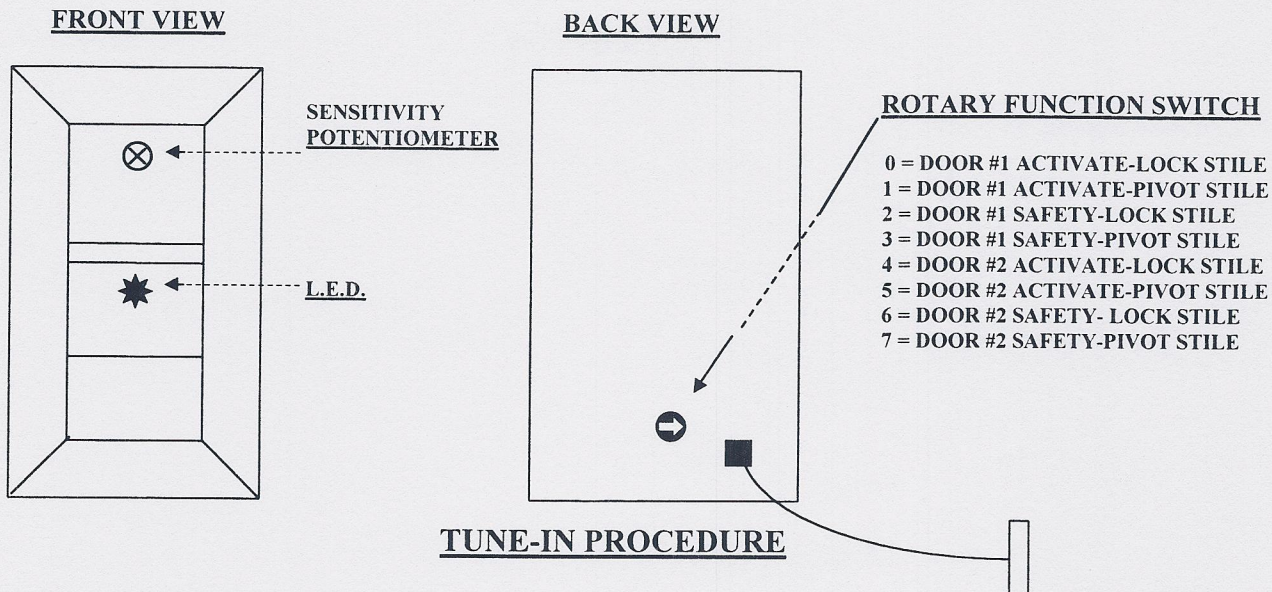


**STANLEY**  
**SENTREX-III**



# SENTREX-3 TUNING PROCEDURE

\*\*\*\*\*



- 1) BUILD A "SAFETY ZONE" OUT OF PLAIN, NON-WAXED CARDBOARD. MAKE SURE TO INCLUDE ANY GUARD RAILS PRESENT. THE LENGTH OF THE ZONE SHOULD EXTEND APPROXIMATELY 6" PAST THE "FULL OPEN" LENGTH OF THE DOOR.
- 2) SELECT THE APPROPRIATE ROTARY SWITCH SETTING ON THE HEADS (SEE ABOVE)
- 3) SET THE "ON / OFF / HOLD-OPEN" SWITCH TO "ON"
- 4) TURN CONTROL BOX POWER SWITCH TO "ON" AND IMMEDIATELY PRESS AND HOLD IN THE "AUTO-LEARN" SWITCH UNTIL DOOR BEGINS TO OPEN. RELEASE THE SWITCH AND LEAVE THE SAFETY ZONE. THE FOLLOWING STEPS SHOULD OCCUR:
  - A) DOOR WILL OPEN AND THEN CLOSE (TO COUNT MOTOR REVOLUTIONS).
  - B) DOOR OPENS AT NORMAL SPEED.
  - C) DOOR STEPS CLOSED (32 STEPS)
  - D) DOOR WILL OPEN AND CLOSE AT NORMAL SPEED.

- 5) WALK TEST THE SYSTEM AND ADJUST STAN-RAY SENSITIVITY & TIME DELAY AND/OR CONTROL BOX TIME DELAY IF NECESSARY.

**NOTE:** IF DOOR OPENS, CLOSES, RE-OPENS BUT DOES NOT BEGIN STEPPING PROCESS TEMPORARILY INCREASE "OPEN CHECK SPEED" TURN OFF...ON...AND RE-LEARN.

**NOTE:** IF YOU WISH TO RE-TUNE THE DOOR FOR ANY REASON, CONTROL BOX POWER MUST BE TURNED OFF & THEN ON AGAIN BEFORE PRESSING THE "AUTO-LEARN" SWITCH.

**ADDITIONAL VOLTAGE CHECKS:** CHECK TB2 VOLTAGES AT MAGIC SWING CONTROL:

RED (PIN 1) TO BLACK (PIN 4) = 15 TO 19 V DC  
GREEN (PIN 2) TO BLACK (PIN 4) = 4.5 TO 5.0 V DC  
WHITE (PIN 3) TO BLACK (PIN 4) = 4.5 TO 5.0 V DC

**NOTE:** IF VOLTAGES ARE LOW UNPLUG TB2 AND RE-CHECK VOLTAGES AT M/S CONTROL. IF VOLTAGES ON PINS 2 AND/OR 3 ARE INCORRECT REPLACE SENTREX-3 MICRO BOARD. IF VOLTAGE ON PIN 1 IS INCORRECT REPLACE MAGIC SWING CONTROL.

**REMEMBER ... AS ALWAYS, CONSULT THE ORIGINAL SERVICE MANUAL.**

Visit our Website @ [www.addisonautomatics.com](http://www.addisonautomatics.com)



## SENTREX<sup>3</sup> TUNING INSTRUCTIONS

Sentrex<sup>3</sup> only works in conjunction with the new, microprocessor version of the Magic-Swing controller. Make sure that the controller is operating the door properly (per ANSI specs) before connecting Sentrex<sup>3</sup>.

**WARNING:** Do not connect or disconnect any cables or wires while power is on. Damage to the printed circuit boards may result.

At this time, do not connect the Sentrex<sup>3</sup> micro-board to the control box.

Also, do not connect the four position terminal block (for flex link cable) to the control box.

### A. Magic-Swing Microprocessor Controller Adjustments

See separate instruction manual on the controller for details but in general, set it up as follows:

1. Select the dipswitch settings to suit the application.
2. Turn power on and adjust the "open speed", "open check speed", and "stall" for proper operation.
3. Adjust "time delay" to minimum.
4. Turn power off

### B. Sentrex<sup>3</sup>- Single Door

Having made the basic controller adjustments (see A above), proceed with the installation of Sentrex<sup>3</sup>.

1. With the power off and the cover removed from the control box, install the Sentrex<sup>3</sup> micro-board. Plug in the ribbon cable connector to J2 on the Magic-Swing control board, then fasten the micro-board to the control board using the three screws provided.
2. Wire the flex link cable into the four position connector.

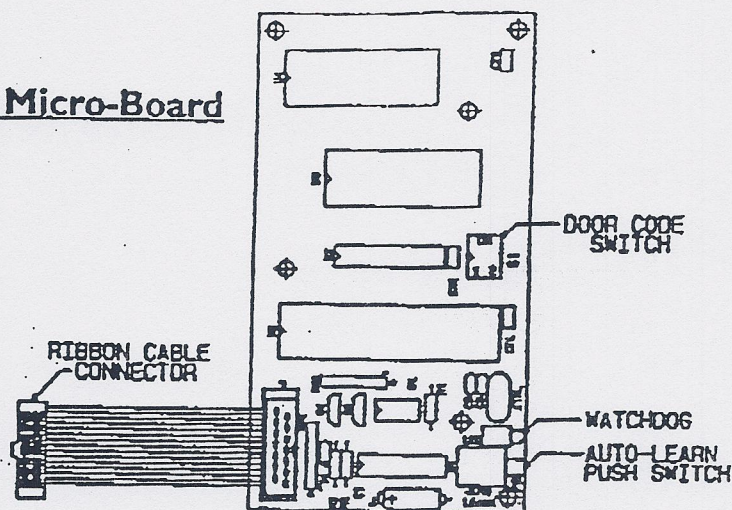
position	wire color
1	red
2	green
3	white
4	black

3. Insert the flex link connector into TB2.
4. Using the two position dipswitch S1 on the micro-board, select the door code if other Sentrex<sup>3</sup> systems are installed nearby.

Single Door Code	Switch 1	Switch 2
1	on	on
2	on	off
3	off	on
4	off	off



## SENTREX<sup>3</sup> Micro-Board



5. Select the rotary switch setting on the back of each sensor head.

### Switch Setting

0

### Sensor Function

Door 1 operate sensor

1

Door 1 operate sensor

2

Door 1 safety sensor

3

Door 1 safety sensor

6. Set up temporary cardboard walls to define the desired zone.
7. Set the on-off-hold open switch to "on".
8. Replace the control box cover, making sure that all five screws are securely fastened.
9. Turn the Magic-Swing control box power switch to "on" and immediately press and hold in the Auto-Learn switch for two seconds. In approximately 15 seconds, the door will open and then close to count the motor revolutions for the 90 degree door position. The door will then re-open and step close in 32 increments adjusting the sensors zone at each step. Do not stand in the zone area during Auto-Learn. The LED on the sensor head will blink once in each of the steps to verify zone setting.

**NOTE:** If the door opens, closes, re-opens but does not go into stepping / tuning mode temporarily increase the open check speed, turn power off, then on. Press the Auto-Learn switch to re-tune.

**NOTE:** If during Auto-Learn someone needs to pass through the doorway, you can interrupt the tuning cycle. Switch the on-off-hold open switch to "hold open" and manually push the door open to allow the person to pass. When the zone is clear, switch back to "on" and the door will automatically return to the position it was in before the interruption.

10. When the system has completed the Auto-Learn cycle, the door will open and then close in final verification.
11. Adjust the Stan-Ray sensitivity and time delay.
12. Adjust the Magic-Swing control box time delay.
13. **WALK TEST THE SYSTEM**



### C. Sentrex<sup>3</sup>-Double Door

Having made the basic controller adjustments (see A), proceed with the installation of Sentrex<sup>3</sup>.

1. With the power off and the cover removed from the control box, install the Sentrex<sup>3</sup> micro-board. Plug in the ribbon cable connector to J2 on the Magic-Swing control board, then fasten the micro-board to the control board using the three screws provided
2. Wire the flex link cable into the four position connector.

position	wire color
1	red
2	green
3	white
4	black

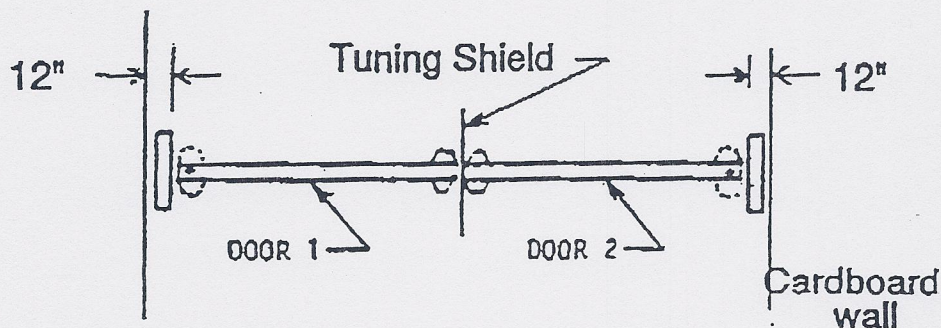
3. Insert the flex link connector into TB2.
4. Using the two position dipswitch S1, select the paired door code if other Sentrex<sup>3</sup> systems are installed nearby.

<u>Paired Door Code</u>	<u>Switch 1</u>	<u>Switch 2</u>
1	on	on
2	on	off

5. Select the rotary switch setting on the back of each sensor head. Note: Door #1 is determined by encoder connector #1, see controller manual.

<u>Switch Setting</u>	<u>Sensor Function</u>
0	Door 1 operate sensor
1	operate sensor
2	safety sensor
3	safety sensor
4	Door 2 operate sensor
5	operate sensor
6	safety sensor
7	safety sensor

6. Set up temporary cardboard walls to define the desired zone.
7. Install tuning shield on door 2.





8. Set on-off-hold open switch to "on".
9. Replace the control box cover, making sure that all five screws are fastened.
10. Turn the Magic-Swing control box power switch to "on" and immediately press and hold in the Auto-Learn switch for two seconds. In about 15 seconds the doors will open and then close to count the motor revolutions for the 90 degree door position. The doors will then re-open and step close in 32 increments, adjusting the sensors zone (for door 1) at each step. Do not stand in the zone area during Auto-Learn. The LED on the sensor head will blink once in each of the steps to verify zone setting.

**NOTE:** If the doors open, close, re-open but do not go into stepping/tuning mode, temporarily increase open check speed, turn power off, then on. Press Auto-Learn switch to re-tune.

**NOTE:** If, during Auto-Learn, someone needs to pass through the doorway, you can interrupt the tuning cycle. Place the on-off-hold open switch to "hold open" and manually push the door open to allow the person to pass. When the zone is clear, switch back to "on", the doors will automatically return to the position they were in before the interruption.

11. When door 1 has completed the Auto-Learn cycle, the doors will open and then close for verification. Move the tuning shield to door 1.
12. With the doors in the closed position, press the Auto-Learn switch. Door 2 will then begin tuning.
13. When door 2 has completed tuning, the doors will open and may remain open until the tuning shield is removed. When the doors close, the system is tuned and operating.
14. Adjust the Stan-Ray sensitivity and time delay.
15. Adjust the control box time delay.
16. **WALK TEST THE SYSTEM.**

#### **D. Additional Information**

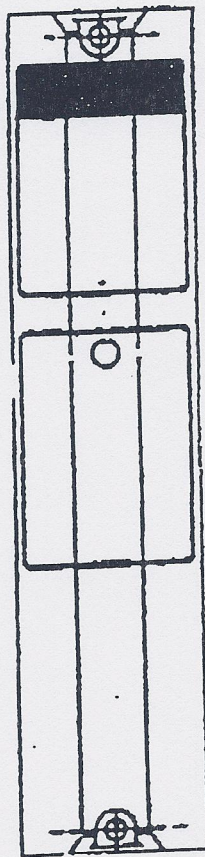
1. Each sensor head has a sensitivity potentiometer that can be turned slightly for fine tuning. Usually not needed.
2. If there is a power interruption after tune-in, the zone patterns are retained in memory. When power returns, there is a four second time delay during which the Sentrex<sup>3</sup> system will not allow the door to open. After that, everything is the same as before the power was interrupted.
3. If you wish to re-tune for any reason, power must be turned off, then on before pushing the Auto-Learn switch.
4. The LED on the Sentrex<sup>3</sup> micro-board is a watchdog indicator that should be on during normal operation.
5. After tuning, the sensor head LED will blink every 10 seconds to verify that communication exists between the sensor head and control board. The operate sensors will blink only when the door is closed. The safety sensors will blink only when the door is open.
6. When communication between the controller and sensor head breaks down (defective sensor head, broken flex link cable) the door will not operate. It will stay either in the full open or closed position, depending on the timing and nature of the breakdown.



## SENTREX<sup>1</sup> TROUBLESHOOTING SECTION

1. TROUBLE: No sensors LED blink during Auto-Learn cycle.  
CHECK: Is TB2 on Magic-Swing control box wired correctly? If yes, check for a broken wire on the flex link cable. If no, correct wiring on TB2.
2. TROUBLE: Door stays open with no sensor LED on.  
CHECK: Does safety sensor LED flash once each 10 seconds while the door is open? If no, use ohm meter to check continuity of flex link wires. If the wires are intact, replace defective safety sensor. If there is a broken wire, replace flex link.
3. TROUBLE: Sensors on multiple door installation seem to be crosstalking (ghosting).  
CHECK: Are Door Code switch settings properly selected? If no, select different codes for each door. If yes, check with electrician to determine if all doors are on the same phase. If not, call for factory assistance.
4. TROUBLE: Periodically a sensor will detect with no one in the zone or the zones are too strong.  
REMEDY: Mask the upper portion of the sensor receiver lens using black electrical tape approximately 3/4 inch wide. See fig. 1.
5. TROUBLE: Door starts going through the tuning steps starting from full open and the door suddenly closes.  
REMEDY: Separate the wires in the header. Keep motor wires isolated from the Sentrex flex link cable and the encoder cable.

FIG. 1





MAGIC TOUCH  
HAS 1 SECOND REVERSE ON OBSTRUCTION FEATURE (PUSH TO OPEN)

LEARN SPEED SLIGHTLY FASTER THAN CHECK SPEED

#### TIMER MODE

2S LOGIC RATCHET OPERATION ACTIVATE TO OPEN - ACTIVATE TO CLOSE

SAFETY PLUS (1.5 SEC) DELAY IS ACTIVATED WHEN BOTH ACT & SAFETY/STALL ARE HIT SIMUTANIOUSLY

IF ACTIVATE REMOVED FIRST DOOR GOES THROUGH HOLD OPEN DELAY THEN CLOSES

IF STALL REMOVED FIRST DOOR OPENS IN CHECK THEN GOES THROUGH HOLD OPEN TIME DELAY & CLOSES

#### CARPET MODE

1.5 SECOND DELAY AFTER SAFETY BOTH OPENING & CLOSING

IF ACTIVATE SIGNAL IS NOT FOLLOWED BY SAFETY SIGNAL THERE WILL BE A MINIMUM 12 SECOND DELAY

#### CONNECTORS

TB1 1-SIGNAL COMMON  
2-OPERATE INPUT  
3-SENSOR OPERATE  
4-12VAC 1A MAX  
5-12VAC  
6-AUXILIARY INPUT  
7-STALL/SAFETY INPUT  
8-SENSOR COMMON

NOTE: 3-SENSOR OPERATE IS AN OUTPUT FROM SENTREX WHICH MUST BE CONNECTED TO 2-OPERATE INPUT FOR CONTROL TO RUN. USUALLY DONE VIA ON/OFF/HO SWITCH

TB2 1-VSX + POWER FOR SENSOR HEADS  
2-SERIAL COMMUNICATIONS  
3-SERIAL COMMUNICATIONS  
4-GND FOR SENSOR HEADS

JI 1-EARTH GND INPUT  
2-120VAC IN  
3-NEUTRAL IN  
4-GND EARTH  
5-MOTOR 1  
6-MOTOR 1  
7-GND EARTH  
8-MOTOR 2  
9-MOTOR 2  
10-GND EARTH (NOT USED)  
11-12VDC  
12-ENCODER 1  
13-ENCODER 1  
14-GND  
15-12VDC  
16-ENCODER 2  
17-ENCODER 2  
18-GND

J3-JUMPERED TO SYNCRONIZE DUAL OPERATORS CLOSING SPEEDS  
NOT JUMPERED IF SYNCRNIZATION IS NOT DESIRED



## J2-SENTRX3 CONNECTOR

### LED INDICATORS

WD-WATCHDOG COMES ON WITH POWER  
FLASHES IF BOARD IS DEFECTIVE

E1-ENCODER 1 FLASH WHEN DOOR 1 MOVES INDICATES GOOD ENCODER  
E2-ENCODER 2 FLASH WHEN DOOR 2 MOVES INDICATES GOOD ENCODER

### POTENTIOMETERS

TD-.2-30 SECONDS

STALL SPEED- CONTROLS HOLD OPEN

OPEN SPEED- CONTROLS OPEN SPEED

OPEN CHECK SPEED- CONTROLS OPEN CHECK SPEED

DIPSWITCHES (TURN CONTROL OFF SET SWITCHES THEN TURN ON)

S2 1- ON-CARPET LOGIC OFF-TIMER LOGIC (SENTRX)

2- ON-DUAL DOORS OFF-SINGLE DOOR

3- ON-2S LOGIC (RATCHET) OFF-NORMAL OPERATION

4- ON-LOCK DELAY OFF-NO DELAY

LOCK DELAY 200MILLI SECONDS

ON IS TOGGLE TOWARD CENTER OF CONTROL

S3 1- ON-NORMAL OPEN CHECK SIZE OFF- LARGE OPEN CHECK SIZE

2- ON-MAGIC TOUCH OFF-NO MAGIC TOUCH

ON IS TOGGLE AWAY FROM PROCESOR CHIP

### VOLTAGES TO MOTOR

#### SINGLE

IO	OS	CS	STALL	
33	39	15	1.7	POTS DOWN
	97	39	15	POTS UP
DUAL	SET S2 SWITCH 2 ON			
IO	OS	CS	STALL	
33	38	14	1.9	POTS DOWN
	96	35	14	POTS UP

### NOTES:

IF CONTROL IS RUNING SINGLE OPERATOR & STAYS IN CHECK LOOK AT  
S2 SW2 & SEE IF IT'S TURNED ON

TO SET CONTROL FOR SINGLE OPERATION TURN S2 SW2 OFF



# SENTREX3

S1 DOOR CODES INCASE OTHER SENTREX3 ARE CLOSE TOGETHER  
NOTE: ONLY CODES 1 & 2 CAN BE USED ON DUAL DOOR APPLICATIONS

CODE	SW1	SW2
1	ON	ON
2	ON	OFF
3	OFF	ON
4	OFF	OFF

AUTO LEARN PUSH BUTTON  
PRESS IMMEDIATELY AFTER TURNING ON POWER TO PUT IN LEARN MODE

ROTARY SWITCH ON SENTREX3 HEADS	
SINGLE DOOR	DUAL (SECOND DOOR)
0-ACT LEAD EDGE	4-ACT LEAD EDGE
1-ACT HINGE EDGE	5-ACT HINGE EDGE
2-SAF LEAD EDGE	6-SAF LEAD EDGE
3-SAF HINGE EDGE	7-SAF HINGE EDGE

HEAD SET UP			
DOOR SIZE	NO. HEADS	ACT	SAFETY
36"	2	1L	1L
42"	3	1L	1L 1H
48"	4	1L 1H	1L 1H

L=LEAF SIDE H=HINGE SIDE



# REBUILD NEWS

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JUNE 1995

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**TECH TIPS**

**FIELD QUESTIONS**

## MORE SENTREX 3 SYSTEM TROUBLESHOOTING

BEFORE TROUBLESHOOTING THE SYSTEM FOR SENTREX RELATED PROBLEMS, VERIFY THAT THE DOOR/S OPERATE O.K. IN THE LEARN MODE AND CYCLE NORMALLY WITHOUT THE SENTREX MICROBOARD AND TB2 PLUG CONNECTED TO THE MAGIC SWING CONTROL. ENSURE THAT THE MAGIC SWING CONTROL SETTINGS ARE CORRECT PER APPLICATION.

1. Door opens and stalls or won't open at all.

If a swing side head LED is on, readjust the head's sensitivity potentiometer slightly CCW then recheck operation and zone. Retune only if good zone can't be achieved.

2. Door cycles open or won't close at all.

If an approach side sensor head LED is on, readjust the head's sensitivity potentiometer slightly CCW then recheck operation and zone. Retune only if good zone can't be achieved.

3. Door is stuck open or won't open when activated and sensor head LEDS are off.

Check TB2 voltages at the Magic Swing (M/S) Control

TB2 Red (pin 1) to black (pin 4) = 15 to 19 VDC

TB2 Green (pin 2) to black = 4.5 to 5.0 VDC

TB2 White (pin 3) to black = 4.5 to 5.0 VDC

\* If voltages are low unplug TB2 from M/S Control and recheck TB2 voltages on the M/S control.

If voltages are incorrect at TB2 pins 2 and/or 3 replace microboard and recheck voltages. If voltages at TB2 PIN 1 is incorrect replace M/S control and recheck voltages.



If voltages are o.k. the problem is with sentrex:

- With sensor heads disconnected and the power off, plug TB2 back into the M/S control. Measure TB2 voltages at M/S control and at sensor head connectors. If voltages are incorrect replace harness and recheck voltages.
- With power off check for a short from all TB2 wires to chassis ground (control box cover). If any read shorted replace harness.
- If sensor connectors/pins show physical damage such as breakage or corrosion clean or replace harness.
- If harness checks o.k. connect one or two heads at a time and check TB2 voltages. Use this process of elimination until a defective head is found. This will be the one which loads TB2 voltages. (Don't forget to set sensor head codes correctly when doing this).

If voltages read o.k. with sensor heads connected but won't auto tune

- With power off, disconnect TB2, power on, depress auto learn and see if door will step a couple steps without sensors connected. If not replace microboard and try again. If o.k. connect sensors and retune.
- If door steps then check harness as described above.
- If harness is o.k. try one head at a time until finding the defective head that won't allow door to step. If heads don't work replace microboard and retune.

#### 4. Door acts erratic / Intermittent.

Manually push door and observe encoder LEDS. LEDS should flash on/off in sequence.

- Wiggle M/S motor/encoder harness near control box to check for erratic operation while operating door. If LEDS act erratic turn power off and check 18 pin M/S J1 connector for loose wire under connector cap. Unplug J1 connector and verify if female pins are spread too far apart. If so, replace harness if damaged.
- Check for good earth ground. Remove M/S J1 connector cap. Using meter measure 110 VAC at J1 pins 1 to 2. If reading is bad check connections from connector to outlet and outlet to panel box.
- Check TB2 plug wires, if only a few strands or less restrip and retest.
- Check encoder magnet, if loose tighten
- Check for loose connections at all connectors and tighten
- Replace encoder if LEDS still flash erratically and retest
- Replace motor if shaft is hard to turn by hand



# ATTENTION

## SENTREX 3 MICROBOARD TUNE-IN CHANGES

This is identified by EPROM labeled U5 on the circuit board.

EPROM: 412434-4

PROGRAM NO. 713739

CHECKSUM: E5F5

DESCRIPTION: SEPARATE TUNE-IN FOR EACH DOOR

Read instruction manual for details: 203822 7/97.

A brief summary is listed below.

### INSTRUCTIONS:

1. Door1 and/or Door2 are tuned independently.
2. Configure S1 DIP switch for the door that is to be tuned:

DOOR1 TUNING -      POS1 ON    POS2 OFF

DOOR2 TUNING -      POS1 OFF    POS2 ON

3. To tune a door, power needs to be turned off.  
Set the DIP switch setting for the door to be tuned. Turn power on, then immediately PRESS the AUTO LEARN switch and hold for approximately 3 seconds.
4. The door tuning consists of 12 steps, but will hold 32 door positions or zone. The tuning time will be faster.



**STANLEY** Access Technologies

**SENTREX<sup>3</sup>**

*Swing Door Safety Sensor*

***Installation and Tune-In  
Manual***

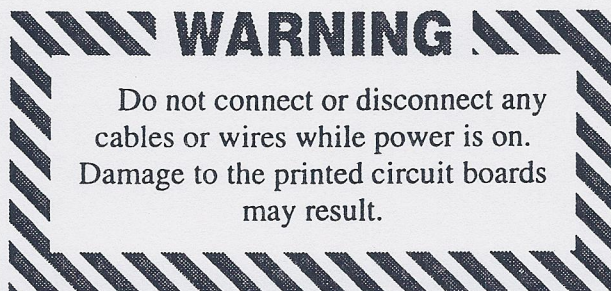


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## TUNING INSTRUCTIONS

Sentrex<sup>3</sup> only works in conjunction with the new microprocessor version of the Magic-Swing controller. Make sure that the controller is operating the door properly (per ANSI specs) before connecting Sentrex<sup>3</sup>.



At this time, do not connect the Sentrex<sup>3</sup> Micro-Board to the control box.

Also, do not connect the four position terminal block (for flex link cable) to the control box.

### ***A. Magic-Swing Microprocessor Controller Adjustments***

See separate instruction manual on the controller for details but in general, set it up as follows:

1. Select the dipswitch settings to suit the application.
2. Turn power on and adjust the “open speed”, “open check speed”, and “stall” for proper operation.
3. Adjust “time delay” to minimum.
4. Turn power off.

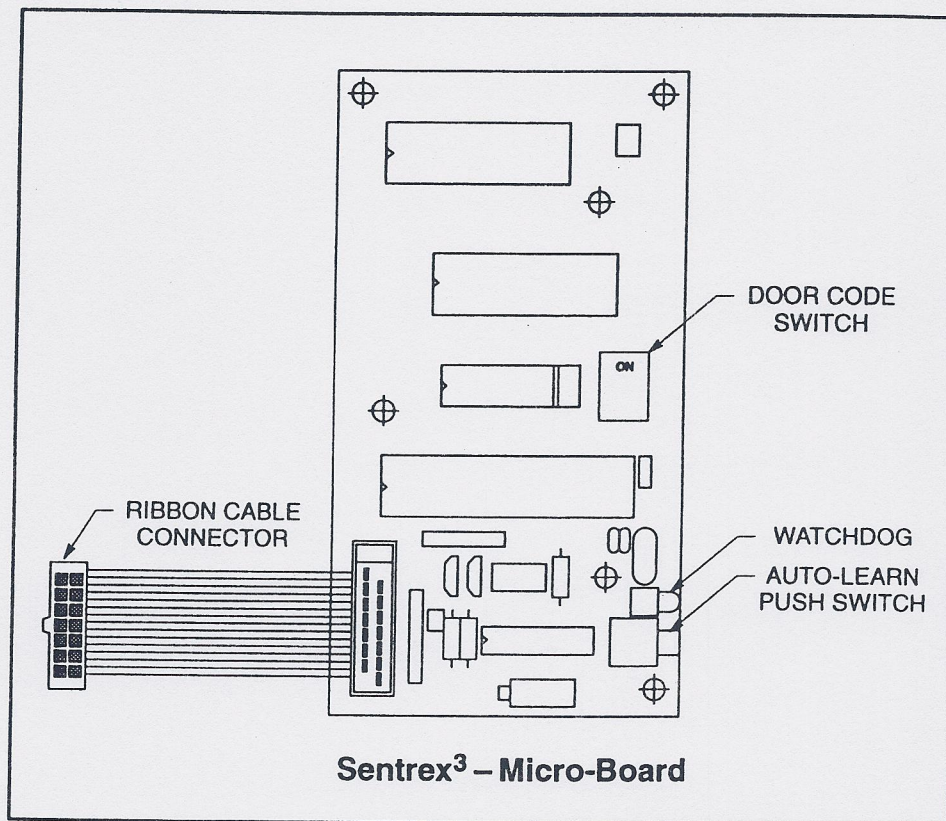


## TUNING INSTRUCTIONS

### ***B. Sentrex<sup>3</sup> – Single Door***

Having made the basic controller adjustments (see A above), proceed with the installation of Sentrex<sup>3</sup>.

1. With the power off and the cover removed from the control box, install the Sentrex<sup>3</sup> Micro-Board. Plug in the ribbon cable connector to J2 on the Magic-Swing control board, then fasten the Micro-Board to the control board using the three screws provided.



2. Wire the flex link cable into the four position connector.

position	1	wire color	red
	2		green
	3		white
	4		black
3. Insert the flex link connector into TB2.
4. Using the two position dipswitch S1 on the Micro-Board, select the switches so that **Switch 1** is **ON** and **Switch 2** is **OFF**.
5. Connect **JP3** to the **TUNE** position.



## TUNING INSTRUCTIONS

### *B. Sentrex<sup>3</sup> – Single Door (continued)*

6. Select the rotary switch setting on the back of each sensor head.

Switch Setting	Sensor Function
0	Door 1 operate sensor
1	Door 1 operate sensor
2	Door 1 safety sensor
3	Door 1 safety sensor

7. If necessary, set up temporary cardboard walls to define the desired zone.
8. Set the on-off-hold open switch to “on”.
9. Turn the Magic-Swing control box power switch to “on” and immediately press and hold in the Auto-Learn switch for two seconds. In approximately 15 seconds, the door will open and then close to count the motor revolutions for the 90 degree door position. The door will then re-open and step close in 12 increments adjusting the sensors zone at each step. Do not stand in the zone area during Auto-Learn. The LED on the sensor head will blink once in each of the steps to verify zone setting.

**NOTE:** If the door opens, closes, re-opens but does not go into stepping/tuning mode, temporarily increase the open check speed, turn power off, then on. Press the Auto-Learn switch to re-tune.

**NOTE:** If during Auto-Learn someone needs to pass through the doorway, you can interrupt the tuning cycle. Switch the on-off-hold open switch to “hold open” and manually push the door open to allow the person to pass. When the zone is clear, switch back to “on” and the door will automatically return to the position it was in before the interruption.

10. When the system has completed the Auto-Learn cycle, the door will open and then close for final verification.
11. Switch the Magic-Swing Control Box **Power Switch** to **OFF**.
12. Using the two position dipswitch S1 on the Micro-Board, select the door code if other Sentrex<sup>3</sup> systems are installed nearby.  
(Note: Door codes on nearby doors should be different from one another.)

Single Door Code	Switch 1	Switch 2
1	on	on
2	on	off
3	off	on
4	off	off



## TUNING INSTRUCTIONS

### ***B. Sentrex<sup>3</sup> – Single Door (continued)***

13. Connect JP3 to the WP position.
14. Replace the control box cover, making sure that all five screws are securely fastened.
15. Adjust the Operate Sensor sensitivity and time delay.
16. Adjust the Magic-Swing control box time delay.
17. WALK TEST THE SYSTEM.

### ***C. Sentrex<sup>3</sup> – Double Door***

Having made the basic controller adjustments (see A above), proceed with the installation of Sentrex<sup>3</sup>.

1. With the power off and the cover removed from the control box, install the Sentrex<sup>3</sup> Micro-Board. (See illustration on page 2.) Plug in the ribbon cable connector to J2 on the Magic-Swing control board, then fasten the Micro-Board to the control board using the three screws provided.

2. Wire the flex link cable into the four position connector.

position 1	wire color red
2	green
3	white
4	black

3. Insert the flex link connector into TB2.
4. Using the two position dipswitch S1 on the Micro-Board, select the switches to tune for door 1 or door 2.

<b>Door 1 Tuning</b>	<b>Switch 1 Set to ON</b>	<b>Switch 2 Set to OFF</b>
<b>Door 2 Tuning</b>	<b>Switch 1 Set to OFF</b>	<b>Switch 2 Set to ON</b>

5. Connect JP3 to the TUNE position.
6. Select the rotary switch setting on the back of each sensor head.  
Note: Door #1 is determined by encoder connector #1, see controller manual.

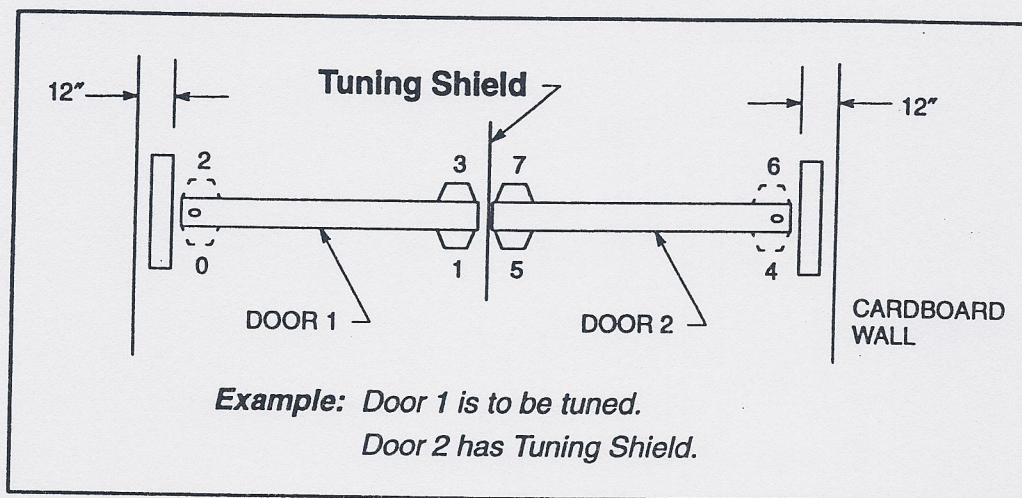
Switch Setting	Sensor Function
0	Door 1 operate sensor
1	operate sensor
2	safety sensor
3	safety sensor
4	Door 2 operate sensor
5	operate sensor
6	safety sensor
7	safety sensor



## TUNING INSTRUCTIONS

### C. Sentrx<sup>3</sup> – Double Door (continued)

7. If necessary, set up temporary cardboard walls to define desired zone.
8. Install tuning shield on door that is not to be tuned.



9. Set on-off-hold open switch to "on".
  10. Turn the Magic-Swing control box power switch to "on" and immediately press and hold in the Auto-Learn switch for two seconds. In about 15 seconds, the doors will open and then close to count the motor revolutions for the 90 degree door position. The doors will then re-open and step close in 12 increments, adjusting the sensors zone (for the door being tuned) at each step. Do not stand in the zone area during Auto-Learn. The LED on the sensor head will blink once in each of the steps to verify zone setting.
- NOTE:** If the doors open, close, re-open but do not go into stepping/tuning mode, temporarily increase open check speed, turn power off, then on. Press the Auto-Learn switch to re-tune.
- NOTE:** If during Auto-Learn someone needs to pass through the doorway, you can interrupt the tuning cycle. Switch the on-off-hold open switch to "hold open" and manually push the door open to allow the person to pass. When the zone is clear, switch back to "on" and the door will automatically return to the position it was in before the interruption.
11. When the Auto-Learn cycle has been completed, the doors will open and the sensors will be operational.
  12. Switch the Magic Swing Control Box Power Switch to OFF.
  13. Remove the Tuning Shield.



## TUNING INSTRUCTIONS

### *C. Sentrex<sup>3</sup> – Double Door (continued)*

14. To tune in the second door, refer back to Step 4.

15. With Power Off, select the door codes.

Paired Door Code	Switch 1	Switch 2
1	on	on
2	on	off

16. Connect JP3 to the WP position.

17. Replace the control box cover, making sure that all five screws are securely fastened.

18. Adjust the Operate Sensor sensitivity and time delay.

19. Adjust the control box time delay.

20. WALK TEST THE SYSTEM.

### *D. Additional Information*

1. Each sensor head has a sensitivity potentiometer that can be turned slightly for fine tuning. Usually adjustment is not needed.
2. If there is a power interruption after tune-in, the zone patterns are retained in memory. When power returns, there is a four second time delay during which the Sentrex<sup>3</sup> system will not allow the door to open. After that, everything is the same as before the power was interrupted.
3. If you wish to re-tune for any reason, power must be turned off, then on before pushing the Auto-Learn switch.
4. The LED on the Sentrex3 Micro-Board is a watchdog indicator that should be on during normal operation.
5. After tuning, the sensor head LED will blink every 10 seconds to verify that communication exists between the sensor head and control board. The operate sensors will blink only when the door is closed. The safety sensors will blink only when the door is open.
6. When communication between the controller and sensor head breaks down (defective sensor head, broken flex link cable) the door will not operate. It will stay either in the full open or closed position, depending on the timing and nature of the breakdown.



## TROUBLESHOOTING

SYMPTOM	RECOMMENDATIONS
1. No sensors LED blink during Auto-Learn cycle.	<ul style="list-style-type: none"><li>• Is TB2 on Magic-Swing control box wired correctly? If yes, check for broken wire on the flex link cable. If no, correct wiring on TB2.</li></ul>
2. Door stays open with no sensor LED on.	<ul style="list-style-type: none"><li>• Does safety sensor LED flash once each 10 seconds while the door is open? If no, use ohm meter to check continuity of flex link wires.</li><li>• If the wires are intact, replace defective safety sensor.</li><li>• If there is a broken wire, replace flex link.</li></ul>
3. Sensors on multiple door installation seem to be crosstalking (ghosting).	<ul style="list-style-type: none"><li>• Are Door Code switch setting properly selected? If no, select different codes for each door. If yes, check with electrician to determine if all doors are on the same phase. If not, call for factory assistance.</li></ul>
4. Door starts going through the tuning steps starting from full open and the door suddenly closes.	<ul style="list-style-type: none"><li>• Separate the wires in the header. Keep motor wires isolated from the Sentrex flex link cable and the encoder cable.</li></ul>



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