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IN CHINA

乒乓球
Serving Robot

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Instruc



Basic Features and Functions of The Robot

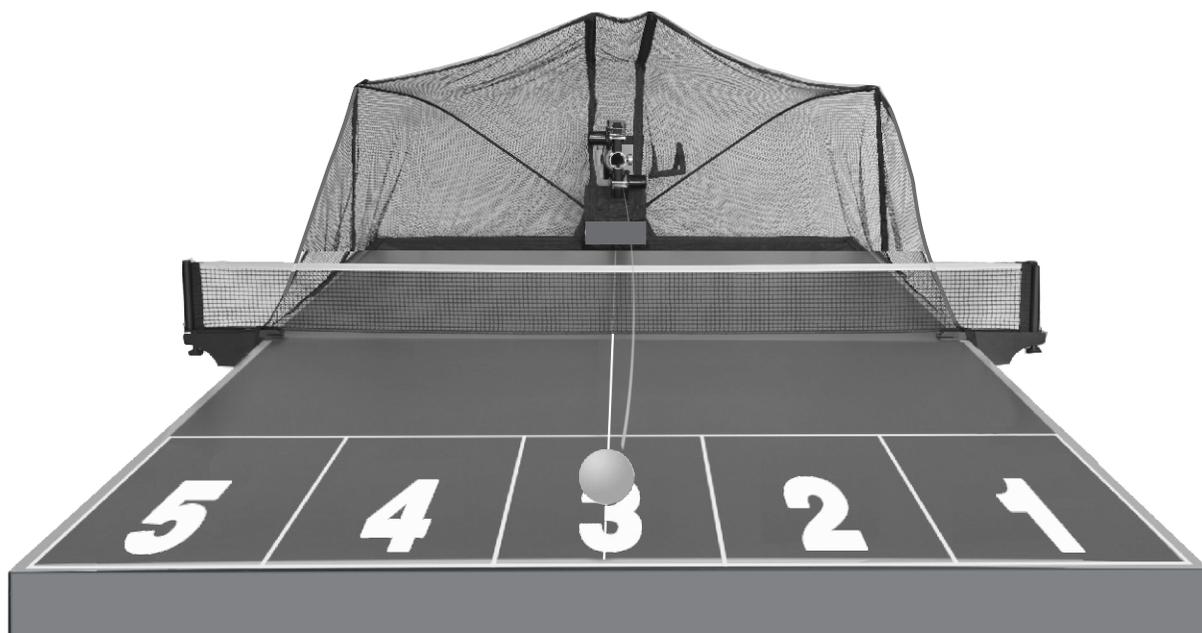
- * The robot is equipped with a color LCD screen on the control panel. The screen shows the landing position of the serves under each program along with a form demonstration of the player's stroke technique to make an individual return. The actions displayed on the screen are synchronized with the balls actually served by the robot.
- * Top and backspin serves are delivered simultaneously in some of the training programs.
- * Serves can be set landing on 1-5 points from left to right on the entire width of the table.
- * 8 levels of spin are provided and displayed on the screen for your selection.
- * There are 6 training programs to choose with 3 ways to play:
 1. Select single program to play;
 2. Combine all 6 programs into one to play.
 3. Select as desired 2 to 6 programs to be grouped together as a new program to play.

Factory Reset And Recommended Parameters

	Program	Spin Levels	Serving Frequency (Balls/Min)	Remarks
Recommended Parameters	Fixed Program	3	40	Use the Curve Adjustment knob at the top of the serving head to adjust the curve of serves for the best landing position of the ball as you desire.
	Training Program 1	3	40	
	Training Program 2	3	40	
	Training Program 3	3	40	
	Training Program 4	4	45	
	Training Program 5	5	50	
	Training Program 6	6	60	
	All Trainings Program	5	50	
	Mix Trainings Program	5	50	

Hints.: Please use the Factory Reset Parameters to have the robot start at the time of initial use. Press Start/Stop button to confirm and operate. Users can adjust and set the parameters based on their level of technique.

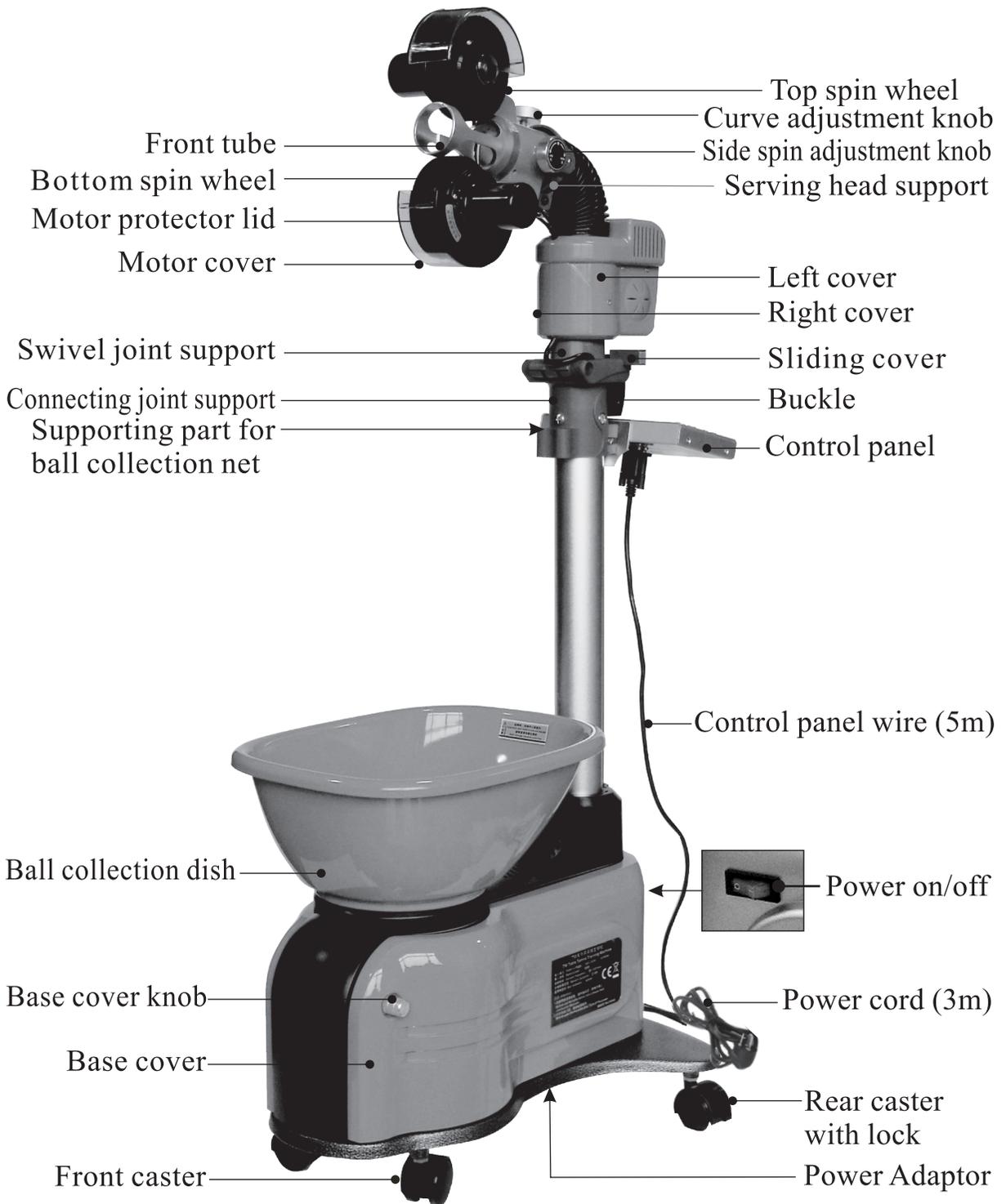
Program	Description	Spin Type(s) /Landing Point(s)	Suitable for
Fixed	Practice of strokes against serves landing at one point	Top or backspin/ landing points ① - ⑤	Beginners
Training P1	Practice of forehand drive	Top spin/ ②	Beginners
Training P2	Practice of backhand drive	Top spin/ ④	Beginners
Training P3	Practice of forehand & backhand drives	Top spin/ ① ④	Intermediate players
Training P4	Practice of backhand push and forehand loop at backhand & forehand sides	Backspin/ ⑤ ④ ②	Intermediate players
Training P5	Practice of forehand push for a short play and forehand & backhand drives	Backspin/ ③ Topspin/ ① ④ ② ⑤	Advanced players
Training P6	Practice of a) backhand flick to return a short serve at forehand side; b) backhand & forehand drives	Backspin/ ② Topspin/ ⑤ ① ④ ① ②	Advanced players
All Trainings	Programs 1-6 are in sequence to be grouped together to form a new training program.	Top and back spins/entire width of table ① - ⑤ landing points	Professional players
Mixed Trainings	2 to 6 programs can be grouped together as desired to form a mixed training program	Top and back spins/entire width of table ① - ⑤ landing points	Professional players



Demonstration of landing point for a serve

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A. Parts



B. Functions of The Control Panel

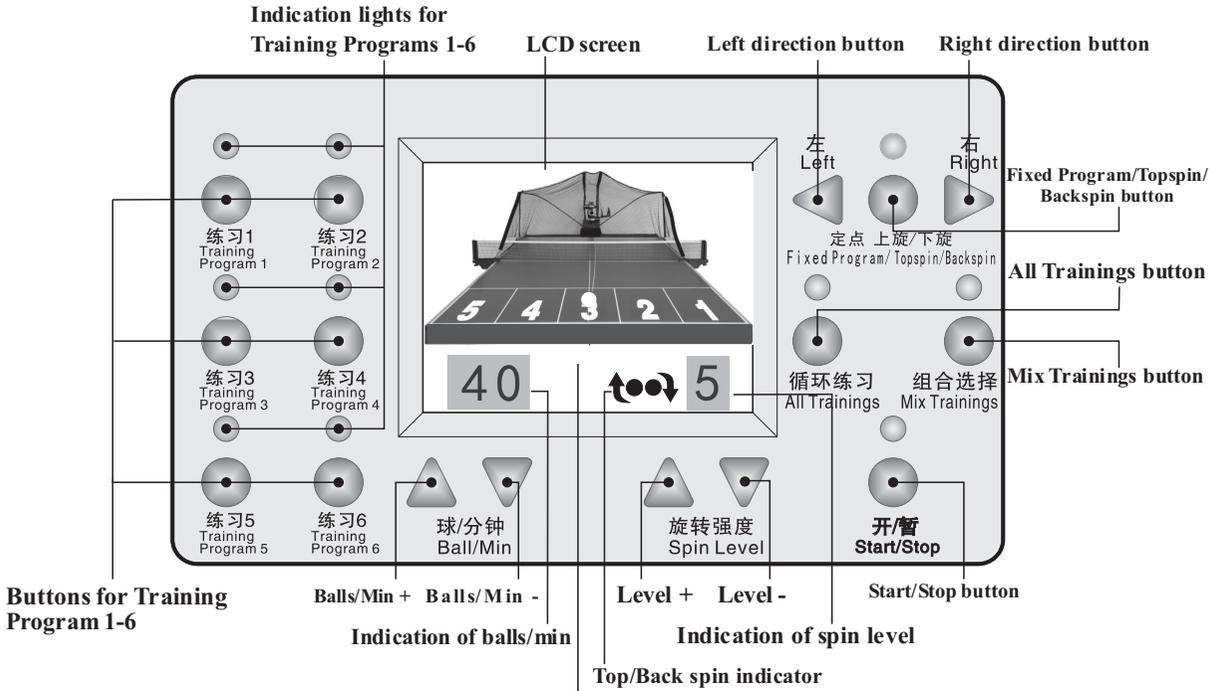


Image of Fixed Program on Display

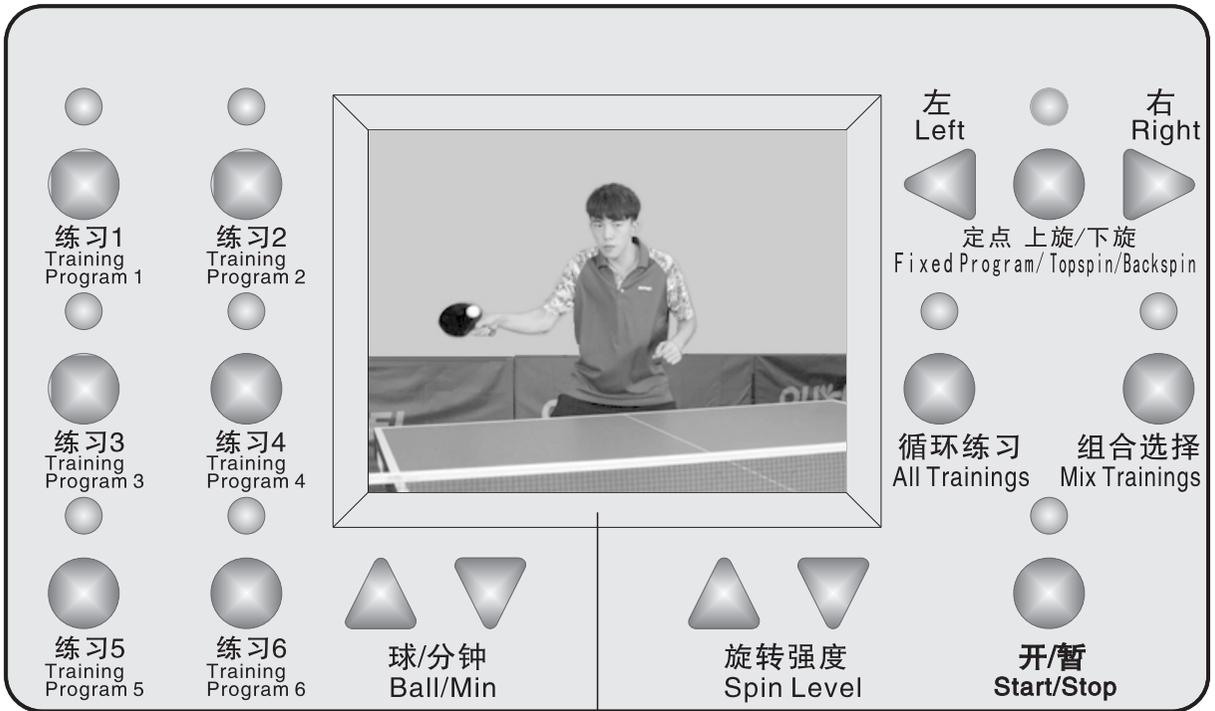
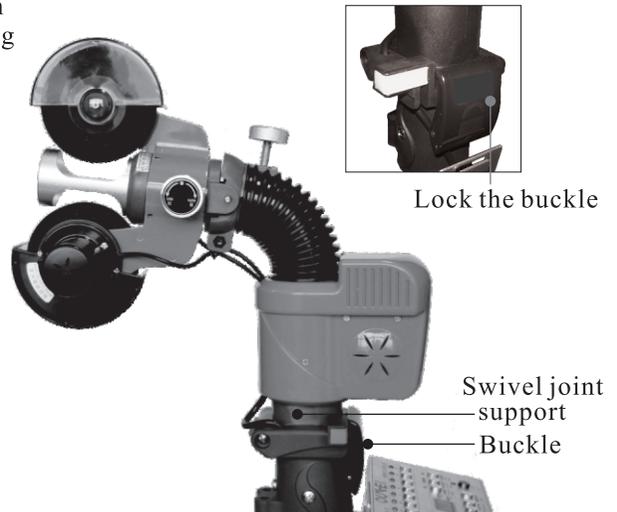


Image of Training Program on Display

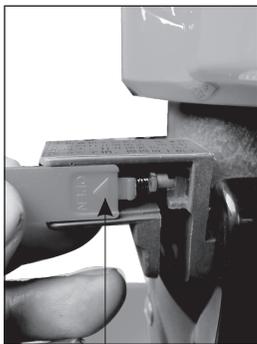
C. Installation



1. Open the carton, remove the cushioning foam and place the robot gently on the ground. Remove the transparent plastic bag and the cushioning foam for the connecting joint.

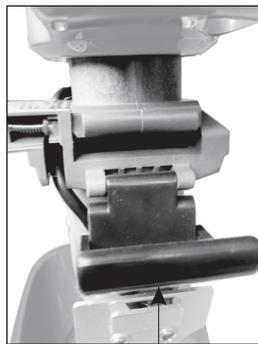
2. Gently lift the serving head all the way until it is automatically locked. While lifting the serving head a little bit further, flip and lift the buckle against the swivel joint support and press downward to have the serving head completely locked.

(2). Folding of The Serving Head



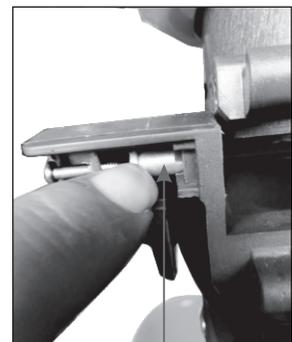
Sliding Cover

(1). Slide to open.



Buckle

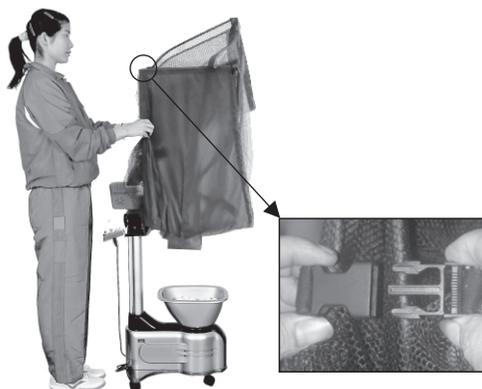
(2). Slightly lift the serving head and unlock the buckle.



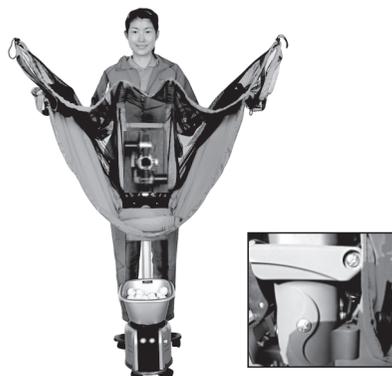
Safety Lock

(3). While slightly holding up the serving head, release the safety lock (in red) by moving it to the left. Slowly let go the serving head, which will automatically be lower and stopped.

D. Installation of The Ball Collection Net



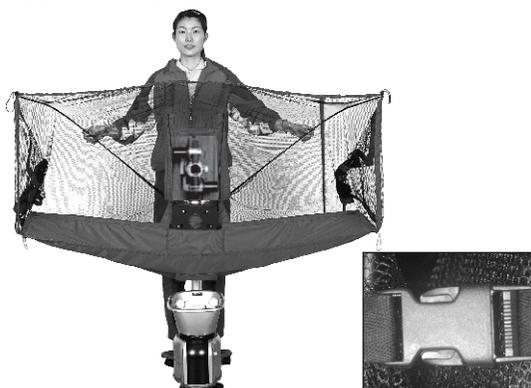
1. Unlock the buckle of the ball collection net.



2. Slightly unfold the ball collection net. Place the hole of the net onto the serving head. Insert the ball collection net into the net supporting part at the back of the robot.



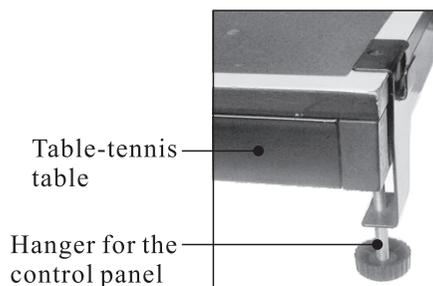
3. Move the robot close to the table and lock the casters. Fasten the velcro of the ball collection net to the middle net of the table.



4. After use, reverse the previous steps to fold the ball collection net. Lock the buckle, release from the robot and store.



Completed installation is shown in the picture above



★ The hanger can be placed anywhere on the side of the table. It is more convenient for the players to get access to the control panel when it is attached to the hanger.

E. Start And Stop for The Robot



1 Insert the plug into the power supply. Switch on the robot and the power indication light will turn on.

2 The light for the Start/Stop button on the control panel will turn red. The serving parameters and one of the training programs will be displayed on the screen (the settings last used before the robot powers off will be restored and displayed). Set the spin level and serving frequency according to the factory recommended parameters when the robot is used at the first time. Press the Start/Stop button, the light for which turns green and the robot will start.

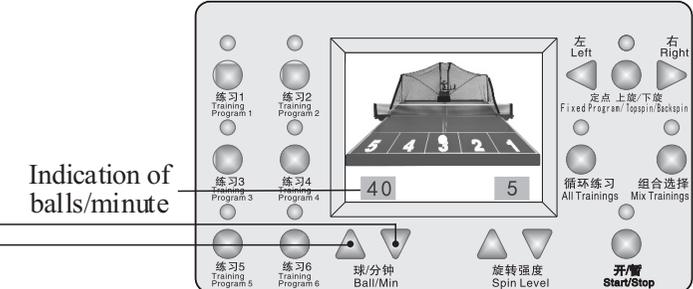
3 Press the Start/Stop button once again, the light for which turns back to red and the robot will stop.

Caution

1. Please keep away from the serving head when Start/Stop button is pressed. Balls served will cause physical damage to your body if you are close to the serving head.
2. Please disconnect the power supply when the robot is not in use.

F. Functions And Use of The Control Panel

I. Adjustment of Serving Frequency



Indication of balls/minute

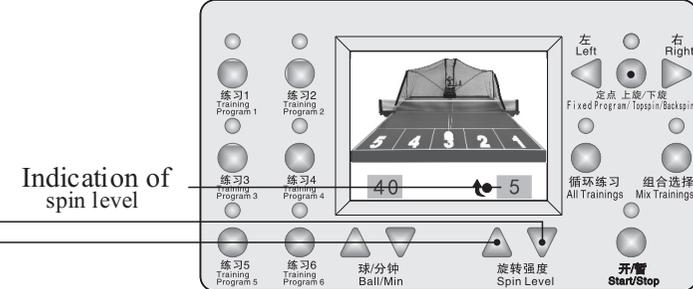
Press the ▲ button once, 5 more serves are set per minute and the adjusted number of serves is displayed on the screen.

Press the ▼ button once, 5 fewer serves are set per minute and the adjusted number of serves is displayed on the screen.

Hints

1. The range of the serving frequency is 30-80 balls per minute.
2. Adjustment of serving frequency can be made when the robot is in Start or Stop mode.

II. Adjustment of Spin Level



Indication of spin level

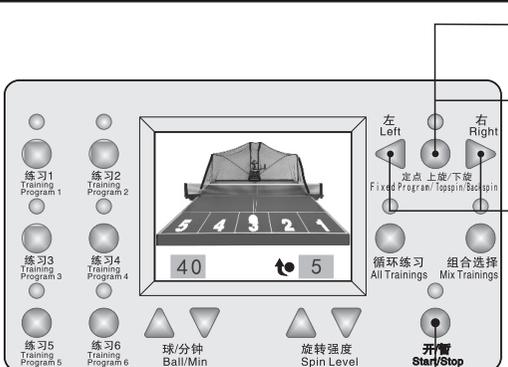
Press the ▲ button once, one stronger level of spin is set and the adjusted number of spin level is displayed on the screen.

Press the ▼ button once, one weaker level of spin is set and the adjusted number of spin level is displayed on the screen.

Hints

1. There are 8 levels of spin; the higher the number, the stronger the spin.
2. Adjustment of spin level can be made when the robot is in Start or Stop mode.

III. The Setting of Fixed Program And Selection of Spin Type



- 1 Press the **Fixed Program** button. The corresponding light will turn on and the image of the Fixed Program will be displayed on the screen as the picture shown on the left. Last settings of landing point, serving frequency, spin type and spin level are restored and displayed on the screen.
- 2 Press the **Left** or **Right** button to select one of the landing points 1-5 as desired. A ball will be displayed on the screen at the landing point just selected.
- 3 Press the **Fixed Program** button again. The symbol of top Spin  and back spin  will appear on the screen respectively. Press the **Fixed Program** button until the type of the spin you want is selected and displayed on the screen.
- 4 Press the **Start/Stop** button to activate the Fixed Program. Balls will continuously land on the point you have selected above.

Hints: Change of spin type and adjustment for serving frequency and spin level can be made when the robot is in operation.

IV. The Setting of Single Training Program

There are 6 training programs to choose from.

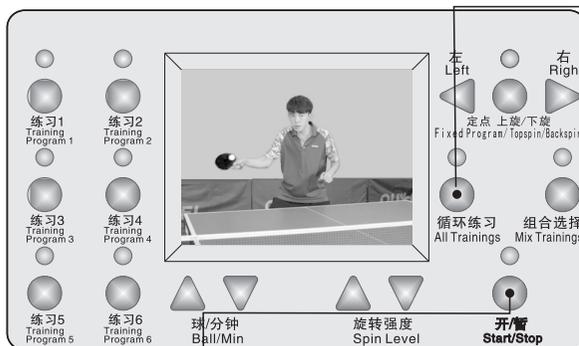
Buttons for training programs 1-6



- 1 Under the Stop mode, press one of the training programs 1-6 to select the program you want. The corresponding light for the program will turn on. The movement of a player returning the combination of serves preset under the program will be displayed constantly on the screen.
- 2 Press the Start/Stop button to activate the program. The corresponding light for the button will turn from red to green. Balls are served as preset under the program. The actions displayed on the screen are synchronized with the balls actually served by the robot.

Hints: Adjustment for serving frequency and spin level can be made whenever the robot is in operation.

V. The Setting of All Trainings Program

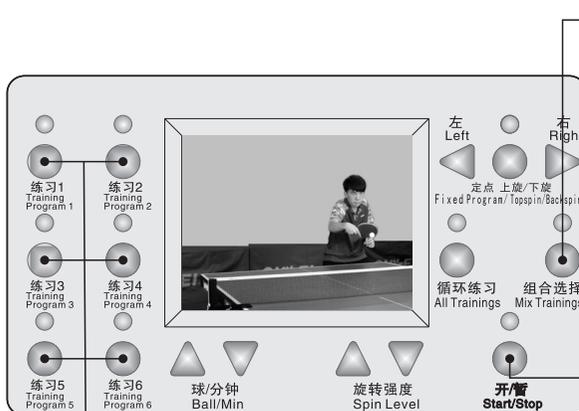


- 1 Under the Stop mode, press the **All Trainings** button. The lights for **All Trainings** and **Programs 1-6** illuminate. 6 Training programs are individually run in the sequence of Training Program 1 to 6 and auto reversed. The light for the training program being run will blink. No balls are served during this process. The actions displayed on the screen correspond to what strokes are introduced to return the serves, which are preset under the training programs.

- 2 Press the **Start/Stop** button, the light for which turns from red to green. The All Trainings Program is activated. Balls are served in the same way as step 1 above. The actions displayed on the screen are synchronized with the balls actually served by the robot.

Hints: Adjustment for serving frequency and spin level can be made whenever the robot is in operation.

VI. The Setting of Mix Trainings Program



- 1 Under the Stop mode, press the **Mix Trainings** button, the light for which turns on. The lights for the training programs last selected will illuminate.
- 2 2 to 6 training programs can be selected as desired to form the Mix trainings Program. For example, press the buttons for Training Programs 6, 1, 3, 4 and 2. The indication lights for the 5 programs selected will illuminate. The light for Training Program 6 first selected will blink at the same time. The movement of a player demonstrating his stroke technique of returning the combination of serves preset under the Training Program 6 will be displayed constantly on the screen.

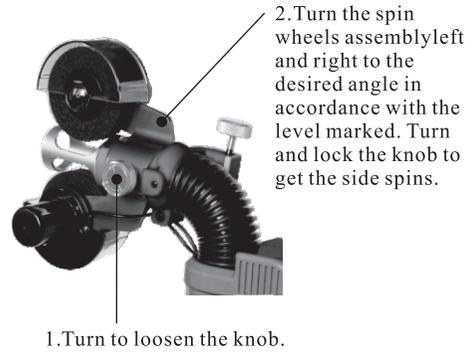
- 3 Press the **Start/Stop** button, the light for which turns to green. The Mix Trainings Program is activated. Balls are served as preset under each training program.

All the 5 training programs are run one by one in the sequence of selection made under step 2 above and auto reversed. The actions displayed on the screen are synchronized with the balls actually served by the robot.

Hints: Adjustment for serving frequency and spin level can be made whenever the robot is in operation.

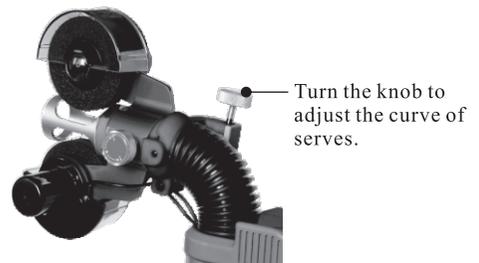
G. Choice of Spin Types

There are 9 spin modes to choose from: top spin, back spin, left side spin, left side top spin, left side back spin, right side spin, right side top spin, right side back spin and no spin (straight). Each type of spin can be obtained from the selection of top spin or back spin and/or from adjustment for the angle of the spin wheels assembly (as the picture on the right shows).



H. Serving Curve Adjustment

Use the knob at the top of the serving head (as the picture on the right shows) to adjust the curve of serves. Turn the knob counter-clockwise to lower the curve. Turn the knob clockwise to get a higher curve. When changing serving spin level causes serving balls to fall out of bounds or into the net, adjustment of the curve is required. Please also see chapter Q.



J. Capacity of Ball Collection Dish

Capacity: 90 pcs of 40mm-ball. Balls put in the dish should not exceed the black line on the inside of the dish.

Note: nothing other than table tennis balls should be placed in the dish. Otherwise, it may cause machine failure or damage to the parts.



K. Maintenance

1. The robot and the control panel should be prevented from strong vibration and from getting wet. Failure to do so will cause short circuit or electricity leakage resulting in damage to the electrical and electronic components.
2. After a period of use, there will be wear and tear on the spin wheels, causing slower serving speeds than usual. Adjust the distance between the two wheels to resume the effectiveness of the serves. Please see chapter N.
3. After use for 1 to 2 months, dust and dirt might gather in the ball running track. Remove all balls from the ball running track. Clean the track with a wet cloth and spray some car cleansing wax (spray type) in the track from the ball entrance and exit.
4. When the robot is not in use for a longer period of time, please disconnect the power supply and cover the robot with cloth or a plastic bag.

L. Troubleshooting

Problem	Characteristic	Solution
The robot doesn't work	1. Lights on the control panel are not lit.	Check if the power plug is properly connected.
		Check if the power on/off is switched to 'On'.
		Check if the plug of the control panel wire is completely connected to the control panel.
		Disconnect the power supply. Check if the fuse (3.15A) connected to the computer board is broken. See P.11
	2. Lights on the control panel are lit but all motors don't work.	Check if the Start/Stop button on the control panel is pressed to switch on (corresponding light is green).
		Disconnect the power supply. Check if the fuse (3.15A) connected to the computer board is broken. See P.11
3. The light for Start/Stop on the control panel blinks and a warning signal, ! will appear on the screen.	Check all plugs for control panel and computer board are completely connected.	
	Disconnect power supply. Check if there is a jam. See the same page below. (Note: Please don't let damaged balls come into the ball running track.)	
Control panel doesn't work	1. Lights on the control panel blink.	After use for 1 to 2 months, dust and dirt might gather in the ball running track. Remove all balls from the ball running track. Clean the track with a wet cloth and spray some car cleansing wax (spray type) in the track from the ball entrance and exit.
	2. Start/Stop button is out of order.	Disconnect the power supply. Restart the robot after 10 seconds.
		Disconnect the power supply. Check if the plug at the back of the control panel is loosened. Restart the robot.

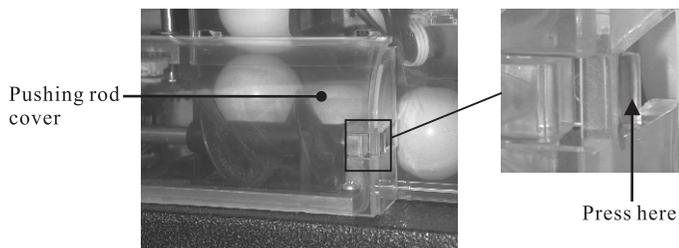
If the above can't solve the problems, please contact your supplier or our Product Support Department.

M. Fixing A Jam

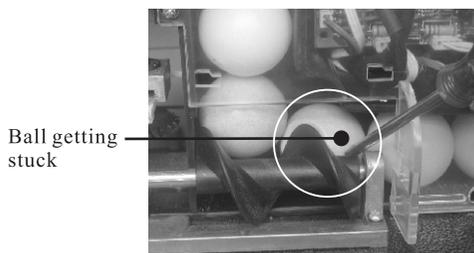
A ball getting stuck is mainly attributable to damaged balls or other items that may be blocking the ball running track. If the problem occurs, disconnect the power supply and follow the procedures as below to correct:



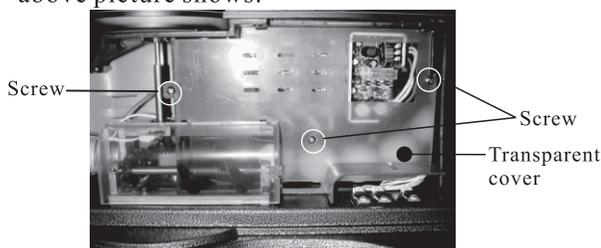
1 Turn and loosen the knob to open the base cover.



2 Press the lock for the pushing rod cover and release the cover by pushing it to the left as the above picture shows.



3 Use a screw driver to lift the stuck ball so that it won't cause a jam. Rotate and push forward the pushing rod a little to make sure it is movable. Replace the pushing rod cover and close the base cover. Restart the robot.

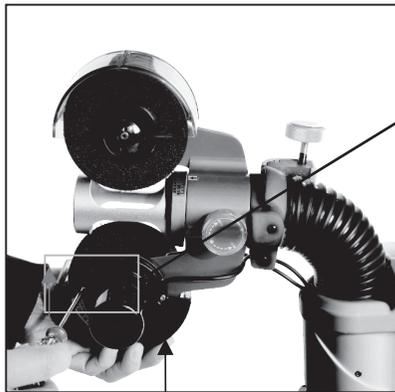


★ If the procedures above don't solve the problem, remove the transparent cover by loosening the 3 screws as the above picture shows. Take away the bad balls or other objects. Replace the transparent cover and restart the robot.

N. Adjustment And Replacement of Spin Wheel

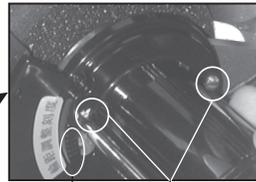
I. Adjustment of spin wheel

After a period of use, there will be wear and tear on the spin wheels causing slower serving speeds than usual. Adjust the distance between the two wheels to resume the effectiveness of the serves.

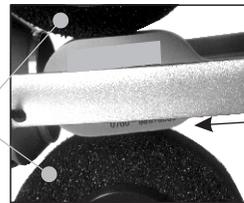


bottom spin wheel assembly

Picture1

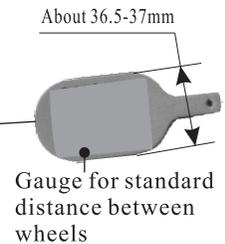


Scale mark for the distance between wheels
Motor screw



Top and bottom spin wheels

Picture2



About 36.5-37mm
Gauge for standard distance between wheels

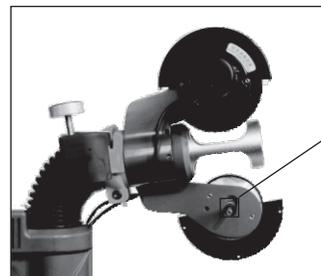
Disconnect the power supply. Use the screwdriver to loosen the 2 motor screws a little (see picture 1). Lift the bottom wheel assembly up about 2-3 mm (one level of the scale mark), or lift until the gauge fits in perfectly (see picture 2). Tighten the screws and the robot is ready for operation.

Note: The above adjustments will allow the robot to continue to serve properly, within a certain range of wear and tear. It is recommended that the wheel should be replaced when the diameter of the wheel reduces to 70mm due to wear and tear.

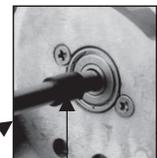
II. Replacement of spin wheels

1. Disconnect the power supply. Remove the wheel cover of the bottom spin wheel by using the screwdriver which is enclosed with the package to unscrew the 3 screws of the cover.
2. Use the allen wrench to remove the bottom spin wheel. While removing the wheel, make sure the small blocking sleeve (see picture 1) that separates the wheel and the motor is still on the axis of the motor. Install the new wheel onto the axis of the motor. Use the allen wrench to tighten the screw of the wheel (see picture 2). Slightly loosen the 2 motor screws to adjust the distance between the 2 wheels to about 36.5 -37 mm in which the gauge for standard distance between wheels can perfectly fit. Tighten the screws.
3. Reinstall the wheel cover of the spin wheel and the replacement is completed.

Repeat the above 3 procedures if the top spin wheel needs to be replaced.



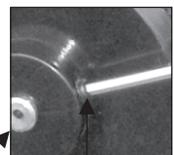
Picture1



Blocking sleeve



Picture2



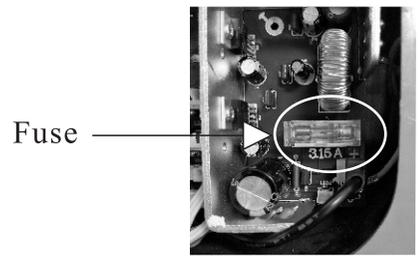
Allen wrench

Notes

1. When the landing points and speed of serves do not meet the standard, adjust the distance between wheels to get the best result.
2. Please replace the spin wheel under the supervision of your local supplier.

P. Fuse Replacement

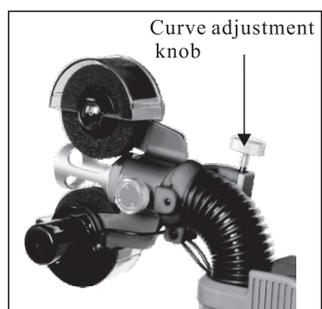
Disconnect the power supply before the fuse is replaced. Open the base cover. At the window of the transparent cover, pull out the fuse cover. Replace the bad fuse with a qualified one of the same standard (3.15A). Replace the fuse cover.



Q. Correction for Serves Falling out of Bounds Or into The Net

When serves fall out of bounds or into the net, adjust the top and back spin levels according to the factory reset and recommended parameters as described in the instruction manual.

1. When serves fall out of bounds, turn the curve adjustment knob counter-clockwise to lower the curve.
2. When serves fall into the net, turn the curve adjustment knob clockwise to get a higher curve.



R. Packaging Information

Gross weight	20 Kg
Net weight	11 Kg
Dimensions	97X55X42mm

When the robot is not in operation for more than 15 minutes, the LCD screen will automatically enter into the sleep mode. Once any button on the control panel is pressed, the screen will turn back to its normal operation

We reserve the rights to make any changes or modifications to the machine as well as the attachments without further notice.