below conditions, please perform the relative instructed action:

1. If the problem remains, then the drive board is damaged, and must be replaced. Please refer to DRIVE BOARD REMOVAL AND INSTALLATION PROCEDURE (page 12) for more information.

2. If the unit functions properly, please perform the actions as below steps:

   Use the original (old) 16 pin cable connecting from the new ELECTRONICS PACKAGE to the original (old) DRIVE BOARD and please refer to the RIBBON CABLE REMOVAL AND INSTALLATION PROCEDURE (page 26) for the details. Restart the unit and check whether the operation is normal.

   (1) If the problem remains, then change the 16 PIN UPPER RIBBON CABLE from the UPRIGHT COLUMN to the ELECTRONICS PACKAGE on trial. (see fig.10-1~10-4)

   If above problem remains, then change another section of the 16 PIN UPPER RIBBON CABLE from the UPRIGHT COLUMN to the DRIVE BOARD. (see fig.11-1~11-6)

   (2) If the unit recover normally, the ELECTRONICS PACKAGE is damaged and must be replaced. (Please refer the fig.12-1~12-2 or 12A-1~12A-2)

E. MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE

1. Remove the ELECTRONICS POST COVER by unscrewing all screws. (see fig.2-1)

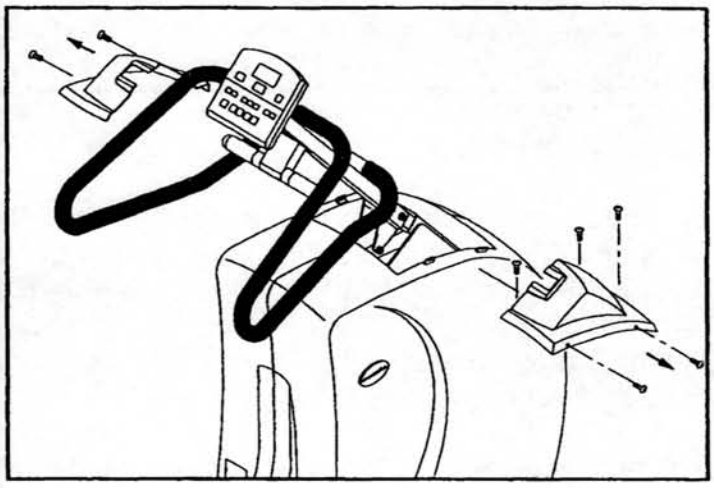

Fig.2-1

2. Remove the PROTECTIVE CENTER COVER by unscrewing all screws. (see fig.2-2)

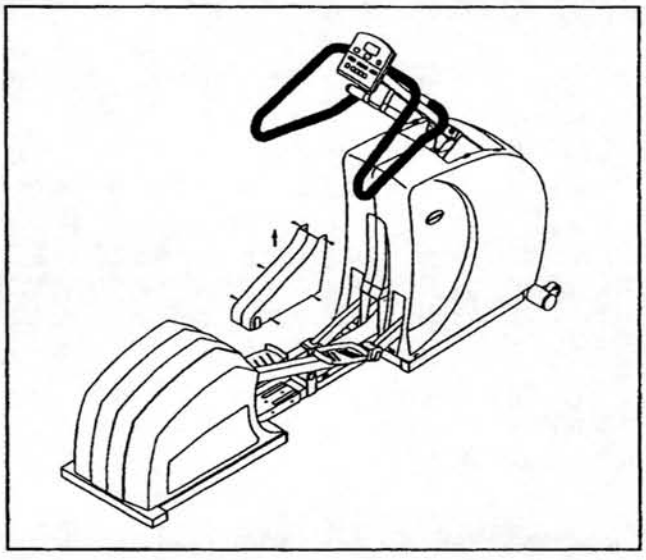

Fig.2-2

3. Remove the screws securing the FRONT COVER (see Fig. 2-3).

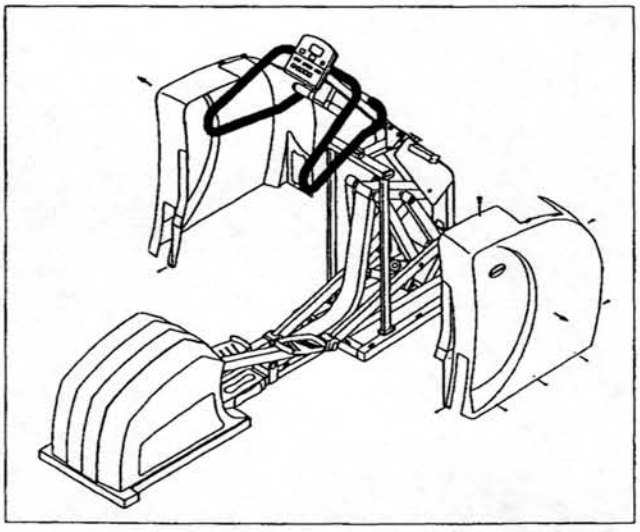

Fig.2-3

4. Remove the FRAME JOINT COVER (see Fig. 2-4).

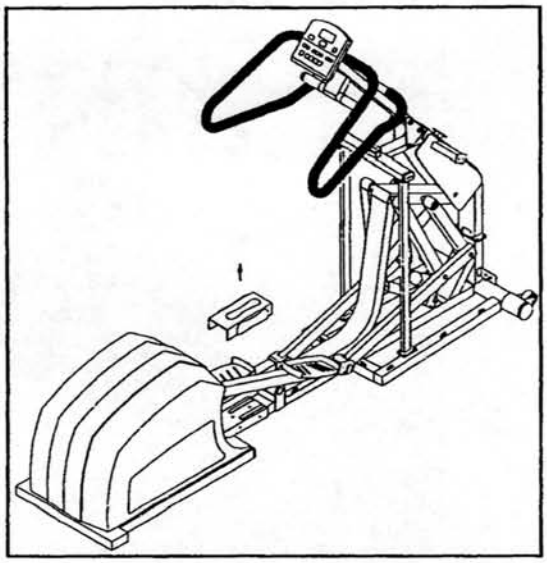

Fig.2-4

5. Remove the MAIN SHROUD by unscrewing (see Fig. 2-5).

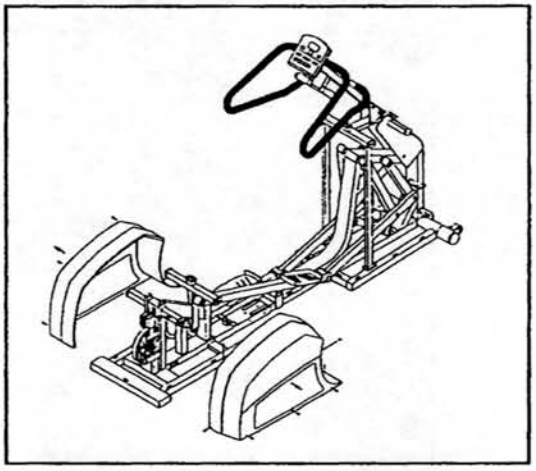

Fig.2-5

To Install:

1. Replace the MAIN SHROUD and secure with screws (see Fig. 2-6).

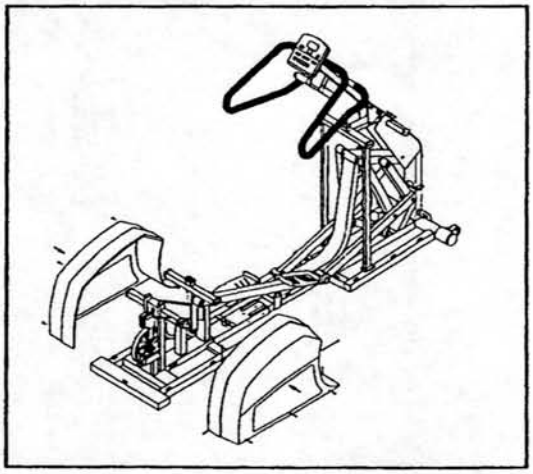

Fig.2-6

2. Place the FRAME JOINT COVER (see Fig.2-7).

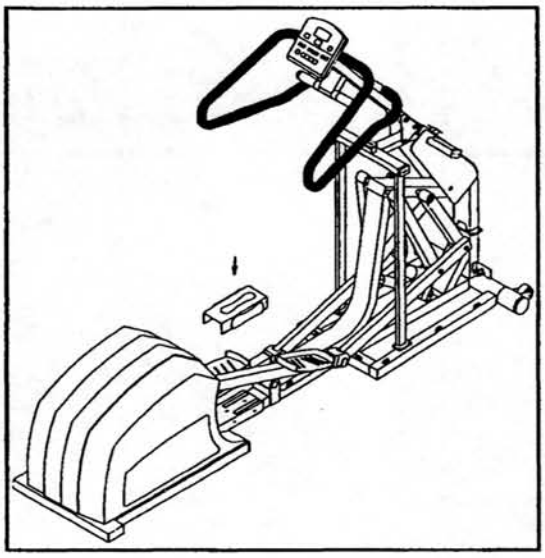

Fig.2-7

3. Secure the FRONT COVER with screws (see Fig.2-8).

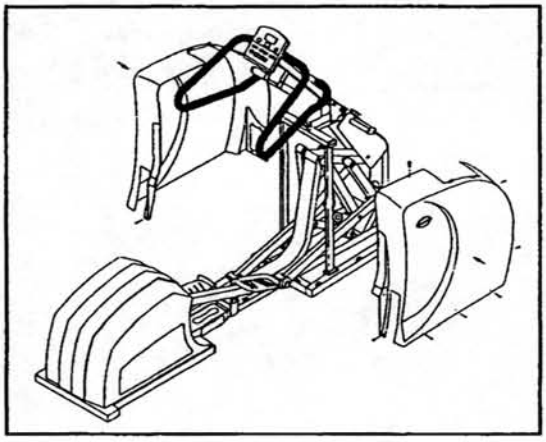

Fig.2-8

4.Secure the PROTECTIVE CENTER COVER with screws. (see fig.2-9)

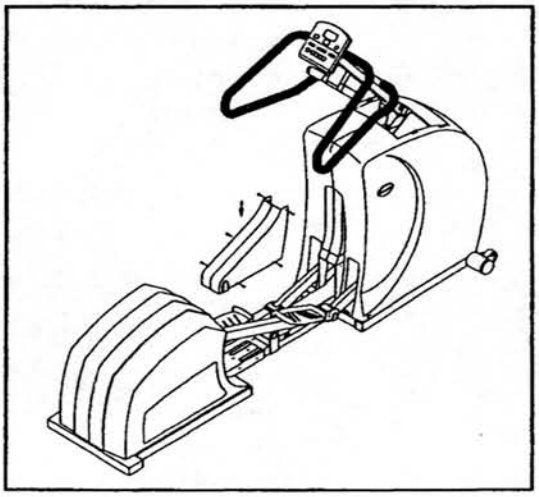

Fig.2-9

5. Secure the ELECTRONICS POST COVER with screws. (see fig.2-10)

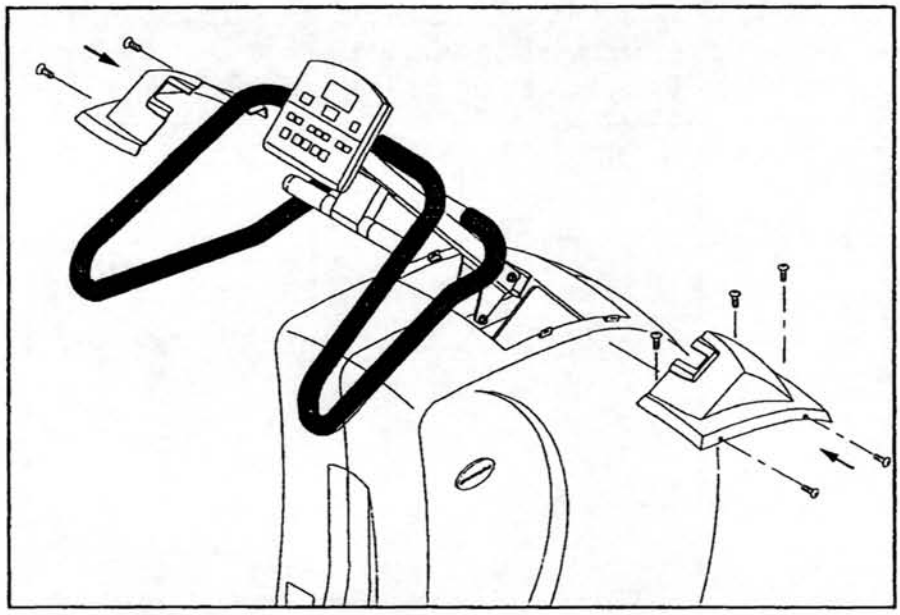

Fig.2-10

F. DRIVE BOARD REMOVAL AND INSTALLATION PROCEDURE

Open the REPAIR WINDOW, find the DRIVE BOARD located inside the frame and release all the cables from its socket. And then remove the damage DRIVE BOARD by unscrewing the fixing screws from DRIVE BOARD (see Fig.3-1).

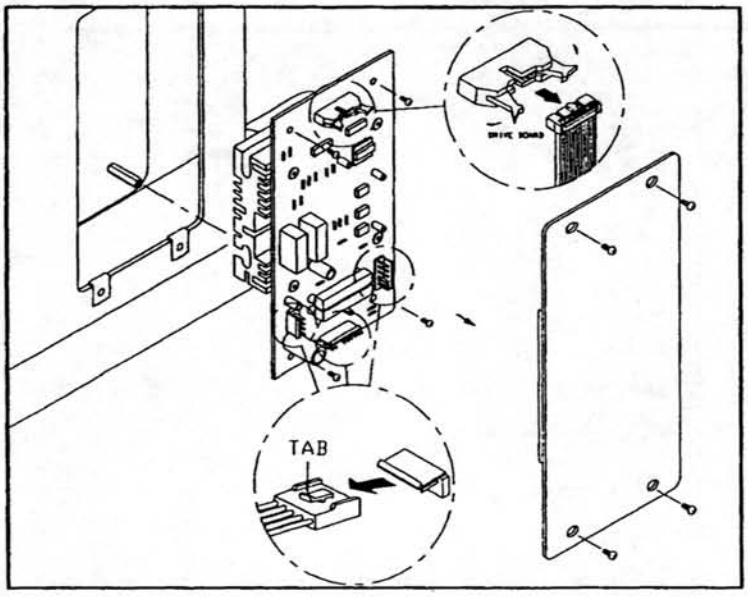

Fig.3-1

To Install:

Replace a new DRIVE BOARD into the same position and secure it with screws. Insert the cables into the socket securely and place the REPAIR WINDOW back into position(see the fig 3-2).

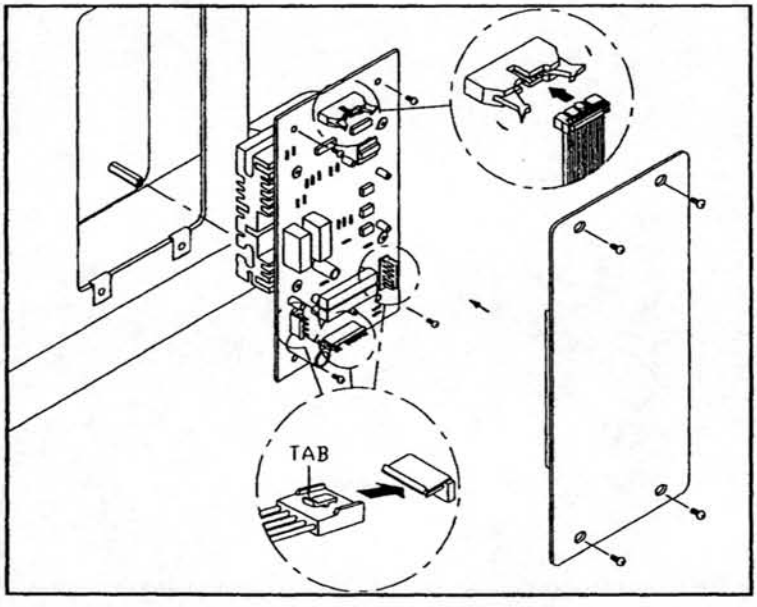

Fig.3-2

G.THE 6 PIN CABLE REMOVAL AND INSTALLATION PROCEDURE

1.Before remove the 6 PIN CABLE, you must remove the MAIN SHROULD first and please refer above MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (see page 8)

2.Unplug the terminals of the ELECTROMAGNET and the plug of the OPTICAL SWITCH (see fig 4-1).

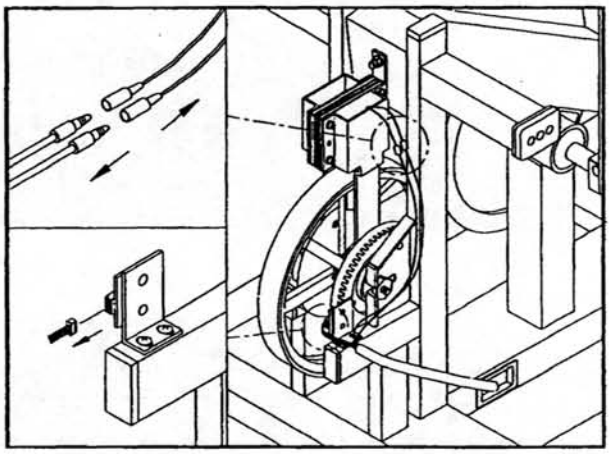

Fig.4-1

3.Find the 6pin ribbon cable from the DRIVE BOARD and take apart the plug from it (see fig 4-2).

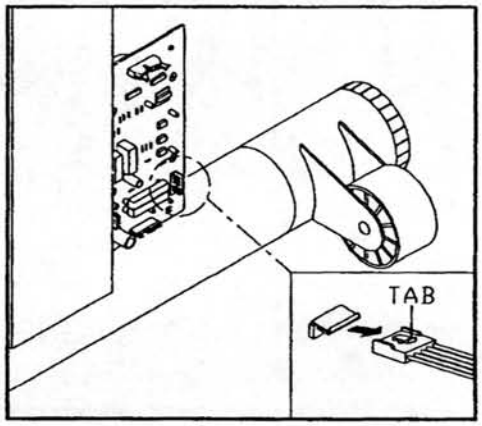

Fig.4-2

4.Firstly unplug the connector of the 6 PIN CABLE and then take the CABLE CLIP apart from the FRAME. Lastly, draw the replaced cable out as your desired (see fig 4-3).

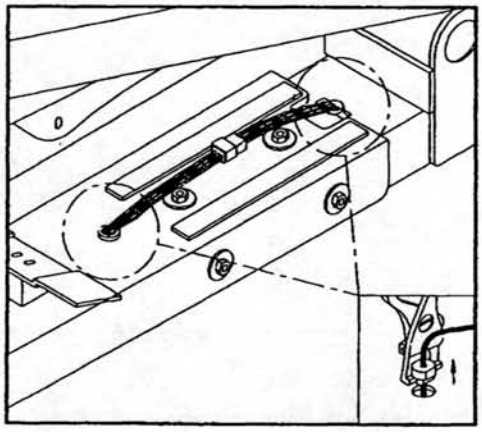

Fig.4-3

1. Place a new 6 PIN CABLE inserting through the FRAME and plug into the sockets (see fig 4-4).

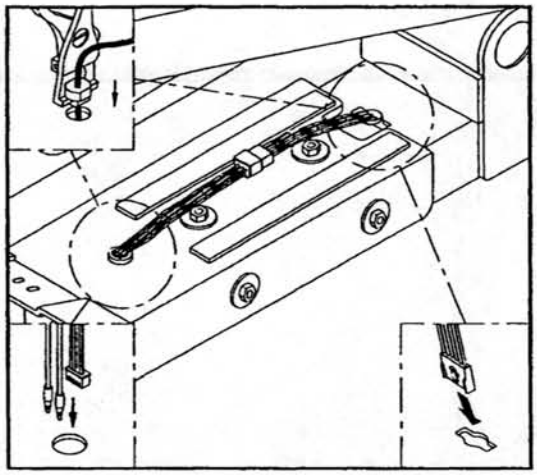

Fig.4-4

2. Connecting the cable into the DRIVE BOARD (see fig 4-5).

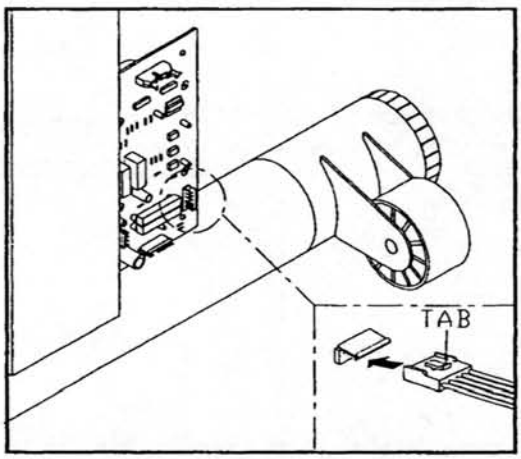

Fig.4-5

3. Connect the terminals of the ELECTROMAGNET and the plug of OPTICAL SWITCH (see fig 4-6).

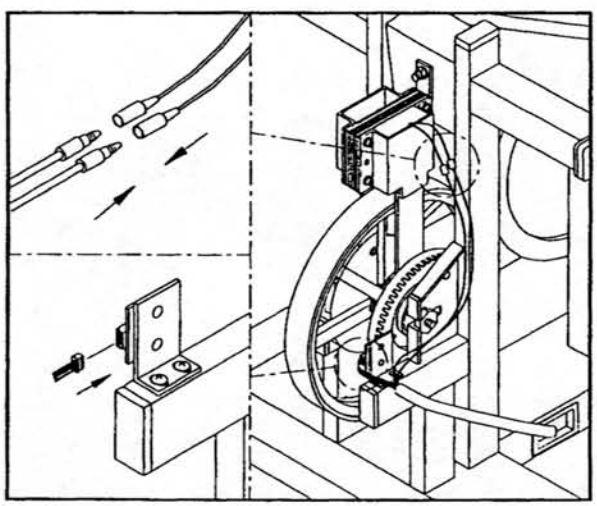

Fig.4-6

4. After finishing above steps, assemble the MAIN SHROULD again and please refer above MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (see page 8) .

H. PULLEY WHEEL AND GEAR SHAFT REMOVAL AND INSTALLATION PROCEDURE

1. Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2. Remove the left side of STAIR ARM JOINT COVER by unscrewing (see fig 5-1①) firstly.

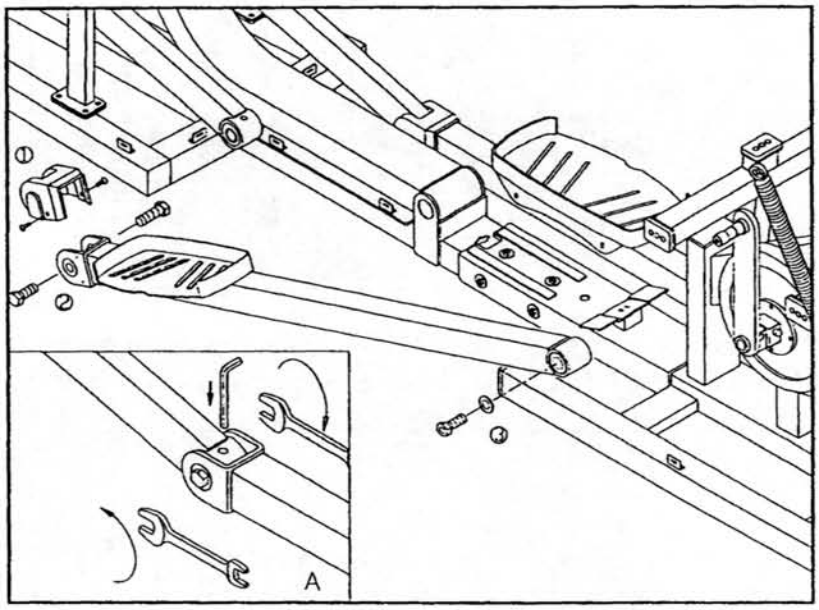

Fig.5-1

Secondly, remove the REAR HORIZONTAL LINKAGE from FRONT HORIZONTAL LINKAGE by unscrewing the screw. Using a Hex Allen Wrench to fix left side of screw and use another two wrenches to unscrew from the LINKAGE in two opposite directions (see fig 5-1② and the enlarged fig A).

Lastly, unscrew and take apart the LINKAGE from the FRAME (see fig 5-1 ③).

3. Pull out two pins from the IDLER WHEEL to loosen the Springs (see fig 5-2)

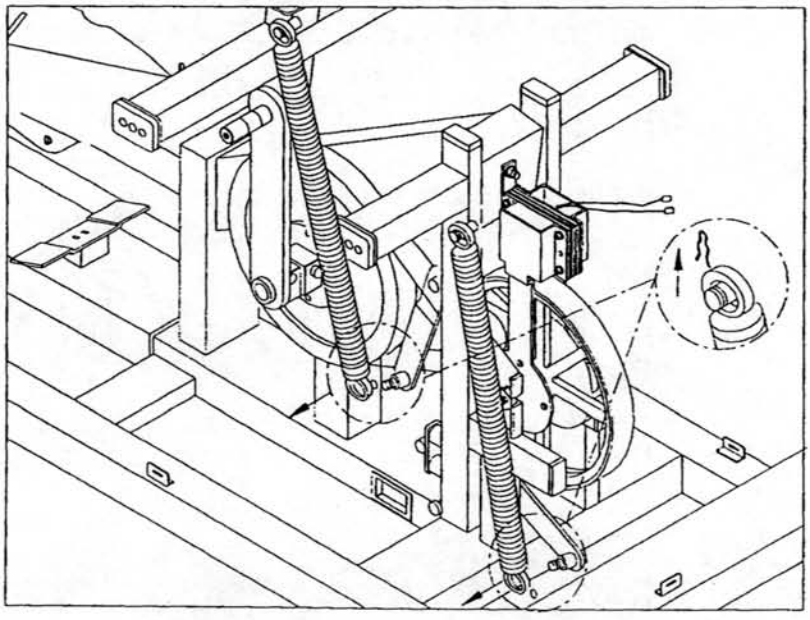

Fig.5-2

4. Turn the WHEEL moving by hand in one side and pull the belt until sliding out from the WHEEL (see fig 5-3)

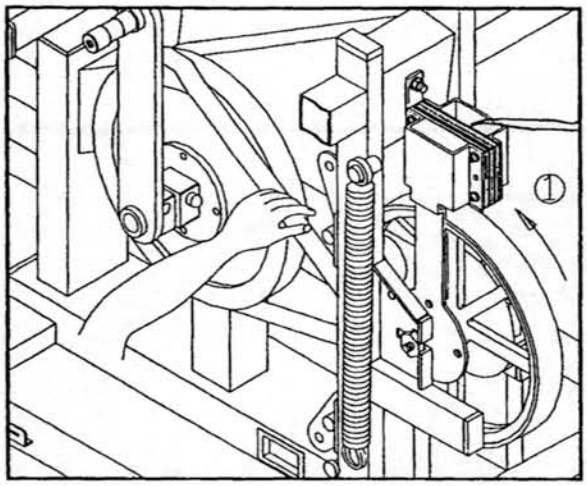

Fig.5-3

5. Find the harnesses of the ELECTROMAGNET and unplug off them. Take apart the OPTICAL SWITCH from the FRAME by removing the fixed screws (see fig 5-4).

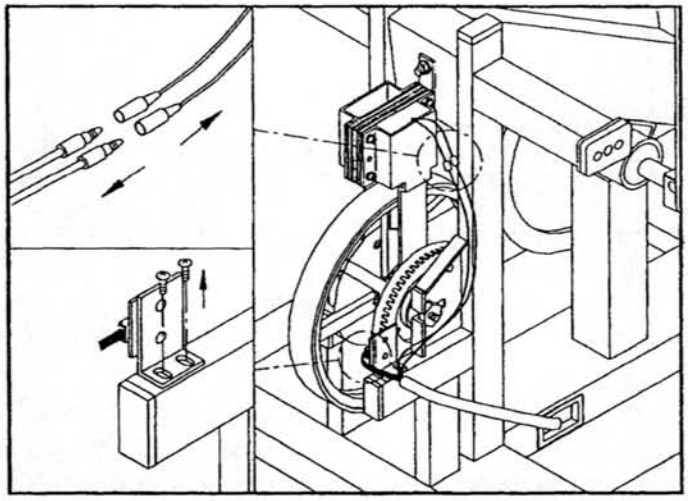

Fig.5-4

6. Remove all the nuts from the PULLEY WHEEL and move it from the FRAME (see fig 5-5).

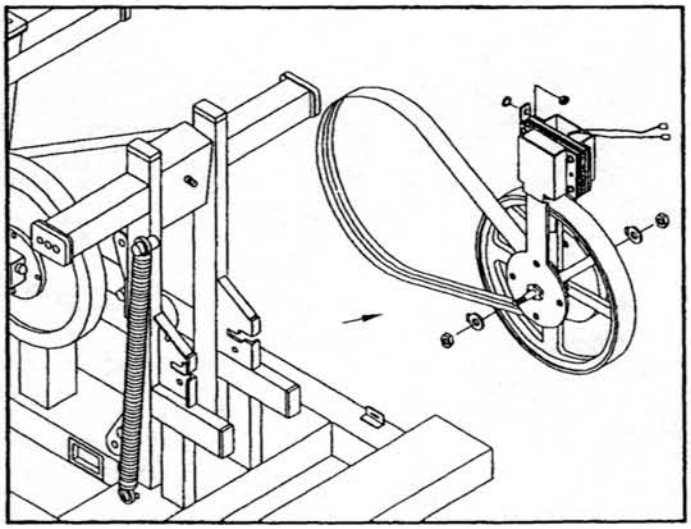

Fig.5-5

To Install

1. Place a new PULLEY WHEEL and install in the FRAME by securing the nuts (see fig 5-6).
   Please note the assembly direction of the washers must be installed as the enlarged figure of fig 5-6.

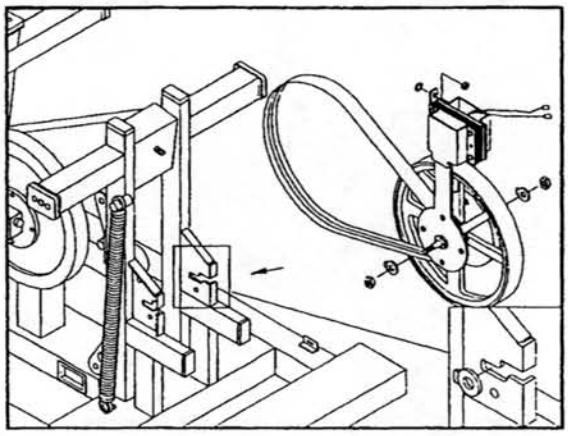

Fig.5-6

2. Connect the harnesses of the ELECTROMEGNET and secure the OPTICAL SWITCH on the FRAME.(see fig 5-7).
   (Please turn the PULLEY WHEEL and check whether the OPTICAL SWITCH contact the TACHOMETER WHEEL and cause some noise).

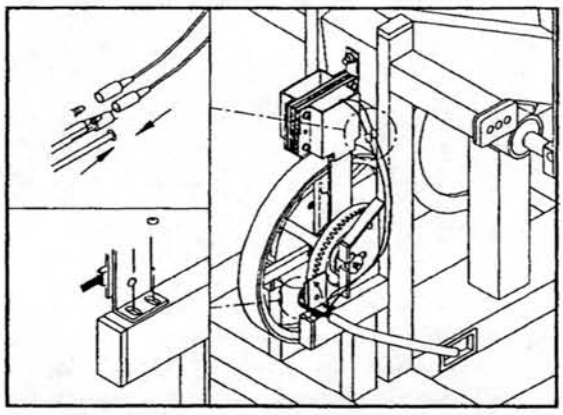

Fig.5-7

3. Suspend the Poly-V Belt at the position as (Fig.5-8) and place the IDLER WHEEL as the corrective position as the enlarged figure (Fig. 5-8). Turn the PULLEY WHEEL clockwise direction and make the belt onto the WHEEL.

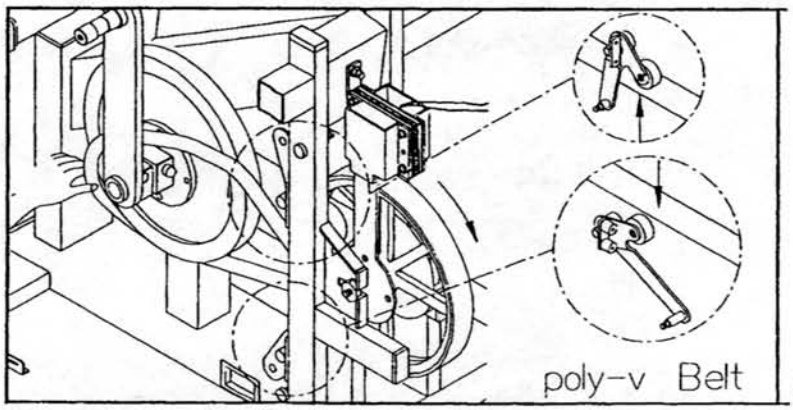

Fig.5-8

4.Check the teeth of Poly V Belt matching into the gear shelf wheel grooves completely. If some teeth of the belt don't match the grooves, adjust it by hand to pull the belt into the corrective position. Turn the PULLEY WHEEL to move the teeth into the grooves completely.(see fig.5-9).

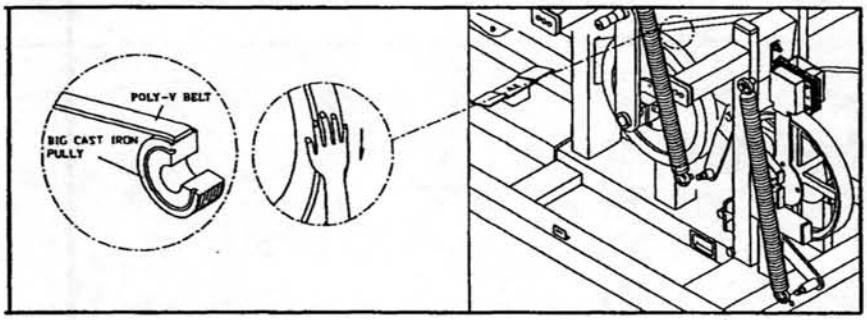

Fig.5-9

5.Install the SPRINGS of the IDLER WHEEL and lock them by inserting the pins (see fig. 5-10).

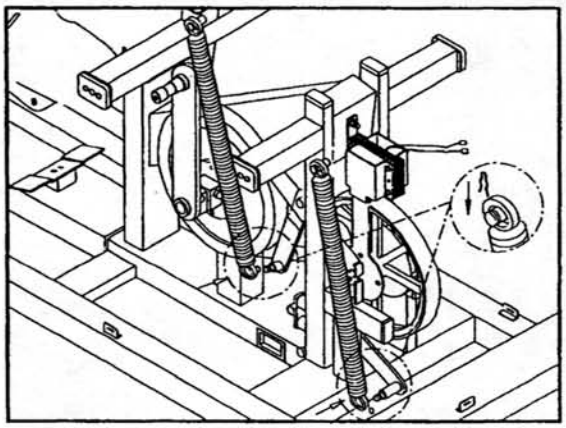

Fig.5-10

6.Firstly secure the LINKAGE into the FRAME by screwing (see fig 5-11.③).

Secondly, install the REAR HORIZONTAL LINKAGE to the FRONT HORIZONTAL LINKAGE by tightening the screw. Using a Hex Allen Wrench to fix left side of screw and use another two wrenches to screw from the LINKAGE in two opposite directions (see fig 5-11 ② and the enlarged fig A).

Lastly, secure the left side of STAIR ARM JOINT COVER by screwing (see fig 5-11 ①).

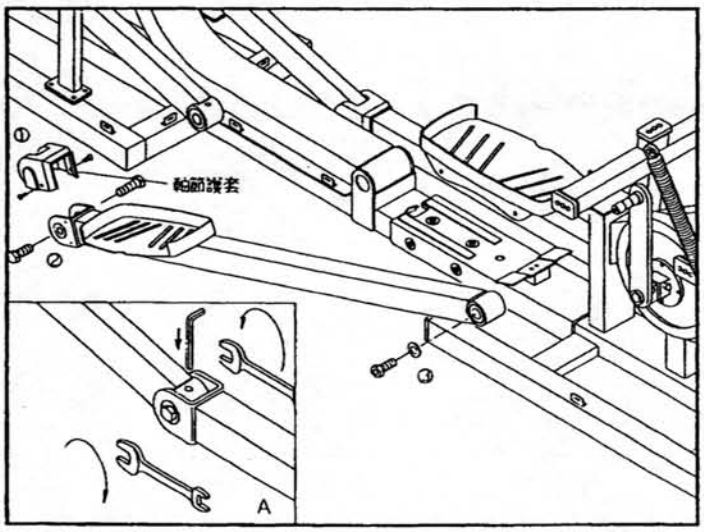

Fig.5-11

I. OPTICAL SWITCH REMOVAL & INSTALLATION PROCEDURE

1. Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2. Unplug the connector on the OPTICAL SWITCH (see Fig.6-1).

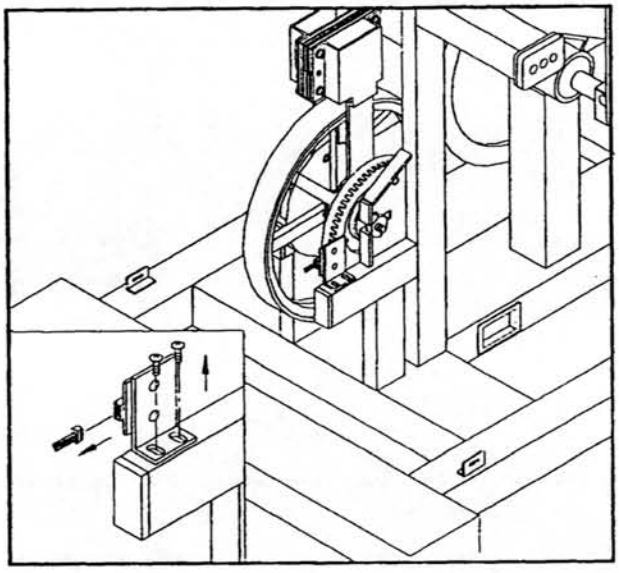

Fig.6-1

3. Unscrew the two screws securing the optical switch and remove it (see the enlarged figure of Fig.6-1).

To Install:

1. Secure the optical switch with two screws. Make sure the space between the OPTICAL SWITCH and TACHOMETER WHEEL must be kept. If any contact cause noise from them, adjust the OPTICAL SWITCH and make sure no touch from them. Then screw the two screws securing the optical switch, and then plug the connector into its socket on the OPTICAL SWITCH (see fig.6-2).

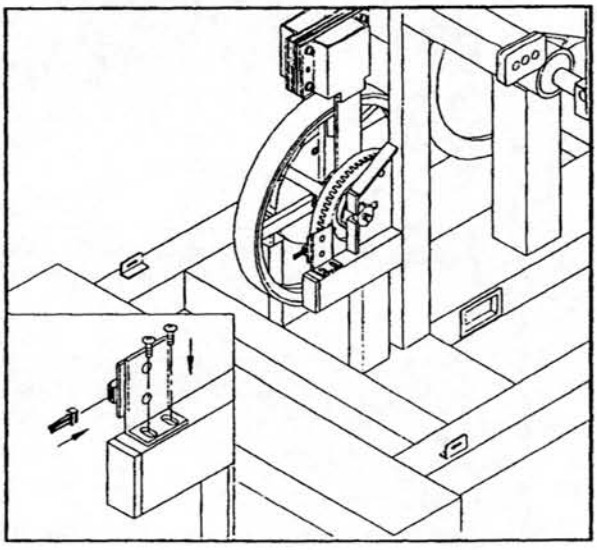

Fig.6-2

2. Place the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

J. FUSE OF ELEVATOR REMOVAL AND INSTALLATION PROCEDURE

1. Push in the FUSE HOLDER and then turn them counterclockwise and the FUSE HOLDER with FUSE will protrude (see fig. 7-1).

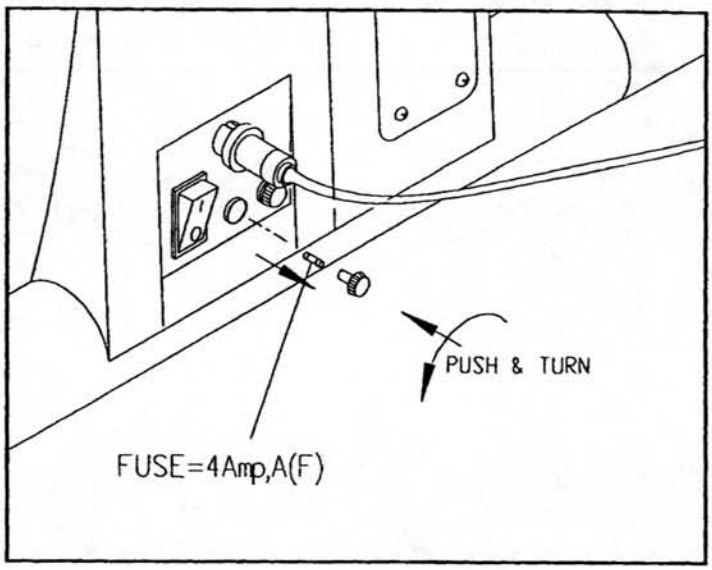

Fig.7-1

2. Remove the damaged fuse and insert a new one. Push the fuse holder with fuse in, turning clockwise to secure it (see fig. 7-2).

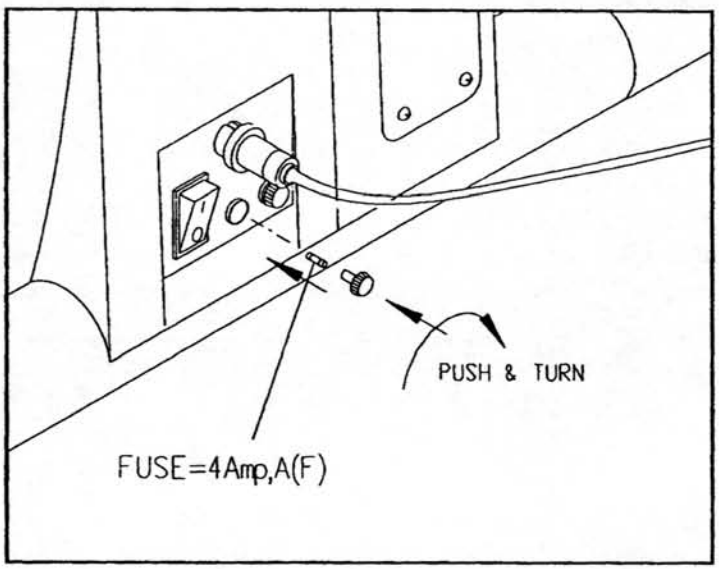

Fig.7-2

K. VR REMOVAL AND INSTALLATION PROCEDURE

1.Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2.Unplug the five harnesses and two connectors of the VR (see fig.8-1).

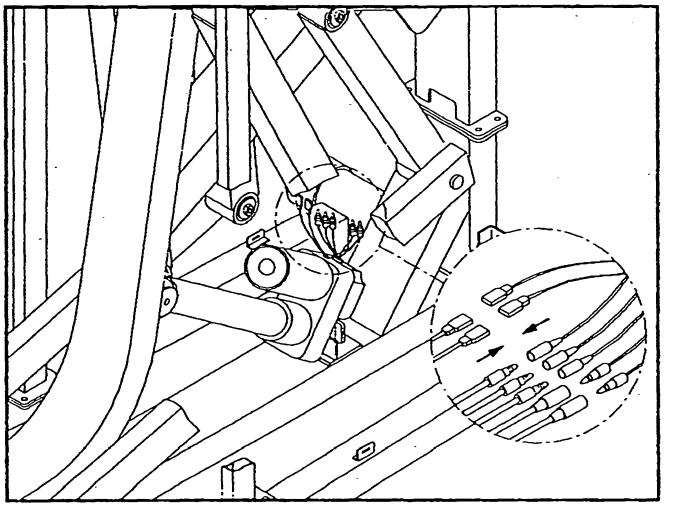

Fig.8-1

3. Remove the ELEVATOR MOTOR by taking apart the bolts (see fig.8-2)

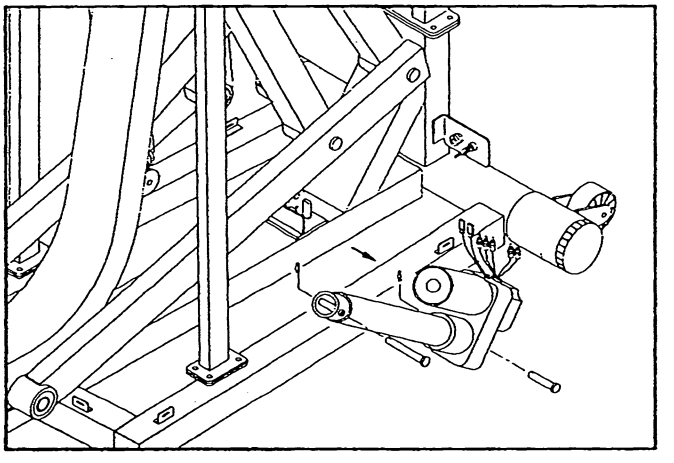

Fig.8-2

4. Remove the VR from the ELEVATOR by unscrewing (see fig. 8-3).

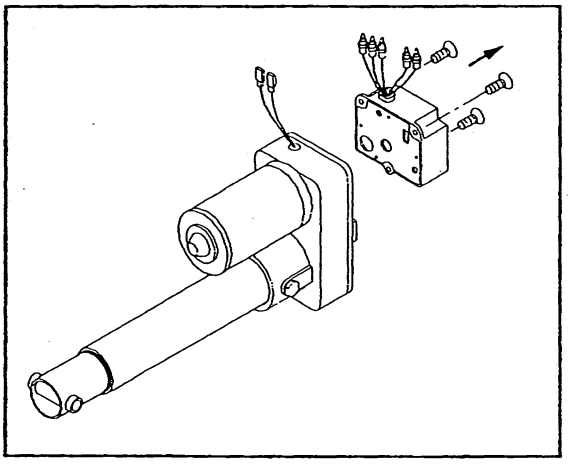

Fig.8-3

To Install

1. Replace a new VR and secure with screws (see fig.8-4).

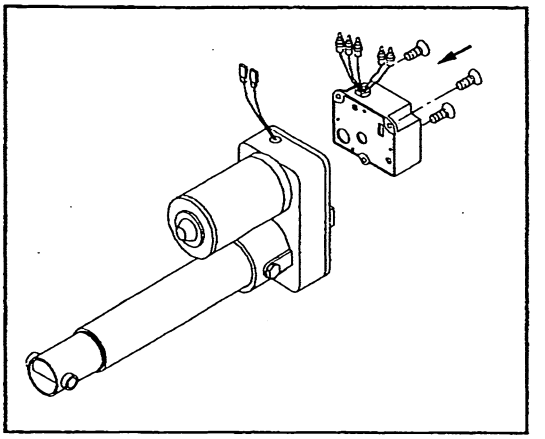

Fig.8-4

2. Plug all the harnesses and connectors of the VR based on their colors individually (see fig.8-5)

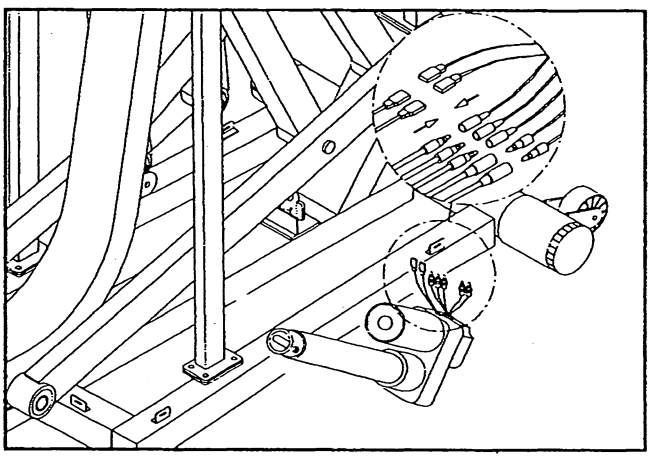

Fig.8-5

3. Turn on the POWER SWITCH and press "RAMP" ▲ or "RAMP" ▼ button on the ELECTRONIC PACKAGE to make the ELEVATOR raising up to the RAMP [3]. And then press the "RAMP" ▼ button making the ELEVATOR to lower down to the RAMP [0].

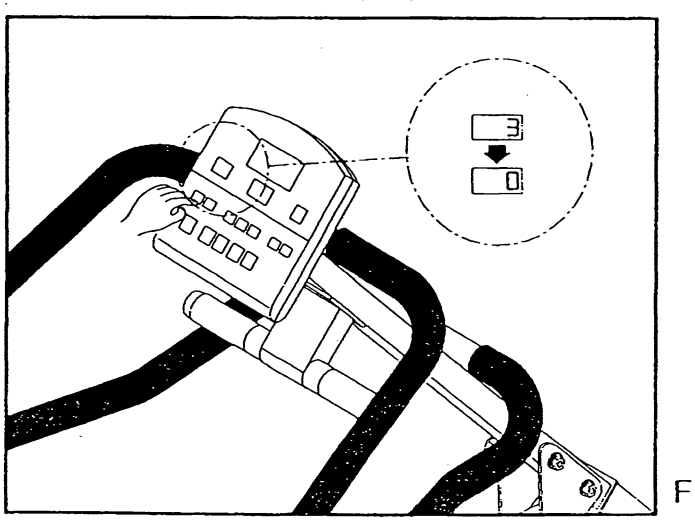

Fig.8-6

4. Please note the Line Mark on the FRONT RAISED TUBE must have 4 - 6 MM space with the edge of the HOLLOW TUBE of ELEVATOR. (see fig.8-7)

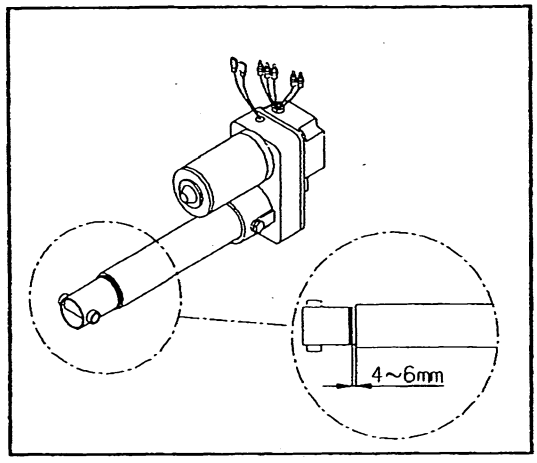

Fig.8-7

5..After finishing above steps, assemble the MAIN SHROULD again and please refer to MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (see page 8).

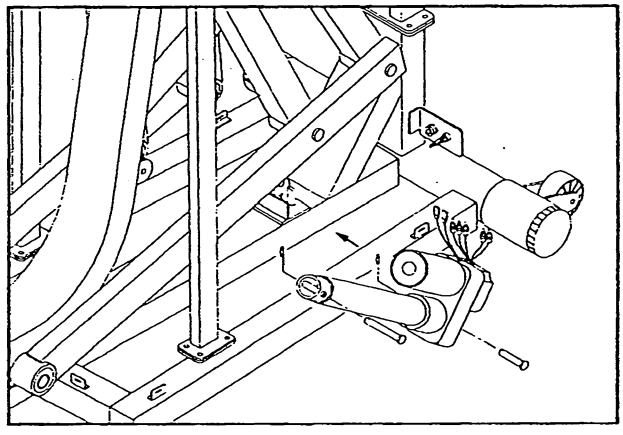

Fig.8-8

L. ELEVATOR REMOVAL AND INSTALLATION PROCEDURE

1.Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2.Unplug the five harnesses and two connectors of the VR (see fig.9-1).

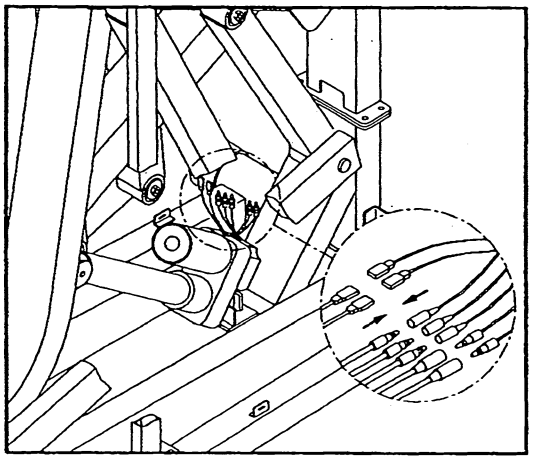

Fig.9-1

3.Remove the ELEVATOR MOTOR by taking apart the bolts (see fig.9-2)

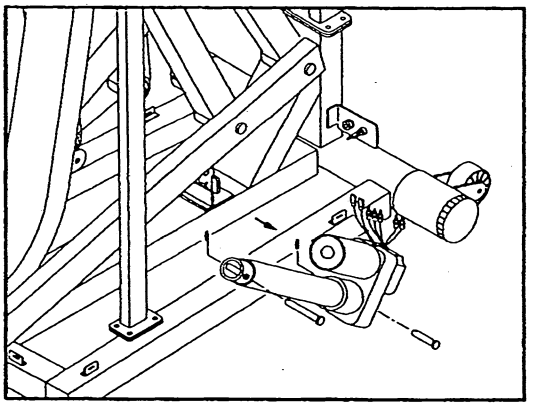

Fig.9-2

To Install

1.Replace a new ELEVATOR MOTER and secure it by two bolts (see fig.9-3).

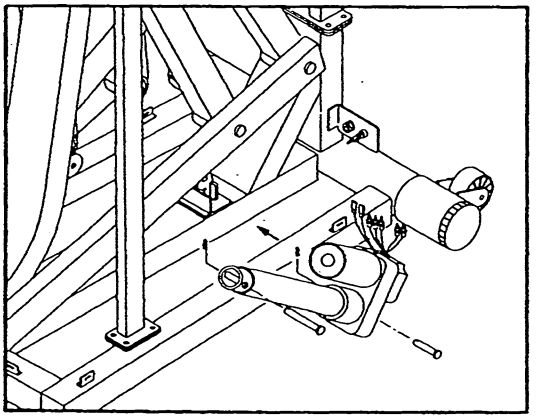

Fig.9-3

2.Unplug five harnesses and two connectors of the VR and tear off the adhesive tape from the FRONT RAISED TUBE. (see fig.9-4)

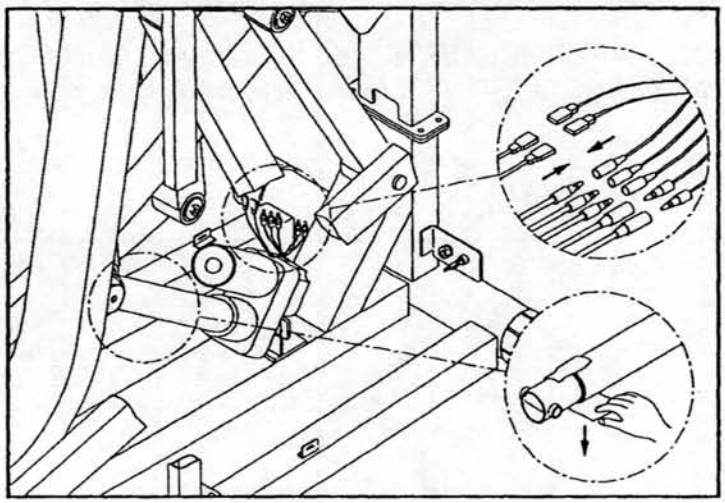

Fig.9-4

3..After finishing above steps, assemble the MAIN SHROULD again and please refer to MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (see page 8) .

M. RIBBON CABLE OF REMOVAL AND INSTALLATION PROCEDURE

ELECTRONIC PACKAGE

1. Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2. Unscrew the screws and take apart the connector of the ELECTRONIC PACKAGE (see fig.10-1).

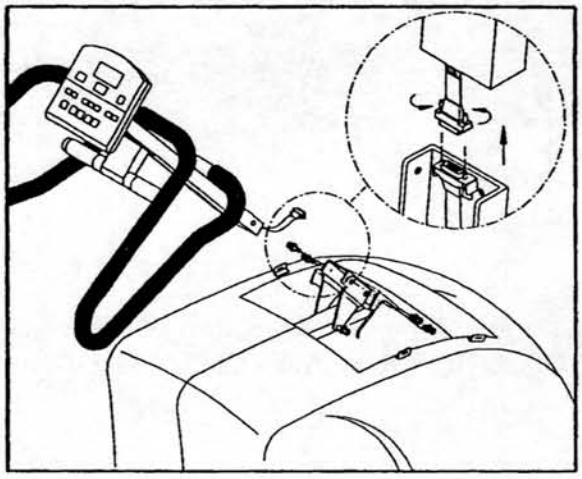

Fig.10-1

3. Disassemble all the screws of the panel and take off the COVER of PANEL. Unplug the cable from the RETAINING CLIP and loose the screw of the CABLE FIXED BAND. And then take the RIBBON CABLE from the ELECTRONIC PACKAGE away (see fig.10-2)

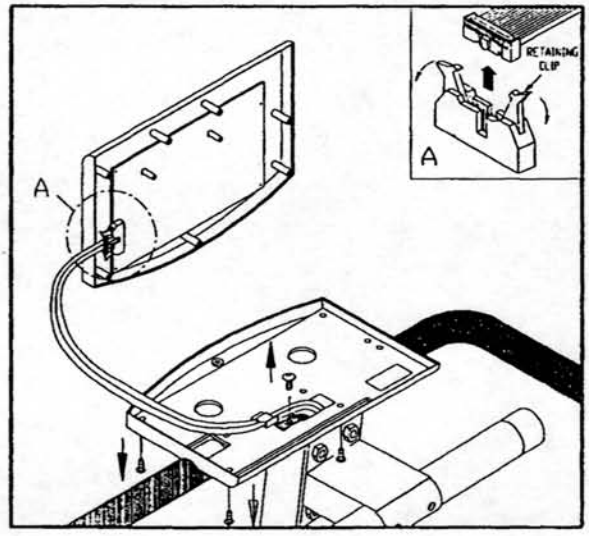

Fig.10-2

To Install

1.Replace a new RIBBON CABLE and fasten the screw of the CABLE FIXED BAND and plug the cable into RETAINING CLIP. Assemble the COVER OF PANEL by screwing. (see fig.10-3)

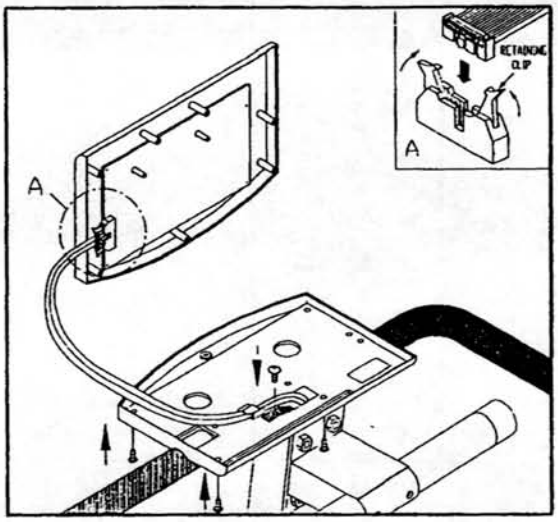

Fig.10-3

2. Plug the connectors of THE RIBBON CABLE securely and fasten them by screwing. Assemble the UPRIGHT COLUMN on the FRAME SUPPORT and secure it by screws (see fig10-4).

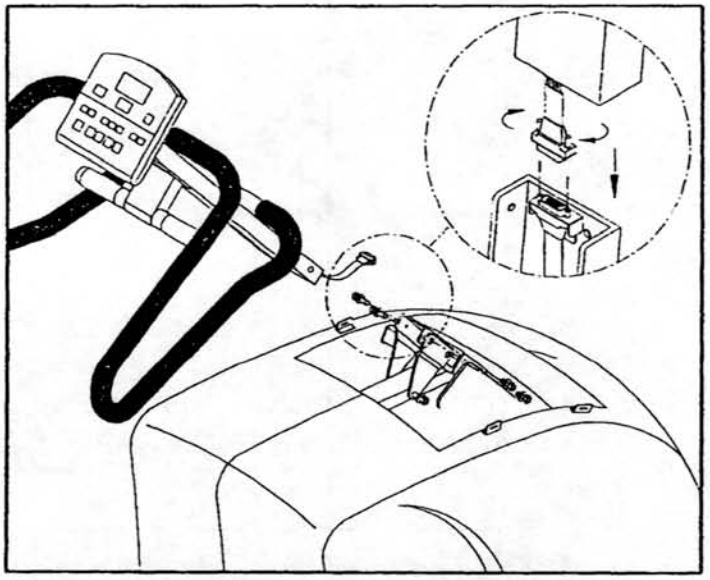

Fig.10-4

3. Then, assemble the MAIN SHROULD again and please refer to MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (see page 8)

DRIVE BOARD

1.Remove the main shroud, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2.Unplug the connector of RIBBON CABLE from the DRIVE BOARD (see fig.11-1).

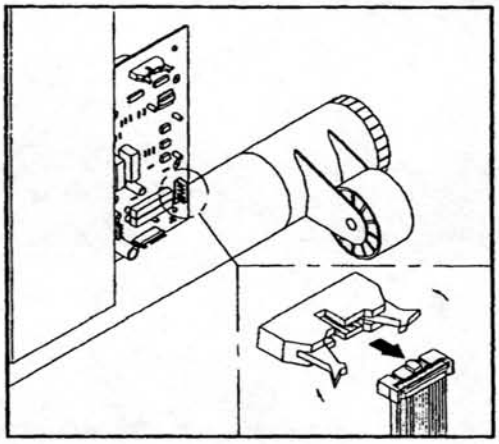

Fig.11-1

3.Take apart the UPRIGHT COLUMN from the FRAME SUPPORT and unplug the connectors of the RIBBON CABLE by unscrewing (see fig.11-2).

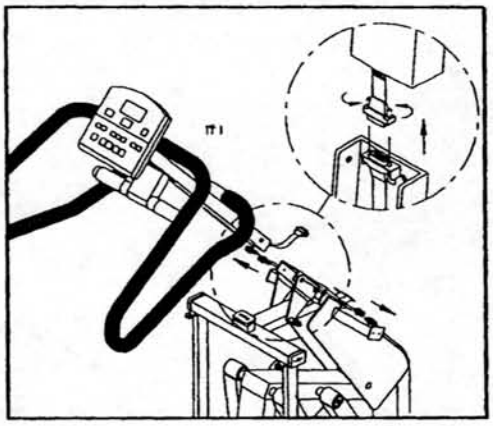

Fig.11-2

4. Release the CONNECTOR OF RIBBON CABLE by removing two screws from the FRAME SUPPORT and then take the RIBBON CABLE OF DRIVE BOARD off (see fig.11-3)

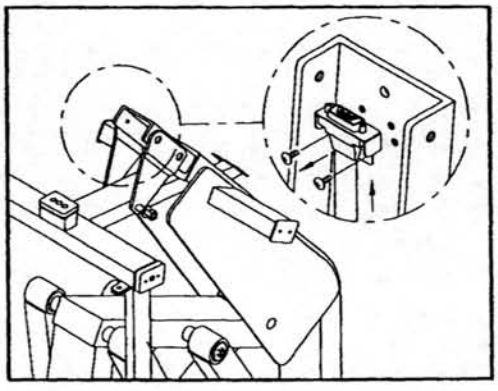

Fig.11-3

To Install

1. Replace a new RIBBON CABLE and secure its connector on the FRAME SUPPORT by screwing (fig.11-4).

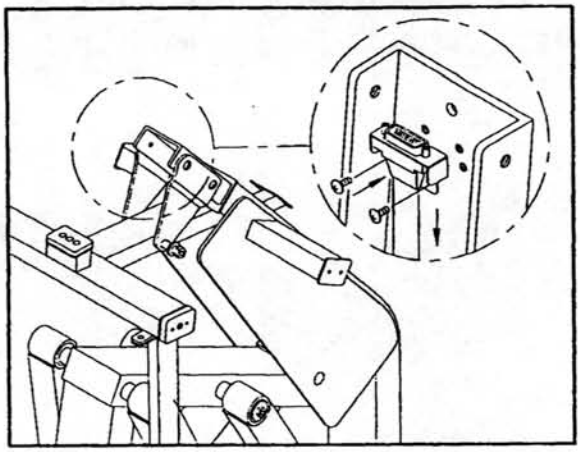

Fig.11-4

2. Plug the connectors of THE RIBBON CABLE securely and fasten them by screws. Assemble the UPRIGHT COLUMN on the FRAME SUPPORT and secure it by screws (see fig.11-5).

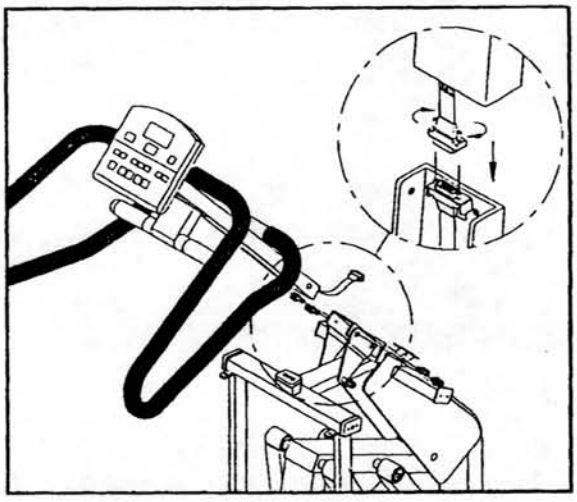

Fig.11-5

3. Plug the RIBBON CABLE onto the DRIVE BOARD and then, assemble the MAIN SHROULD again and please refer to MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (see page 8).

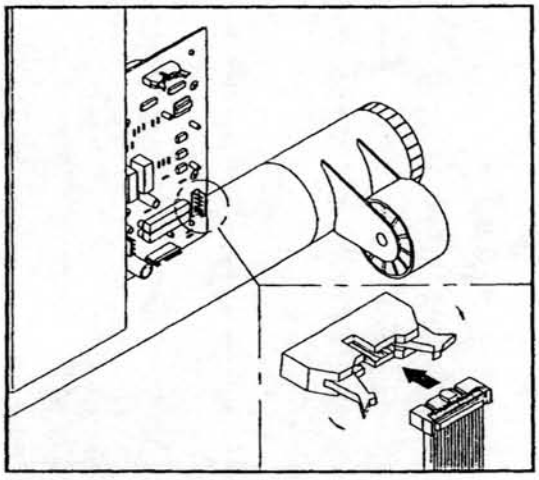

Fig.11-6

N. ELECTRONICS PACKAGE REMOVAL AND INSTALLATION PROCEDURE

WITHOUT HAND TOUCH READOUT (HTR)

Disassemble the COVER OF PANEL by removing the screws and unplug the connector of the RIBBON CABLE and then move the ELECTRONICS PACKAGE away (see fig.12-1).

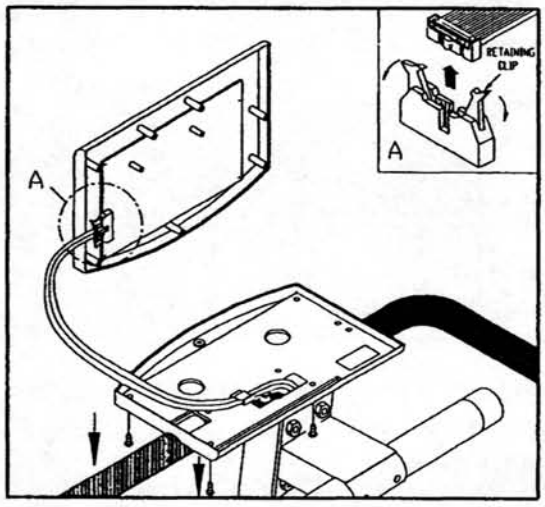

Fig.12-1

To Install

Place a new ELECTRONIC PACKAGE and connect the RIBBON CABLE. Finally, assemble the COVER OF PANEL by securing the screws.

WITH HAND TOUCH READOUT (HTR)

Disassemble the COVER OF PANEL by removing the screws (see fig.12A-1) and unplug the RIBBON CABLE from the RETAINING CLIP as enlarged figure A and then move the PC BOARD away by unplug the connector of the cable as the enlarged figure of (fig.12A-1).

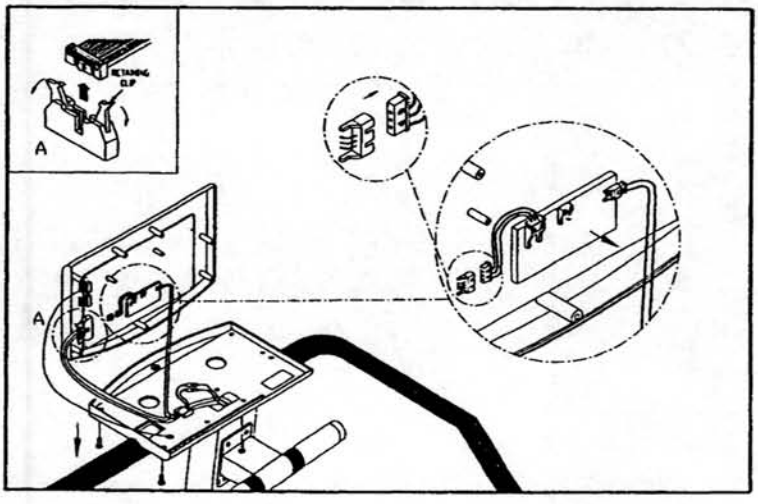

Fig.12A-1

To Install

Place a new ELECTRONIC PACKAGE and plug the connector of RIBBON CABLE as the enlarged figure of (fig.12A-2). Plug the RIBBON CABLE into the RESTAINING CLIP as the enlarged figure of (fig.12A-2A). Finally, assemble the COVER OF PANEL by securing the screws (see fig.12-2).

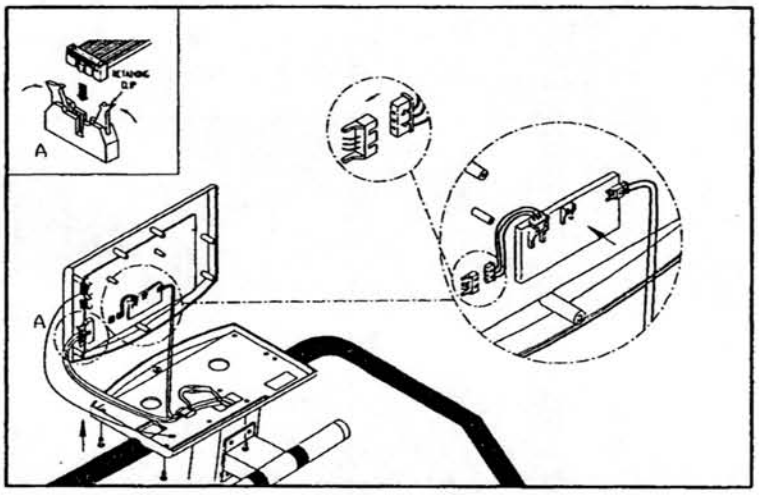

Fig.12A-2

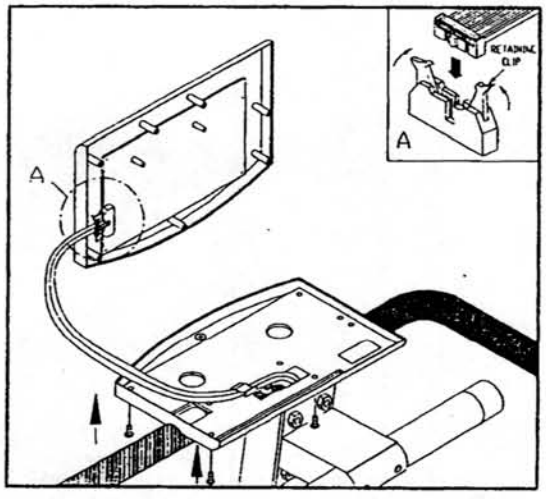

Fig.12-2

O. POLY V BELT REMOVAL AND INSTALLATION PROCEDURE

1. Remove the PULLEY WHEEL AND GEAR SHAFT, please refer to the PULLEY WHEEL AND GEAR SHAFT REMOVAL AND INSTALLATION PROCEDURE (page 15 and 16) for the details.

2. Use a wrench to fix the hexagonal head nut on the left side of the WHEEL (backside of the fig.13-1) first. Also, use another wrench by turning clockwise direction to tighten the nut on the wheel that the nut is to be fixed the WHEEL before disassembled (see fig.13-1 and its enlarged figure).

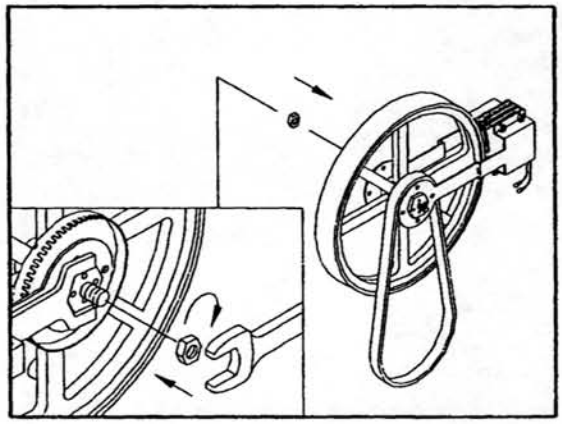

Fig.13-1

3. Continue to fix the hexagonal head nut on the left side of the WHEEL by a wrench. Use another wrench by turning counterclockwise to release the hexagonal head screw from the WHEEL (see fig.13-2)

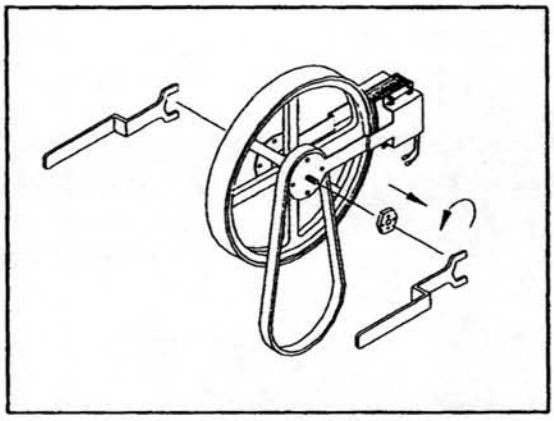

Fig.13-2

4. Lever the BRACKET OF THE ELETROMEGNET to remove the poly-V belt (see Fig. 13-3).

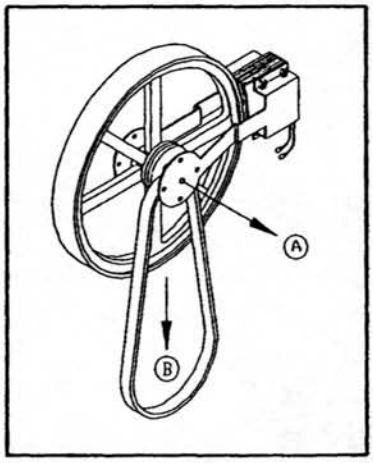

Fig.13-3

To Install:

1. Place a new poly-V belt into position by leveling the BRACKET and use a wrench to fix the hexagonal head nut on the left side of the WHEEL (backside of the fig. 13-4) first. Also, use another wrench by turning clockwise direction to tighten the nut on right side of the WHEEL (see Fig. 13-4).

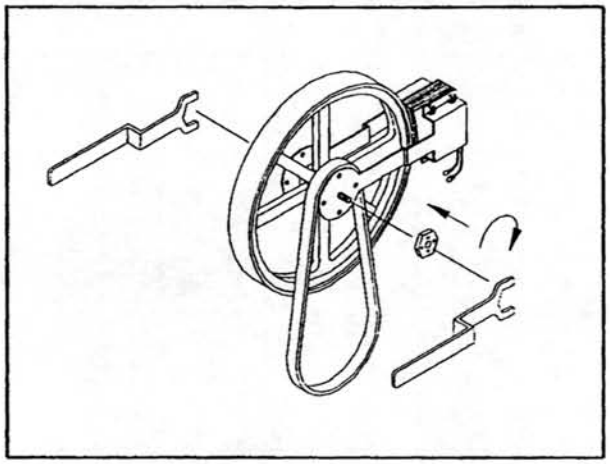

Fig.13-4

2. Use a wrench to fix the hexagonal head nut on the left side of the WHEEL (backside of the fig. 13-5) first. Also, use another wrench by turning counterclockwise direction to release the nut from the wheel.(see fig.13-5 and its enlarged figure).

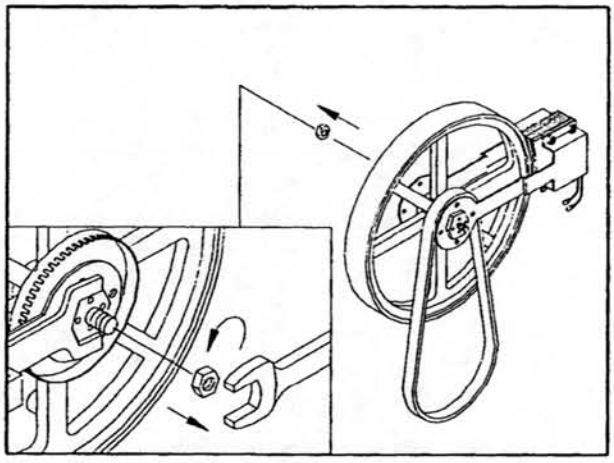

Fig.13-5

3. Assemble the PULLEY WHEEL AND GEAR SHAFT, please refer to the PULLEY WHEEL AND GEAR SHAFT REMOVAL AND INSTALLATION PROCEDURE (page 17) and (fig. 5-6 ~ 5-11)for the details.

P. IDLER PULLEY REMOVAL AND INSTALLATION PROCEDURE

1. Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2. Pull off two PINS which fixing the springs on the IDLER WHEEL ASSEMBLY and remove the springs out (see Fig. 14-1).

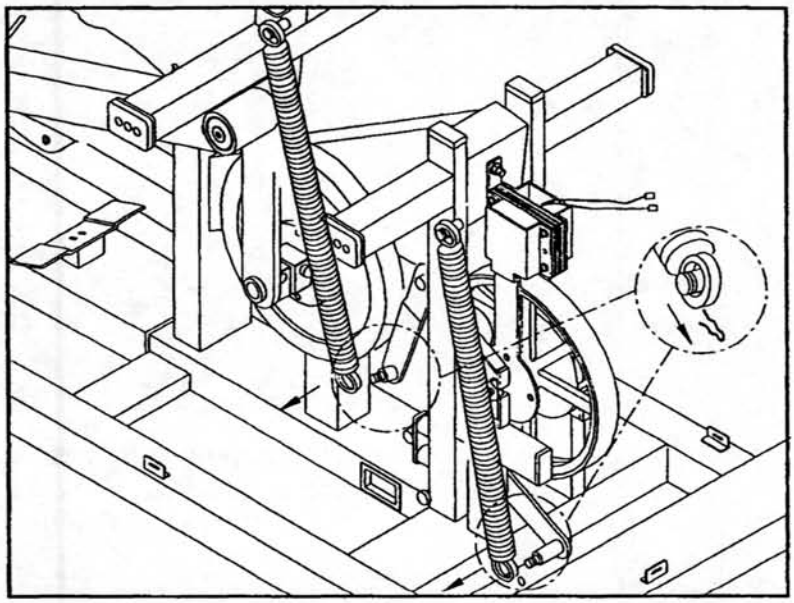

Fig.14-1

3. Remove all the screws from the IDLER WHEELS(see the enlarged figure of the fig.14-2) and take apart them from the FRAME (see fig.14-2)

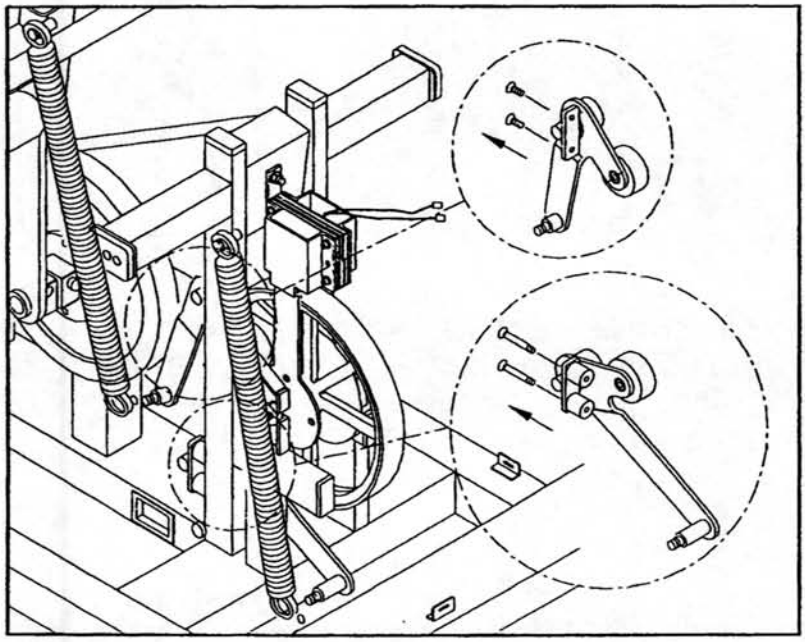

Fig.14-2

To Install

1. Replace two IDLER WHEELS and install them on the FRAME by fixing the screws (see fig.14-3 and its enlarged figure).

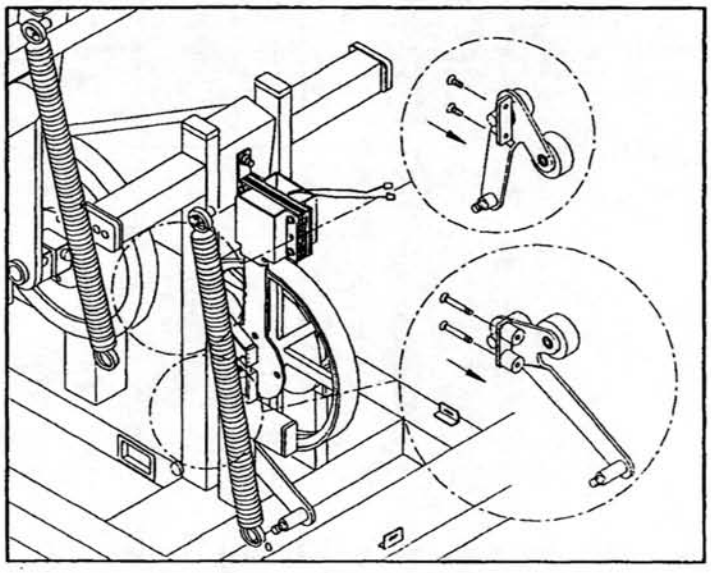

Fig.14-3

2. Put the springs inserting on connected position of the IDLER WHEEL and lock them by inserting the PINS (see fig.14-4).

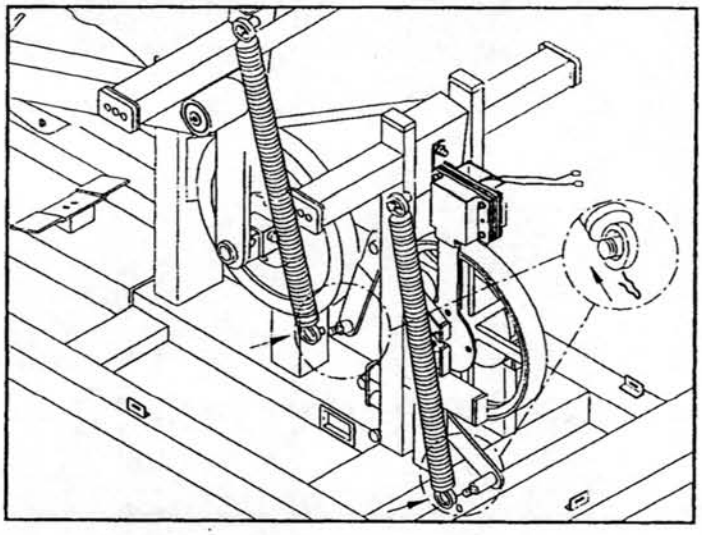

Fig.14-4

3. Assemble the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

Q. SPRING REMOVAL AND INSTALLATION PROCEDURE

1. Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2. Pull off two PINS which fixing the springs on the IDLER WHEEL ASSEMBLY and take apart the springs from the FRAME (see Fig. 15-1).

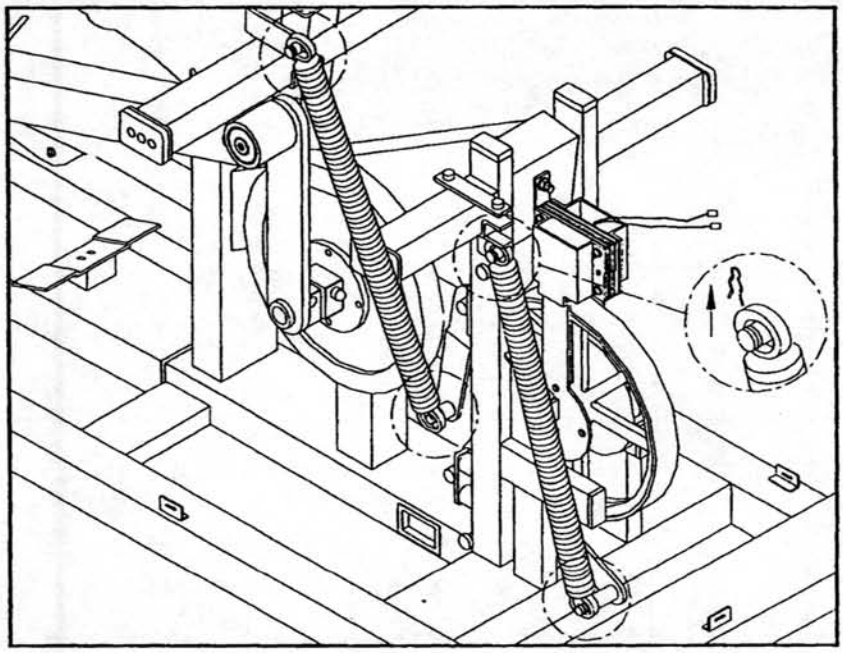

Fig.15-1

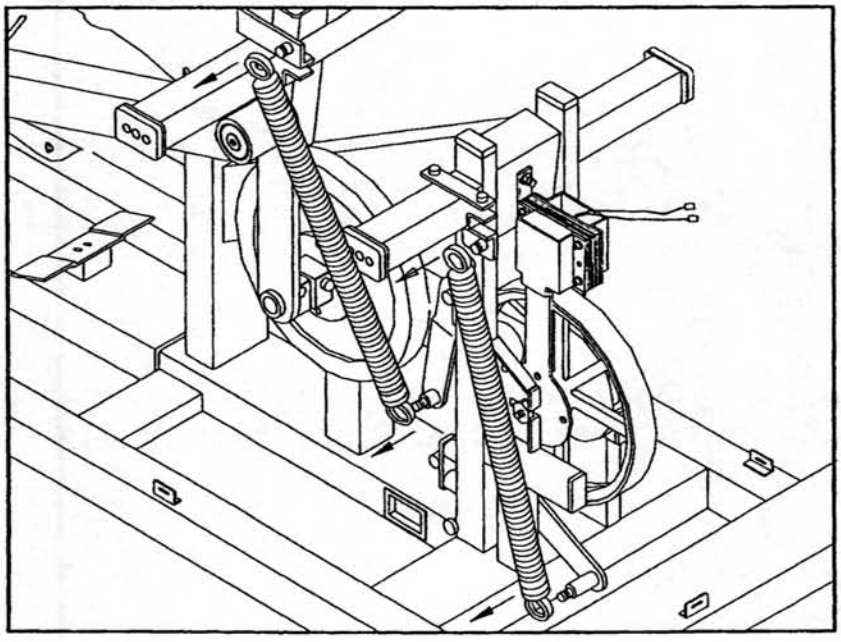

Fig.15-2

To Install

1. Replace two SPRINGS and install them on the FRAME and put the springs inserting on connected position of the IDLER WHEEL (see fig.15-3).

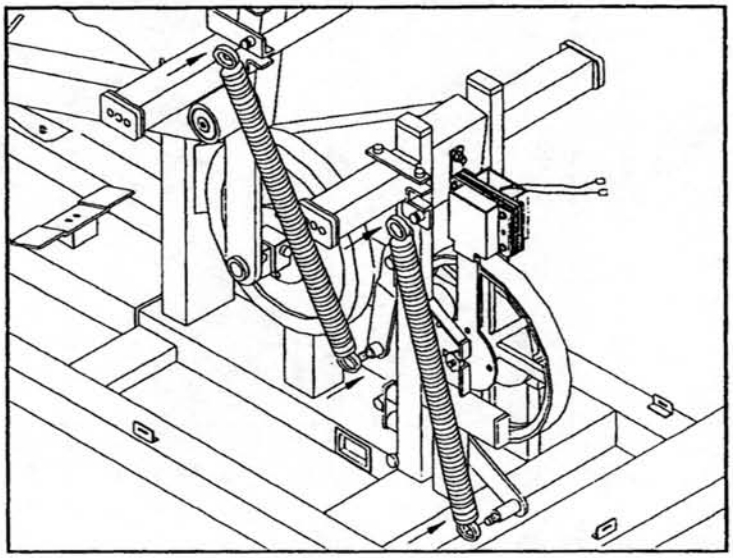

Fig.15-3

2. Lock them by inserting the PINS (see fig.15-4).

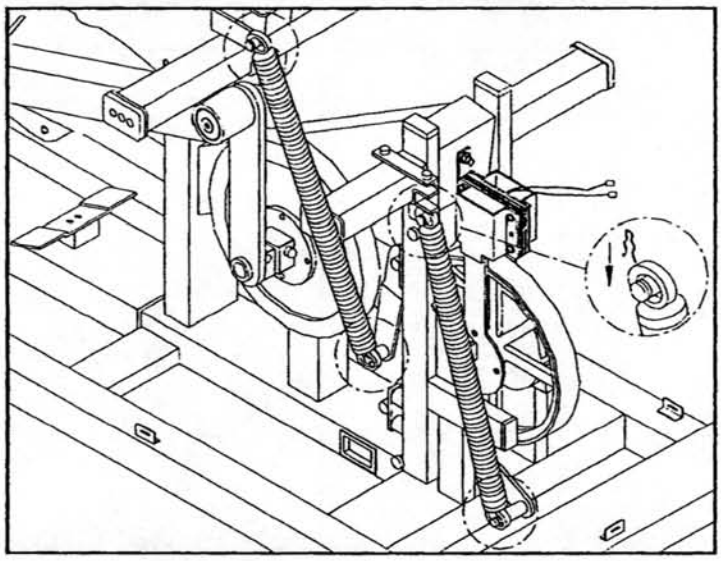

Fig.15-4

3. Assemble the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

R. ELECTRONICS PACKAGE REMOVAL AND INSTALLATION PROCEDURE POLAR RECIVER WITH HAND TOUCH READOUT

1. Disassemble the COVER OF PANEL by removing all screws (see fig.16-1)

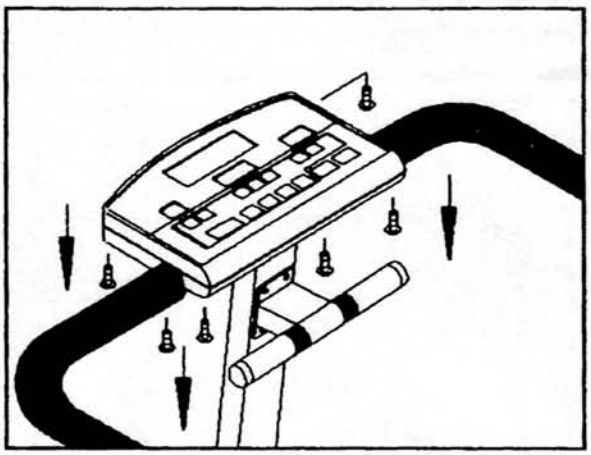

Fig.16-1

2. Remove the cable of the ELECTRONICS PACKAGE WHICH POSSESSES THE HTR BOARD AND THE POLAR RECEIVER from the CABLE CLIP (see fig.16-2 & enlarged figure A)

   Unplug the connectors and harnesses which connecting the RIBBON CABLE OF THE ELECTRONICS PACKAGE (see fig.16-2 & enlarged figure B, C, D).

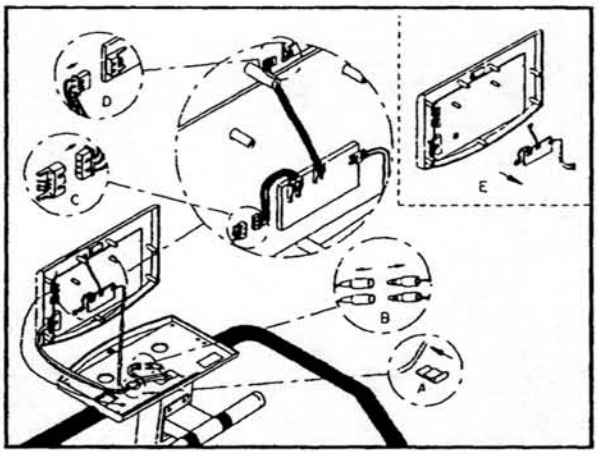

Fig.16-2

   Take the ELECTRONICS PACKAGE WHICH POSSESSES THE HTR BOARD AND THE POLAR RECEIVER off from the PANEL (see fig.16-2 & enlarged figure E).

To Install

1. Replace a new ELECTRONICS PACKAGE WHICH POSSESSES THE HTR BOARD AND THE POLER RECEIVER and install in the PANEL(see fig.16-3 & enlarged figure E).

2. Plug the connectors and harnesses of RIBBON CABLE OF THE ELECTRONICS PACKAGE to the connectors inside of PANEL (see fig.16-3 & enlarged figure B, C, D).

3. Place the cable of THE ELECTRONICS PACKAGE WITCH POSSESSES THE HTR BOARD AND THE POLAR RECEIVER UNDER CABLE CLIP (see fig.16-3 & enlarged figure A).

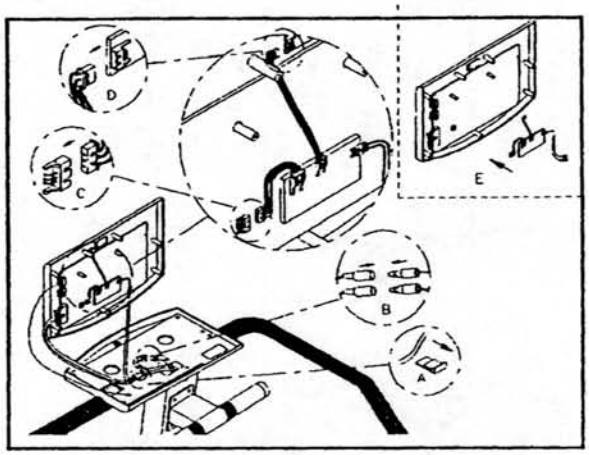

Fig.16-3

4. Assemble the COVER OF PANEL by securing all screws (see fig.16-4)

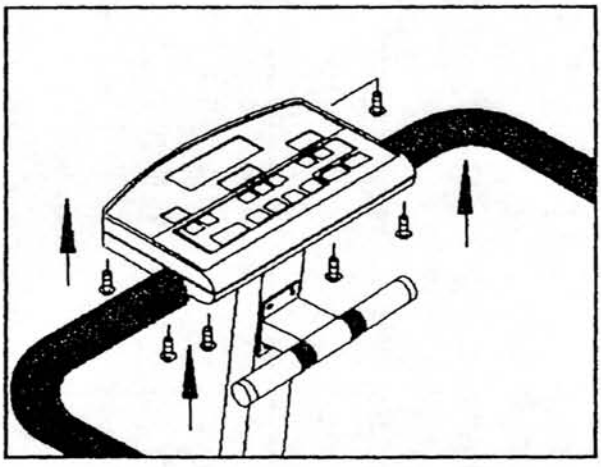

Fig.16-4

HAND TOUCH READOUT (HTR)

1. Disassemble the COVER OF PANEL by removing all screws (see fig.16A-1)

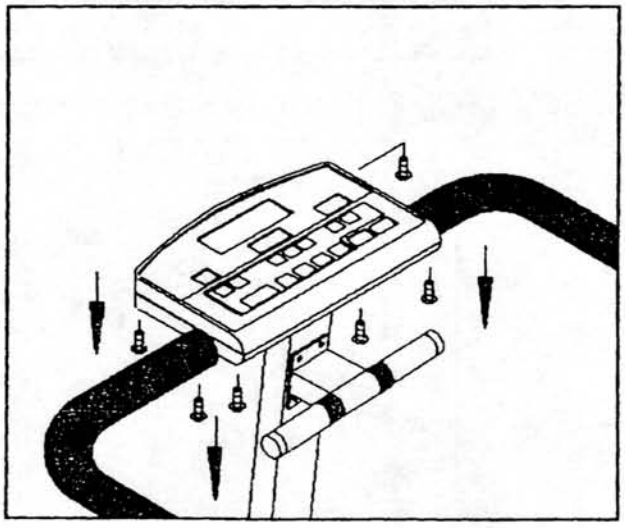

Fig.16A-1

2. Remove the cable of the ELECTRONICS PACKAGE WHICH POSSESSES THE HTR BOARD from the CABLE CLIP (see fig.16A-2 & enlarged figure A)

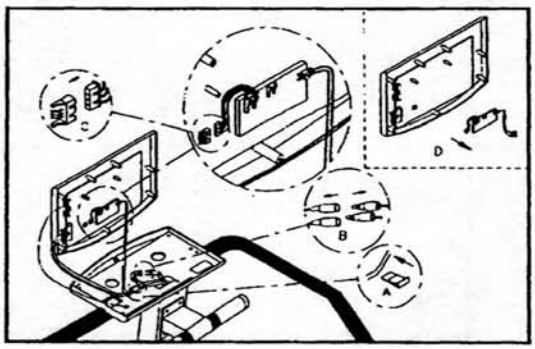

Fig.16A-2

Unplug the connectors and harnesses which connecting the RIBBON CABLE OF THE ELECTRONICS PACKAGE (see fig.16A-2 & enlarged figure B, C).

Take the ELECTRONICS PACKAGE WHICH POSSESSES THE HTR BOARD off from the PANEL (see fig.16A-2 & enlarged figure D).

To Install

1. Replace a new ELECTRONICS PACKAGE WHICH POSSESSES THE HTR BOARD and install in the PANEL (see fig.16A-3 & enlarged figure D).

2. Plug the connectors and harnesses of RIBBON CABLE OF THE ELECTRONICS PACKAGE to the connectors inside of PANEL (see fig.16A-3 & enlarged figure B, C).

3. Place the cable of THE ELECTRONICS PACKAGE WHICH POSSESSES THE HTR BOARD Under CABLE CLIP (see fig.16A-3 & enlarged figure A).

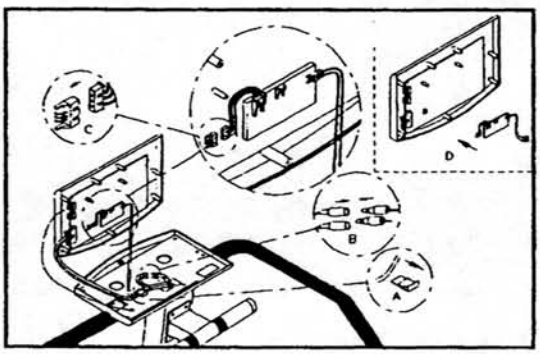

Fig.16A-3

4. Assemble the COVER OF PANEL by securing all screws (see fig.16A-4)

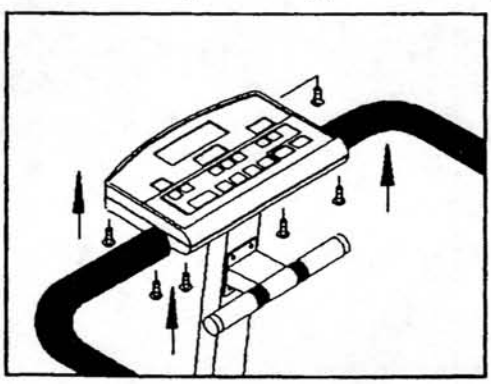

Fig.16A-4

S. HAND TOUCH READOUT(HTR) HANDLEBAR REMOVAL AND INSTALLATION PROCEDURE

1.Disassemble the COVER OF PANEL by removing all screws (see fig.17-1)

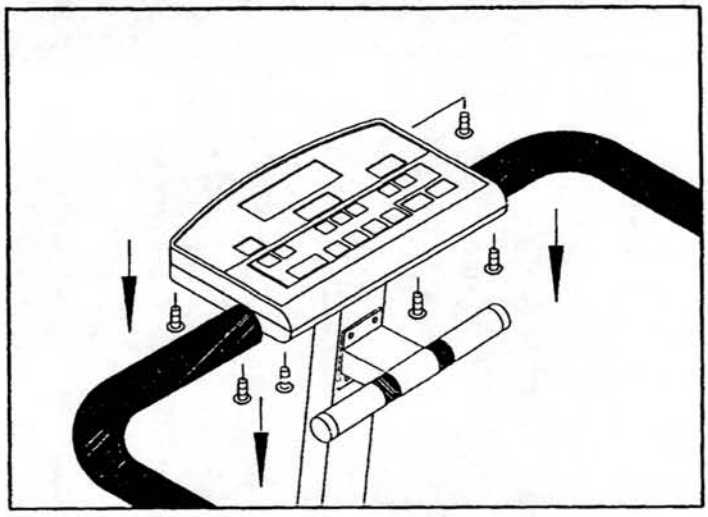

Fig.17-1

2.Unplug the harnesses of HTR HANDLEBAR from the cable of THE ELECTRONICS PACKAGE (see fig.17-2 & its enlarged figure).

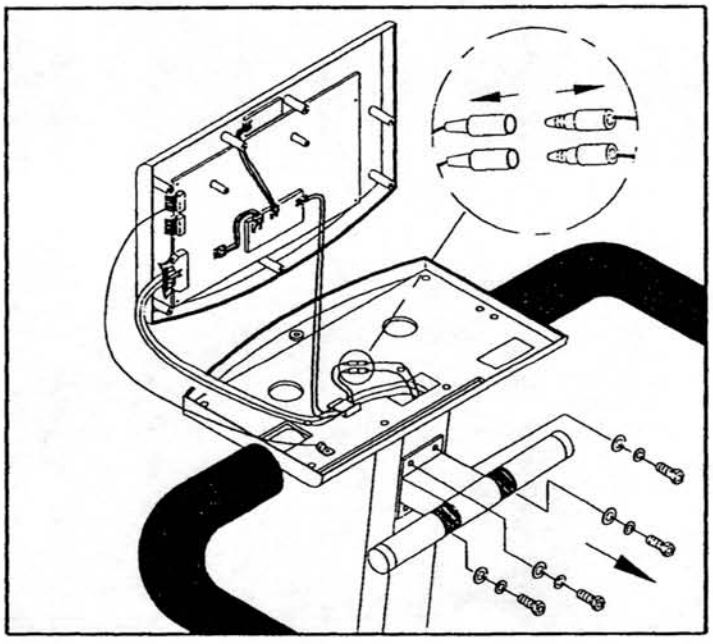

Fig.17-2

Remove all the screws and washers which fixing the HTR HANDLEBAR on the UPRIGHT COLUMN. Take the HANDLEBAR off from the UPRIGHT COLUMN (see fig.17-2).

To Install

1. Replace a new HRT HANDLEBAR and fix in the UPRIGHT COLUMN by screwing all the screws and washers (see fig.17-3). Take the cable of HRT HANDLEBAR through the COLUMN into the PANEL and connect to the harnesses of the ELECTRONICS PACKAGE (see fig.17-3 & its enlarged figure).

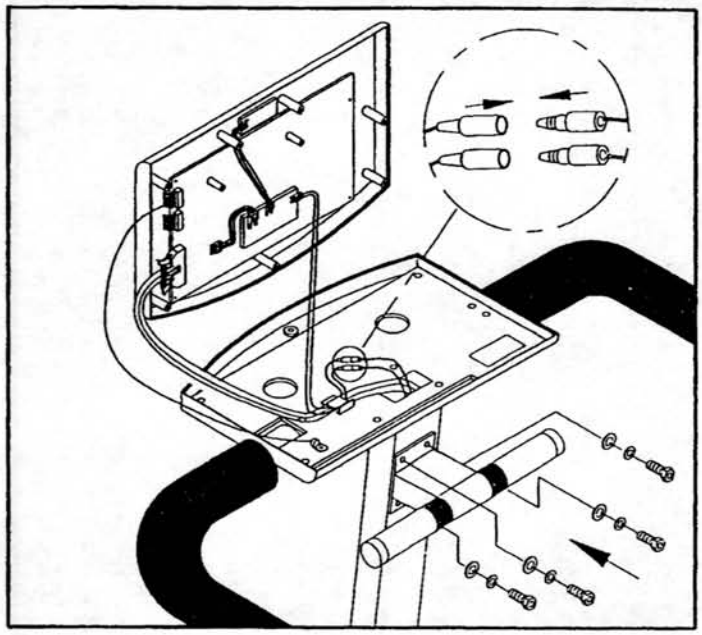

Fig.17-3

2. Assemble the COVER OF PANEL by securing all screws (see fig.17-4)

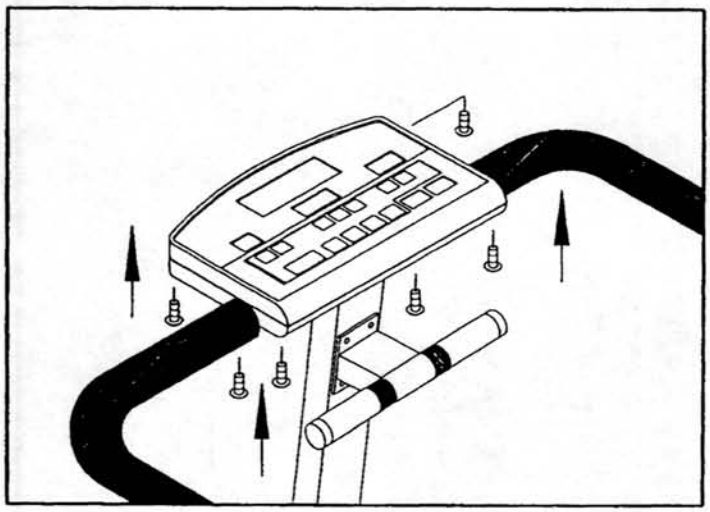

Fig.17-4

T. POWER SUPPLY BOARD REMOVAL & INSTALLATION PROCEDURE

1. Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

2. Unplug all the connectors from the POWER SUPPLY BOARD and then remove the screws which fixing the ELECTRONICS PACKAGE on the FRAME (see Fig.18-1 & its enlarged figure). Finally, take off the POWER SUPPLY BOARD.

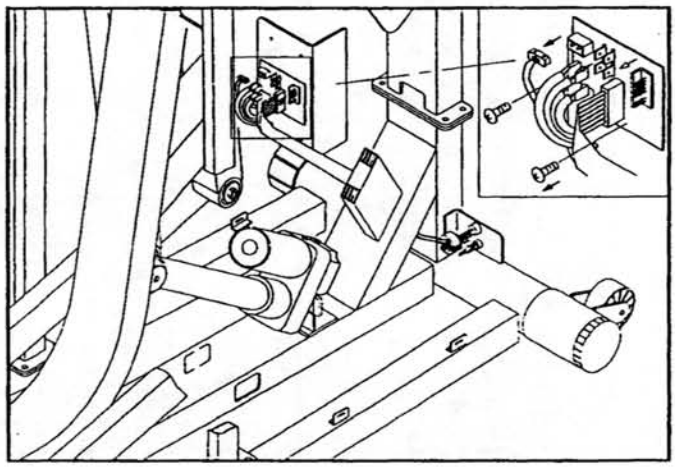

Fig.18-1

To Install:

1. Replace a new ELECTRONICS PACKAGE and secure on the FRAME by screws. Plug all the connectors into the ELECTRONICS PACKAGE according to their cable color individually (see fig.18-2 & its enlarged figure).

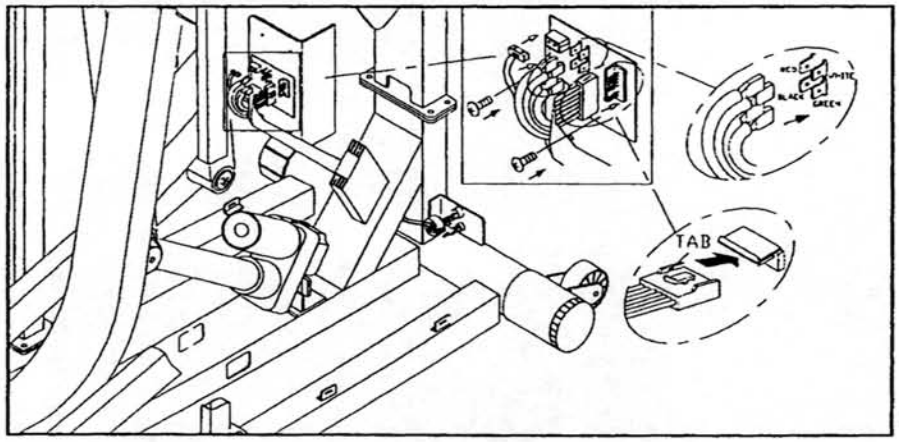

Fig.18-2

2. Secure the POWER SUPPLY BOARD with two screws and plug all the connectors into the POWER SUPPLY BOARD according to the cable colors individually.

3. Place the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details.

U. POWER FUSE REMOVAL AND INSTALLATION PROCEDURE

1. Push in the FUSE HOLDER and then turn them counterclockwise and the FUSE HOLDER with FUSE will protrude (see fig. 19-1).

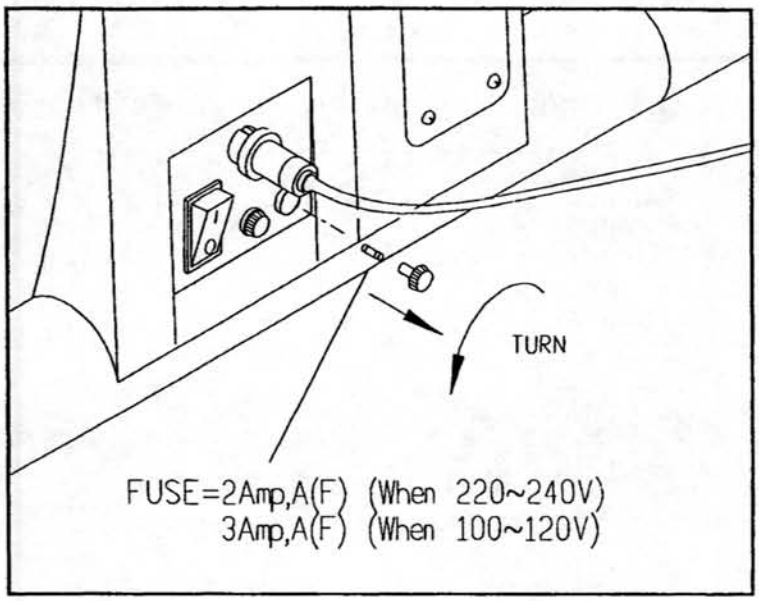

Fig.19-1

2.Remove the damaged fuse and insert a new one. Push the fuse holder with fuse in, turning clockwise to secure it (see fig. 19-2).

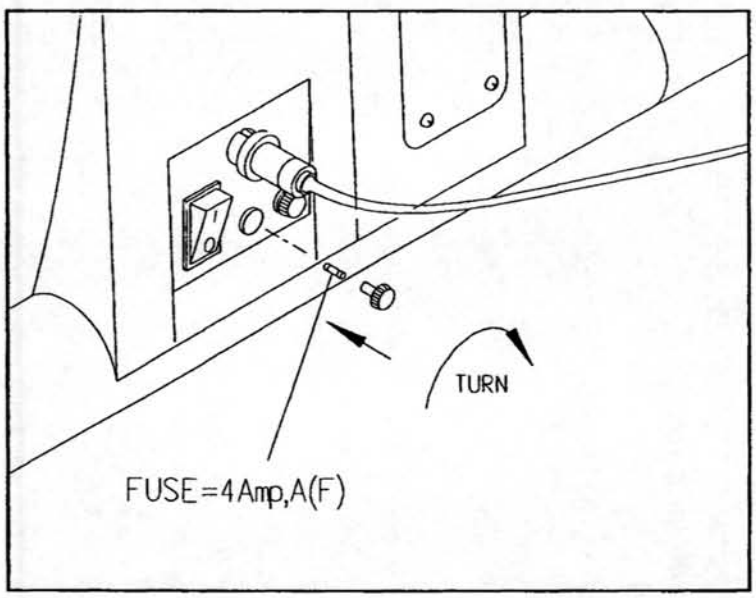

Fig.19-2

V. POWER SWITCH REMOVAL AND INSTALLATION PROCEDURE

1. Pull out all the plugs which connecting the POWER SWITCH and press the FIXED CLIP OF THE POWER SWITCH and take it off. (see fig.20-1)

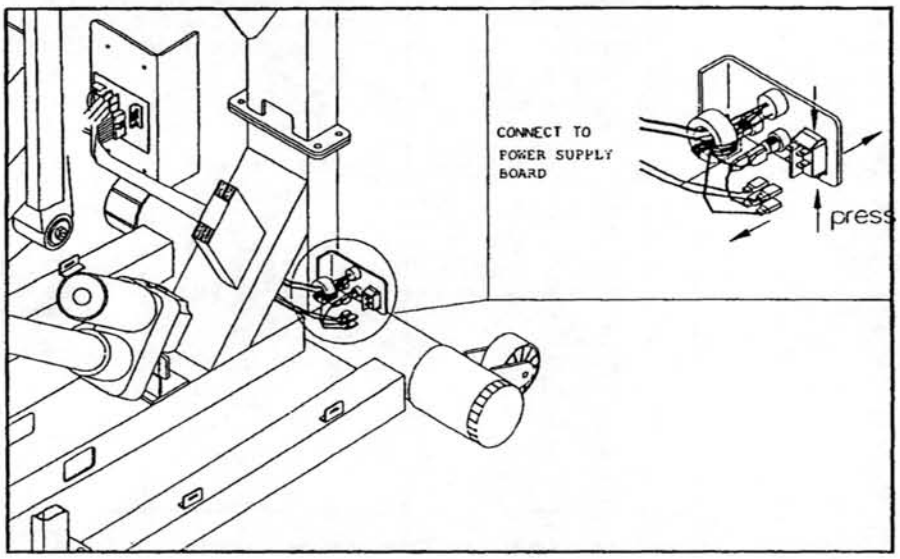

Fig.20-1

2. Replace a new POWER SWITCH and make the FIXED CLIP OF SWITCH to locate on the proper position. Plug all connectors into the POWER SWITCH(see fig.20-2).

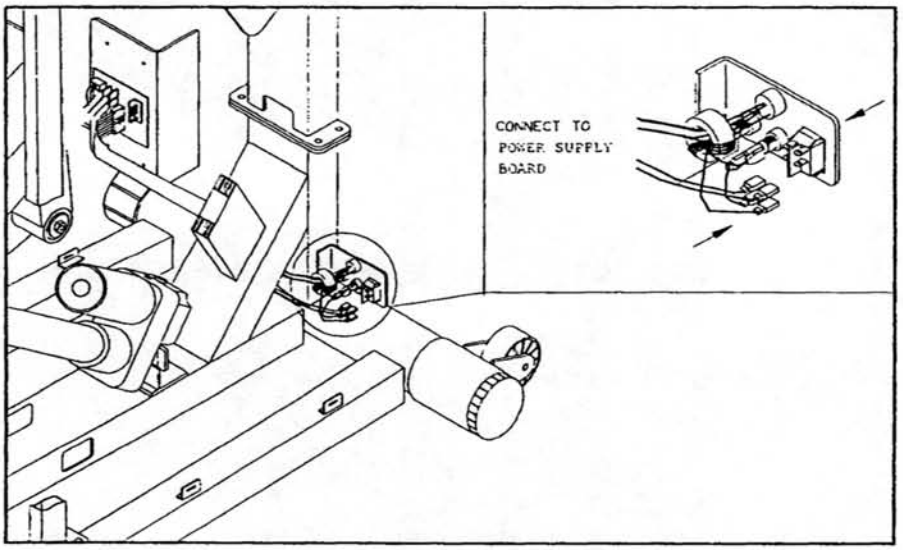

Fig.20-2

W. ELEVATON FRAME REMOVAL AND INSTALLATION

1. Remove the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details and (see fig.21-1).

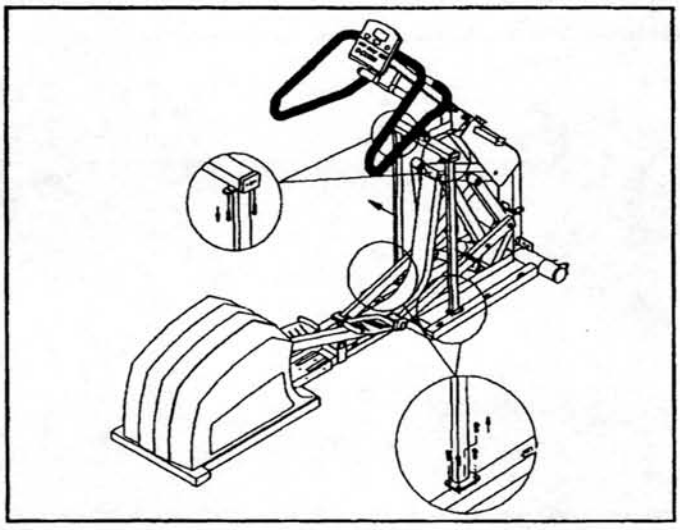

Fig.21-1

2. Remove the right side of STAIR ARM JOINT COVER by releasing two screws (see fig 21-1.①) firstly.

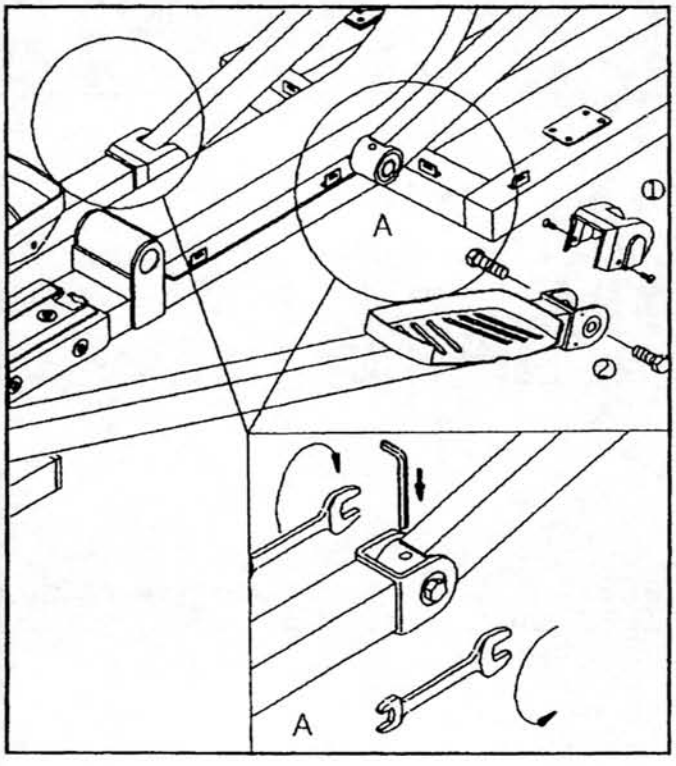

Fig.21-2

Secondly, remove the REAR HORIZONTAL LINKAGE from FRONT HORIZONTAL LINKAGE by unscrewing the screw. Using a Hex Allen Wrench to fix left side of screw and use another Wrench to turn off the screws from the LINKAGE in clockwise direction (see fig 21-2.② and the enlarged fig A).

3. Perform above same steps to take apart the left side of HORIZONTAL LINKAGE.

4. Remove all the screws and washers from the ELEVATION FRAME and then take all the linkages off (see fig.21-3).

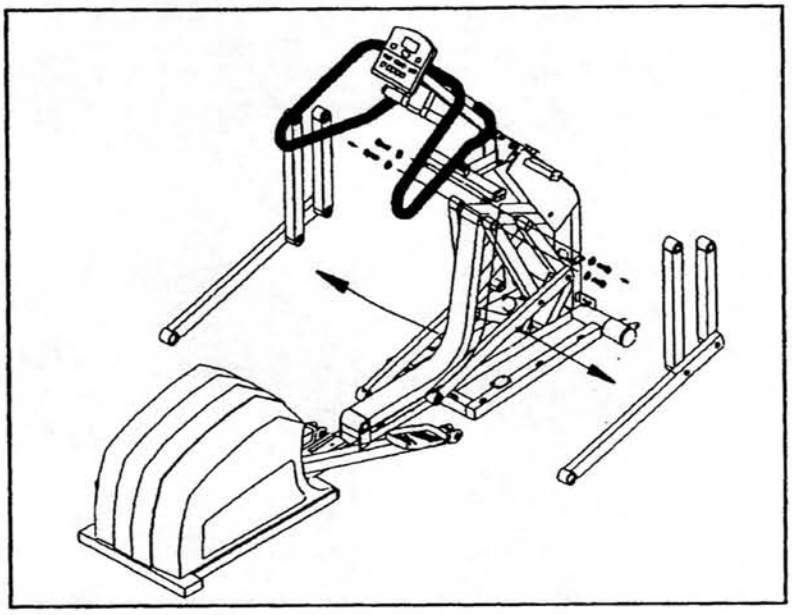

Fig.21-3

5. Remove the HOLD DOWN NUTS out from both side of ELEVATION FRAME and then take the BUSHINGS off. Finally, take apart the ELEVATION FRAME (see fig.21-4).

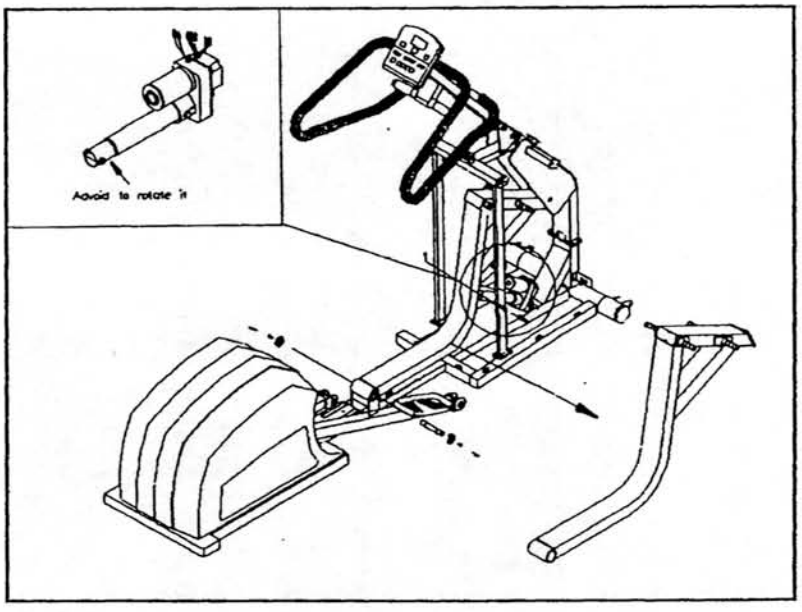

Fig.21-4

To Install

1. Replace a new ELEVATION FRAME and install the BUSHINGS. Then tighten the HOLD DOWN NUTS on both side of ELEVATION FRAME.(see fig.21-5)

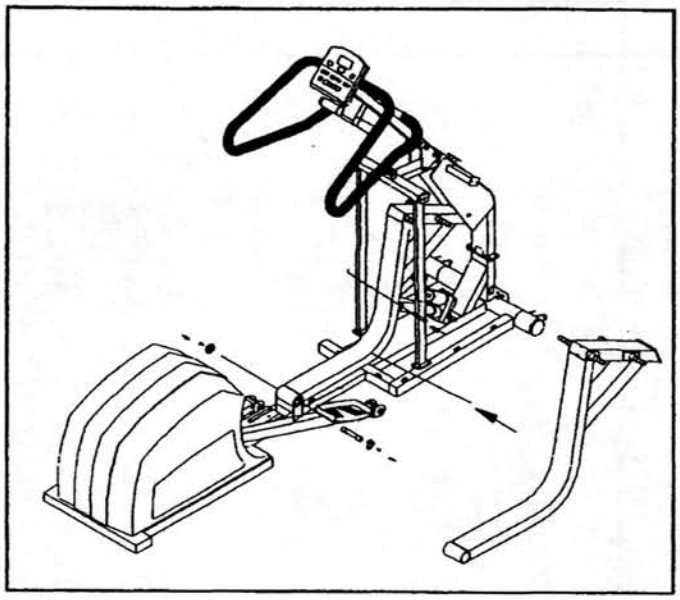

Fig.21-5

2. Firstly, install the REAR HORIZONTAL LINKAGE to the FRONT HORIZONTAL LINKAGE by tightening the screw. Using a Hex Allen Wrench to fix left side of screw and use another Wrench to turn the screws from the LINKAGE in counterclockwise direction (see fig 21-6 and the enlarged fig A).

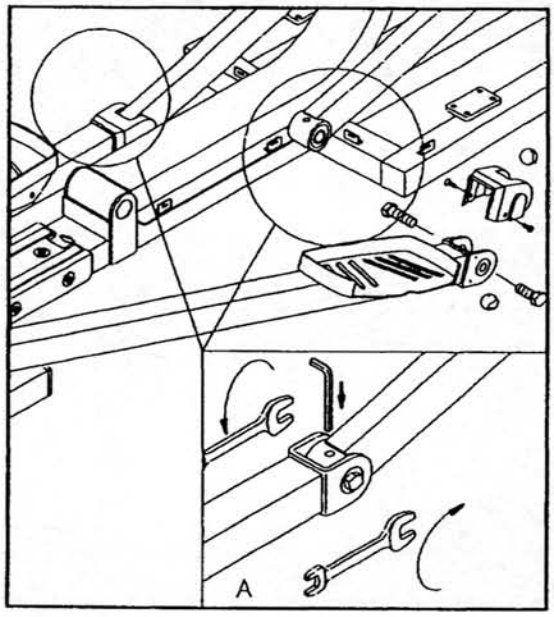

Fig.21-6

Lastly, secure the left side of STAIR ARM JOINT COVER by screwing (see fig 21-6. ①) .

3. Perform above same steps to assemble the left side of HORIZONTAL LINKAGE.

4. Tighten all the screws and washers in the ELEVATION FRAME and then assemble the linkages on the FRAME (see fig.21-7).

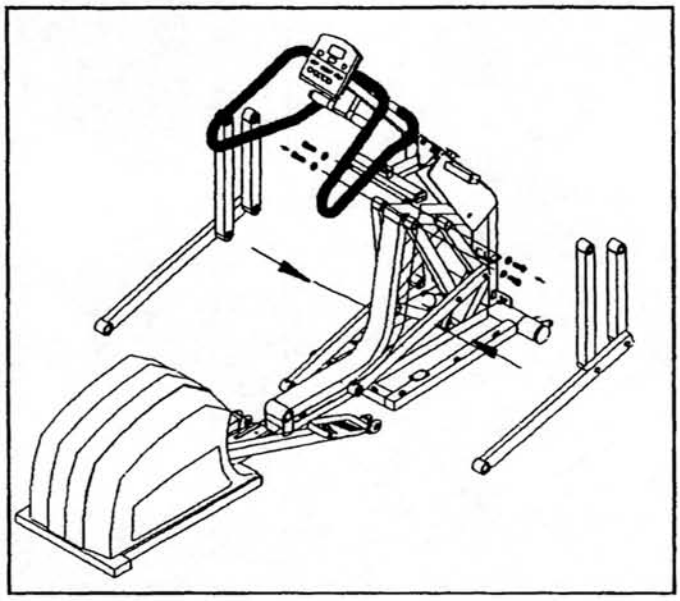

Fig.21-7

5. Assemble the MAIN SHROUD, please refer to the MAIN SHROUD REMOVAL AND INSTALLATION PROCEDURE (page 8) for the details and see fig.21-8.

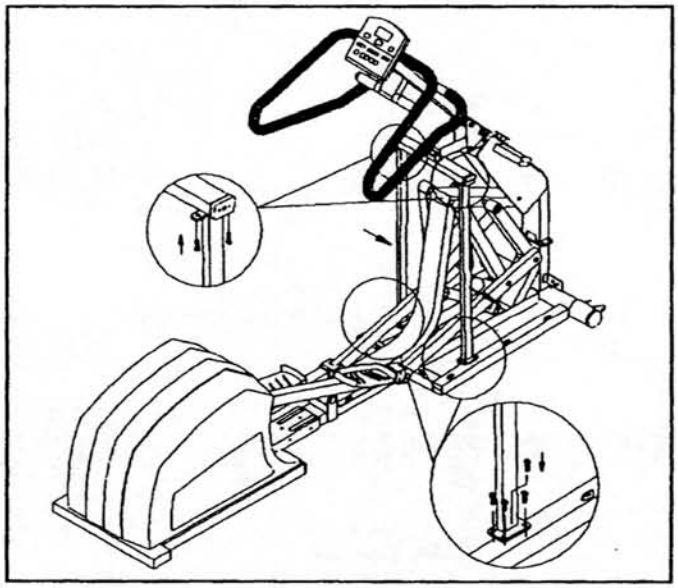

Fig.21-8

SportsArt – 8100 Elliptical Trainer – Incline Calibration Guide

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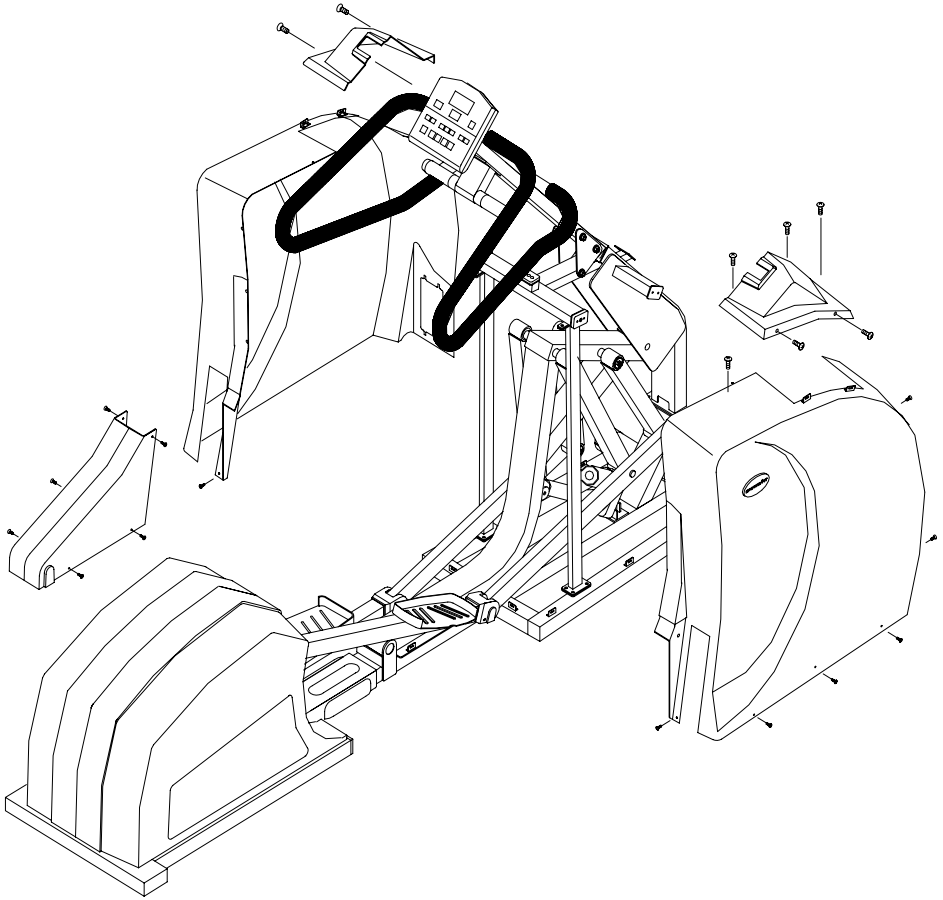

SportsArt - 8100 Elliptical Trainer - Incline Calibration Guide

Introduction

An incline motor, like those in treadmills, makes the 8100 ramp up and down. Incline calibration is required when the incline gets stuck and won't operate. If the incline set operates but clicks, replace a gear in the incline motor box or replace the whole incline set.

Incline Calibration Instructions

Calibration of an 8100 incline set is just like the calibration of a treadmill incline set. There are two parts -- one mechanical and one electronic.

Mechanical Calibration

In mechanical calibration, we set the incline motor to the mechanical 0% position.

1. Take off covers by removing screws as shown in Fig. 1 below.

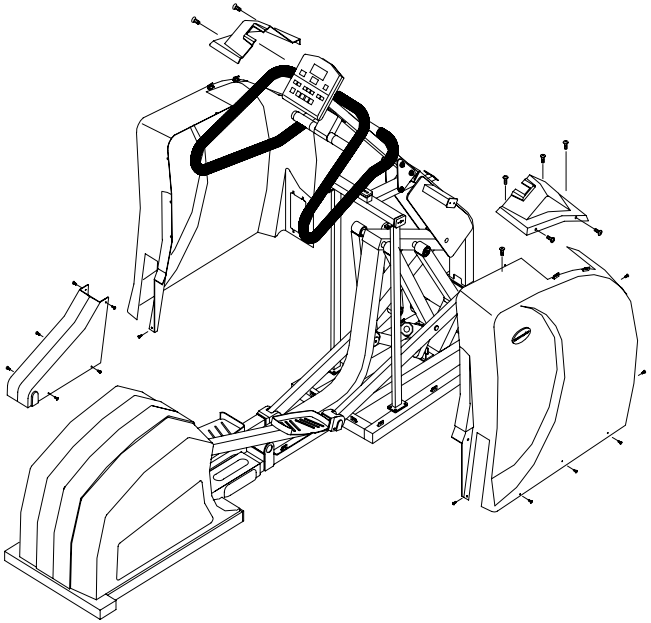

Fig. 1

Mechanical Calibration (Continued)

2. Remove the incline motor set as shown in Figure 2. First, remove the pins that hold the incline motor in place. Then pull out the motor.
3. Remove the VR box from the incline motor as shown in Figure 3.
4. Adjust the incline motor set mechanically as shown in Figure 4. Twist the thin pipe so that its red line is even with the end of the thick pipe. This completes calibration to the mechanical 0% position.

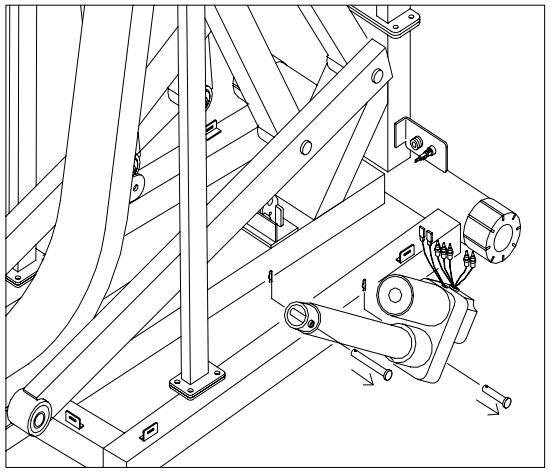

Figure 2. Remove the motor.

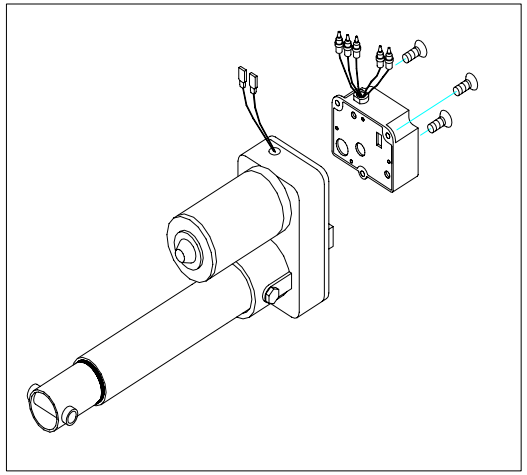

Figure 3. Remove the VR box.

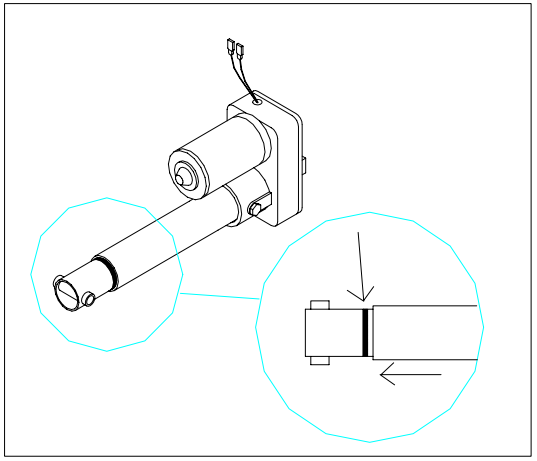

Figure 4. Calibrate mechanically.

SportsArt – 8100 Elliptical Trainer – Incline Calibration Guide

Electronic Calibration

In electronic calibration, we set the incline VR (variable resistor) to the 0% position.

5. Connect the VR wires as shown in Figure 5 by linking like-colored wires.
6. Set your voltmeter to VDC. Probe into the blue and green VR wires while keeping them connected to the drive board and VR.
7. Turn on unit power. Turn the VR gear shown in Figure 6 to set the voltage at 1.20 VDC – the electronic 0% setting. This completes electronic calibration of the VR set.

Reassemble the Incline Set

8. Place the VR box on the incline motor as shown in Figure 7. Tighten the screws.

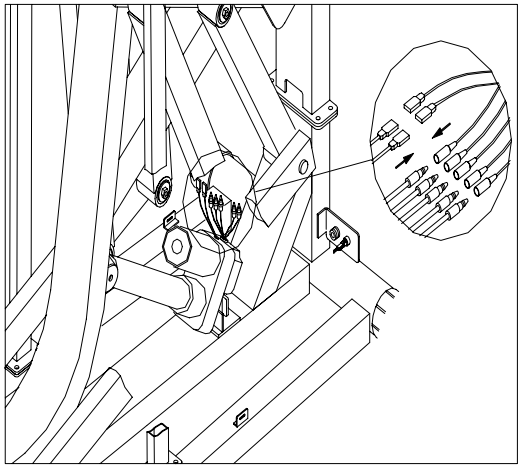

Figure 5. Connect VR wires.

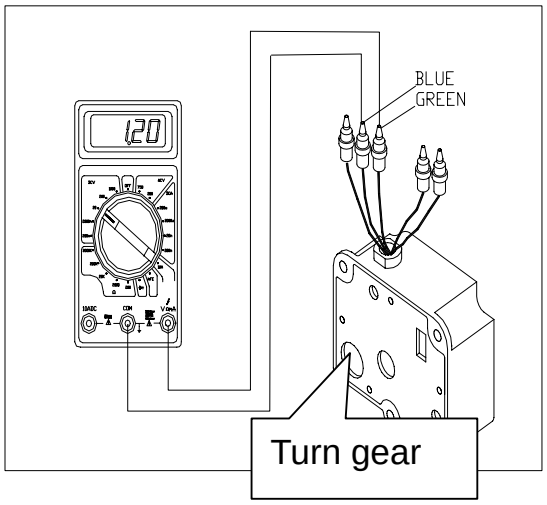

Figure 6. Calibrate the VR.

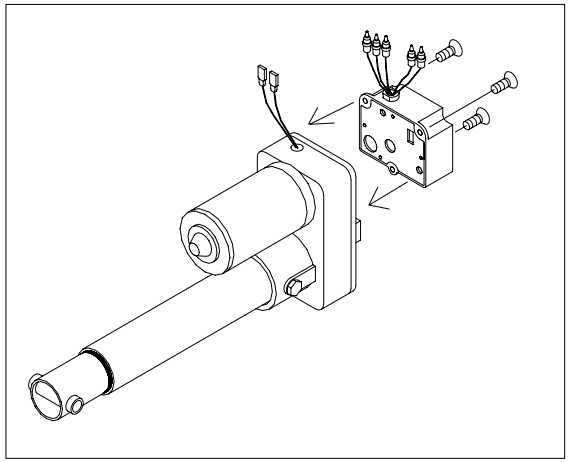

Figure 7. Reassemble the incline set.

Reassemble the Incline Set (Continued)

9. Reinstall the incline motor as shown in Figure 8.

Test Incline Operation

10. Press display RAMP<▲> key until the RAMP window shows 10. The incline should operate to the highest point.

11. Press the display RAMP<▼> key until the RAMP window shows 0. The incline should operate to the lowest point. (The red line on the thin pipe should show above the end of the thick pipe on the incline motor).

12. During incline operation, inspect whether the drive board ERR LED lights. If the unit has been calibrated properly but the ERR LED still lights and wires are secure, the VR is malfunctioning. Replace the VR box.

13. If the motor jams or fails to move when there is power to it from the drive board, replace the incline motor set.

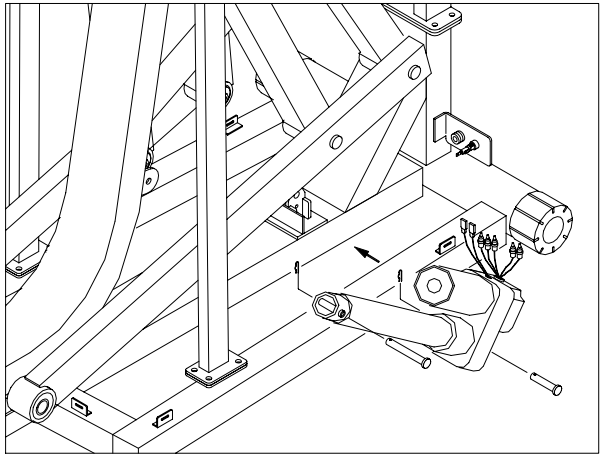

Figure 8. Reinstall the motor.