STANLEY
SENTREX-AT

SENTREX AUTOMATIC TUNING SYSTEM

NOTE: 1. A Stan-Ray motion sensor or wall switch, etc. must be used as an approach operating device with the Sentrex A.T. system.

2. If installing Sentrex A.T. to an existing Magic-Swing, refer to Addendum No. 1 (Page 22) - "Retrofit Instructions" prior to starting installation.

3. Four sensor heads per door are needed when:
   a) the door is over 42" wide
   b) stainless steel guide rails or guide rails with panels are used
   c) adjacent side walls are closer than 1 foot from an open door

4. Sentrex A.T. is available in black only.

5. Sentrex A.T. is not compatible with Value Swing.

BILL OF MATERIAL

Quantity	Description
2	Sensor Heads - 515649
1	Main Printed Circuit (P.C.) Board - 110188
2	Housing Assemblies - 342696
1	Harness - 110003
1	On-Off-Hold Open Switch - 411562
1	Switch Package - 312694
1	Flex Link Power Cable & Bracket Assembly - 442103
1	Motor Encoder Retrofit Kit - 312717
1	Hardware Package - 312961
1	Transformer 12v - 412100
1	Magnetic Switch Harness - 412105
1	Stan-Ray Motion Sensor - 937 342363
1	Tuning Shield (Pairs Only) - 412366

REQUIRED TOOLS & EQUIPMENT

Power Drill
3/16", 3/8", #28 & 3/4" Drill Bits
1-1/4" Hole Saw
#2 Phillips Screwdriver
(2) Saw Horses
Surface-Mounted Wire Molding (if required)
OHM Meter
Volt Meter

APPLICATION INTRODUCTION
SENTREX A.T. HOLLOW METAL, METAL CLAD & SOLID RATED DOOR (FD)
(See Figure #1)

FD - This application requires two housing assemblies - one to hold excess sensor head cable - operate side (approach side), the other to house the Main P.C. Board - safety side (swing side). The housings mount on each side just below the sensor head.

If for some reason you have to place the electronics board in the operate side housing assembly, additional precautions must be taken to protect the housing assembly from carts, etc. The Stanley crash bar (part #936 312373 - clear, #936 332373 - bronze) is ideal for this type of application.

The Flex Link Power Cable assembly is to be located on the inside of the building (if applicable, the interior safety side). The flex link bracket mounts to the pivot jamb adjacent to the Main P.C. Board housing assembly.

If surface mounted vertical rod panic hardware is present, add the 1/2" thick aluminum shim (part #936 342897) to the back side of the operate sensor head.

When installing Sentrex A.T. on hollow metal, metal clad or solid doors, use the adhesive backed magnet and magnetic switch.

INSTALLATION INSTRUCTIONS

NOTE: Prior to starting your Sentrex A.T. installation, manually open the door to the full open 90 degree position. Is there sufficient side clearance for the sensor head? There must be at least 2 inches between any wall or rail and the door.

Magic-Swing Visible Header Preparation - Pivot Side

Drill a 1-1/4" diameter cable clearance hole through end cap (see Figure #2) or through top of header.

Magic-Swing In-Header Preparation - Pivot Side

Use the 1-1/4" diameter hole in end cap as a pilot and drill a 1-1/4" diameter cable clearance hole into hollow jamb.

New Magic-Swing Operator Modifications

Remove motor encoder kit from box (Part #912 312717) and follow the enclosed installation instructions.

TYPICAL SOLID/RATED DOOR (FD) APPLICATION

Figure No. 1

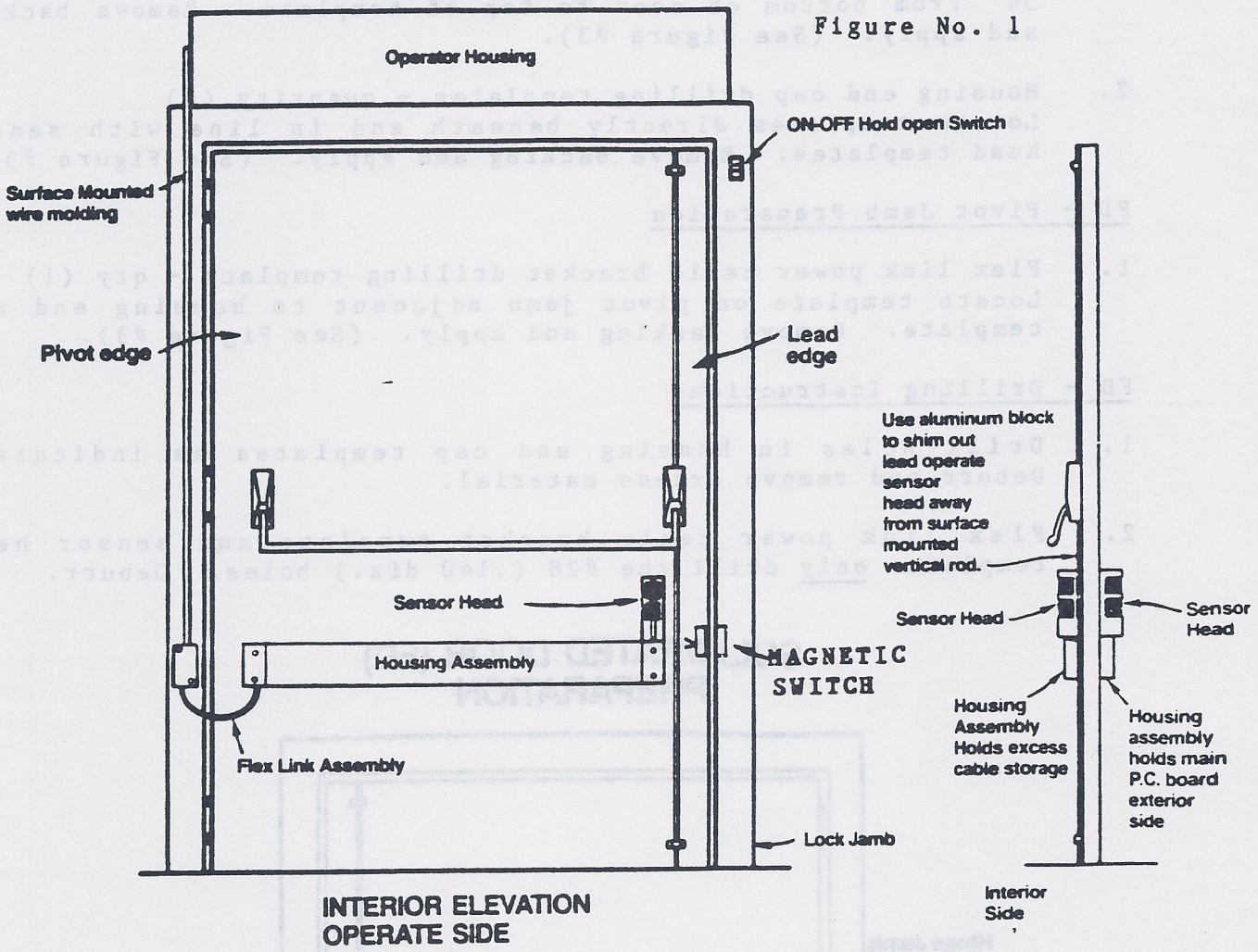
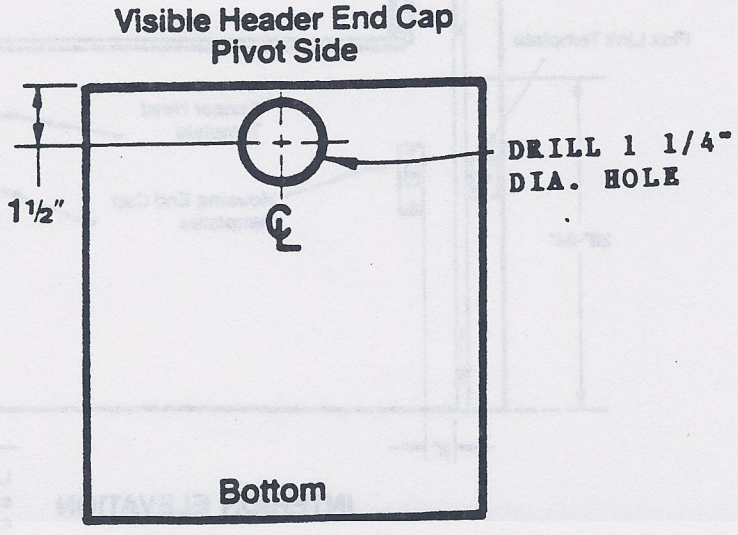


Figure No. 2



FD - Hollow Metal, Metal Clad or Solid Door Preparation

1. Sensor head drilling templates - quantity (2)
   Locate templates on both sides of the strike/lock stile, 28"-34" from bottom of door to top of template. Remove backing and apply. (See Figure #3).

2. Housing end cap drilling templates - quantity (4)
   Locate templates directly beneath and in line with sensor head templates. Remove backing and apply. (See Figure #3).

FD - Pivot Jamb Preparation

1. Flex link power cable bracket drilling template - qty (1)
   Locate template on pivot jamb adjacent to housing end cap template. Remove backing and apply. (See Figure #3).

FD - Drilling Instructions

1. Drill holes in housing end cap templates as indicated. Deburr and remove excess material.

2. Flex link power cable bracket template and sensor head templates only drill the #28 (.140 dia.) holes. Deburr.

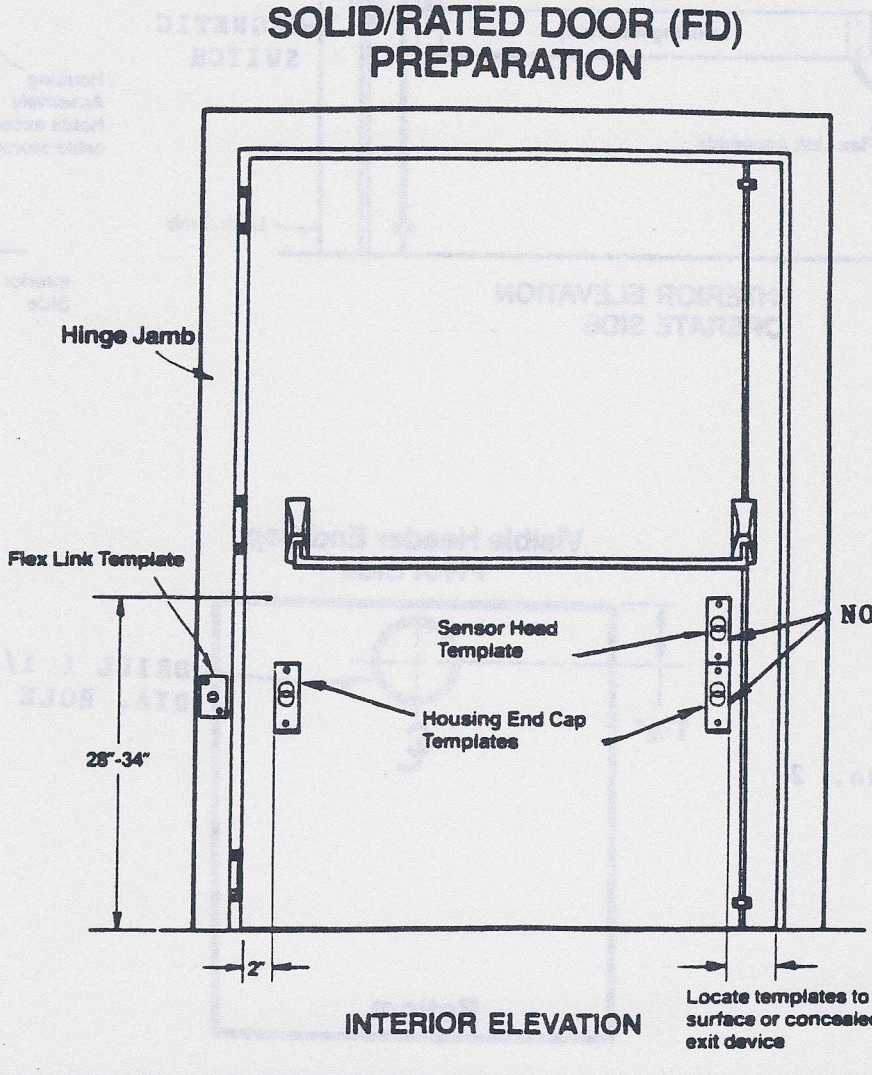


Figure No. 3

FD - Installation of On-Off-Hold Open Switch

Hollow Jamb Preparation (See Figure #4)

1. Locate on-off-hold open switch on interior jamb opposite the pivot.
2. Cut out rectangular hole as shown.
3. Deburr and remove excess material.
4. Clean surface with solvent.
5. Remove backing and apply decal to jamb.
6. Route switch wires through cut out and into header. Snap switch into place.

NOTE: If hollow jamb is not available, mount switch to header service cover.

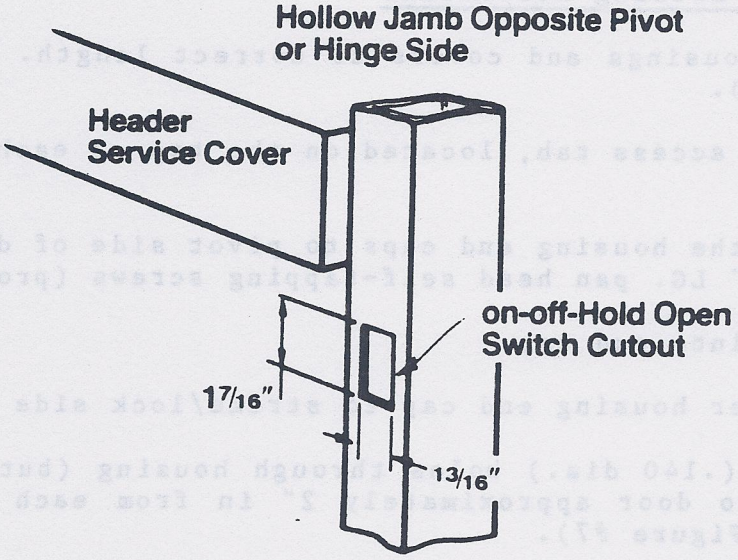


Fig. 4

FD - Installation of Sensor Heads (2) (See Figure #5)

1. Prior to mounting, use masking tape and label each sensor head cable connector with its intended function (e.g. operate or safety).
2. Knock out wire access tab, located on the bottom of each sensor head housing.
3. Fasten each sensor head to door with (2) #8 X 1-1/4" LG. pan head self-tapping screws (provided).

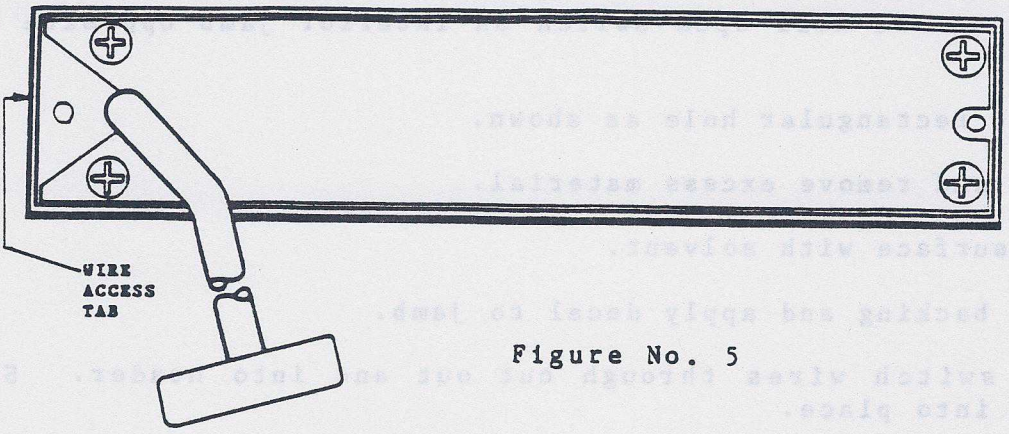


Figure No. 5

FD - Preparation of Housing Assemblies

1. Cut aluminum housings and covers to correct length. Deburr. (See Figure #6).

2. Knock out wire access tab, located on the top of each housing end cap.

3. Fasten one of the housing end caps to pivot side of door with (2) #8 X 1-1/4" LG. pan head self-tapping screws (provided).

4. Slide housing into end cap.

5. Fasten the other housing end cap to strike/lock side of door.

6. Drill (2) #28 (.140 dia.) holes through housing (but not the cover) and into door approximately 2" in from each end, on center. (See Figure #7).

7. Remove both end caps and housing. Deburr and remove excess material.

8. Drill (2) #3/16" (.188 dia.) clearance holes through existing #28 holes in housing. Deburr.

9. Prepare opposite side housing. Follow steps 1 through 8.

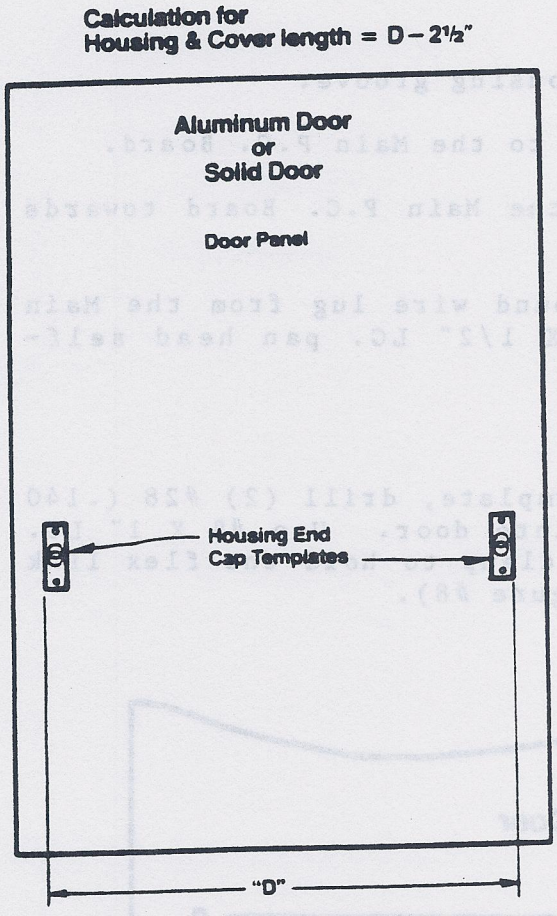


Figure No. 6

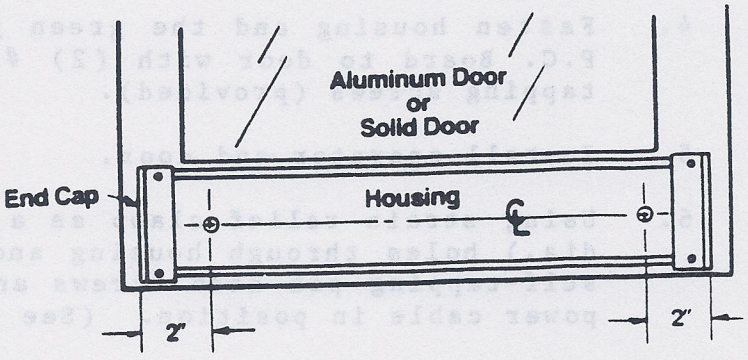


Fig. 7

FD - Installation of Flex Link Power Cable Assembly - Pivot Jamb

1. Remove flex link bracket from door side of cable assembly and discard.

2. Route power cable up jamb and into header via header cable clearance hole.

3. Fasten flex link jamb bracket to jamb with (2) #8 X 1/2" LG. pan head self-tapping screws (provided).

4. Finish off with surface mounted wire molding (if required).

FD - Electrical Connections to Main P.C. Board

CAUTION: Use Anti-Stat Field Service Kits Whenever Handling Main P.C. Board.

1. Connect the operate and safety sensor head cable connectors to the Main P.C. Board.

NOTE: The Main P.C. Board connectors are keyed and are the self-latching type.

2. Insert the Main P.C. Board into housing groove.

3. Connect the magnetic switch wires to the Main P.C. Board.

NOTE: Locate the power cable side of the Main P.C. Board towards the pivot side of the door.

4. Fasten housing and the green ground wire lug from the Main P.C. Board to door with (2) #8 X 1/2" LG. pan head self-tapping screws (provided).

5. Install operator and door.

6. Using strain relief clamp as a template, drill (2) #28 (.140 dia.) holes through housing and into door. Use #8 X 1" LG. self-tapping pan head screws and clamp to hold the flex link power cable in position. (See Figure #8).

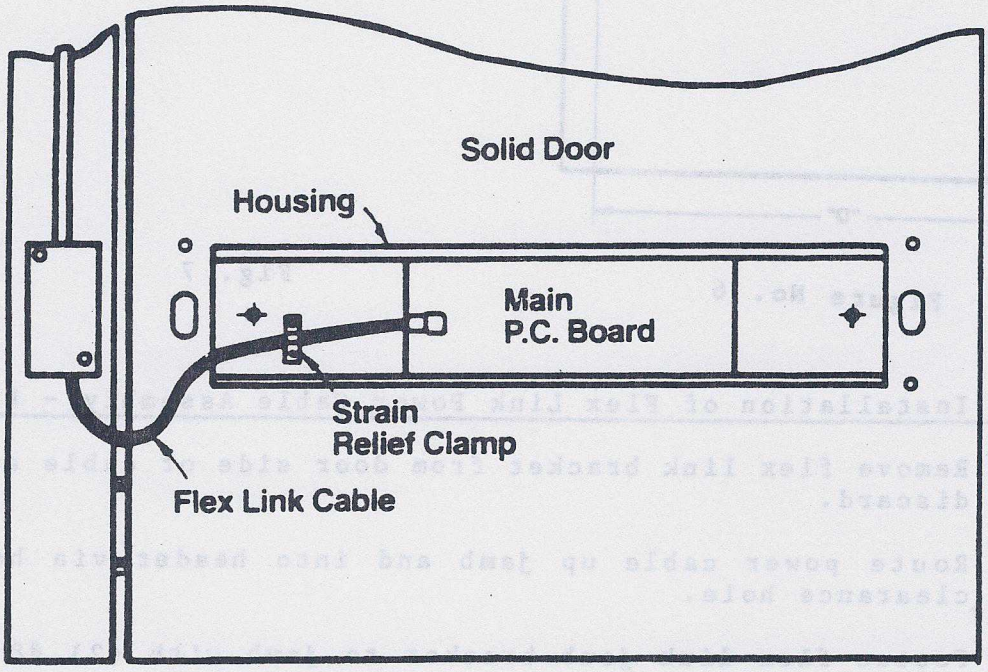


Fig. #8

FD - Installation of Magnet & Magnetic Switch (See Figure #9)

NOTE: The magnetic switch is required to reset the door position counter at 0 degree closed door position. Every Sentrex A.T. door panel must have a magnetic switch for proper operation. If the door does not close to 0 degree position due to stack pressure, weatherstrip interference, etc., either make the necessary modifications to the door or doorway so that the door can swing back to 0 degree position or locate the magnetic switch to compensate for that particular door closed position.

1. Locate the magnetic switch on safety side of door. Position switch along side the sensor head and housing end cap.

2. Clean surface, remove backing and apply.

3. Locate magnet on jamb adjacent to magnetic switch.

4. Clean surface, remove backing and apply.

5. Maximum distance between magnetic switch and magnet - equal to or less than 3/8".

6. Route switch wires through housing end cap wire access hole and down into housing.

7. Screw switch wires into terminal block. Polarity does not matter.

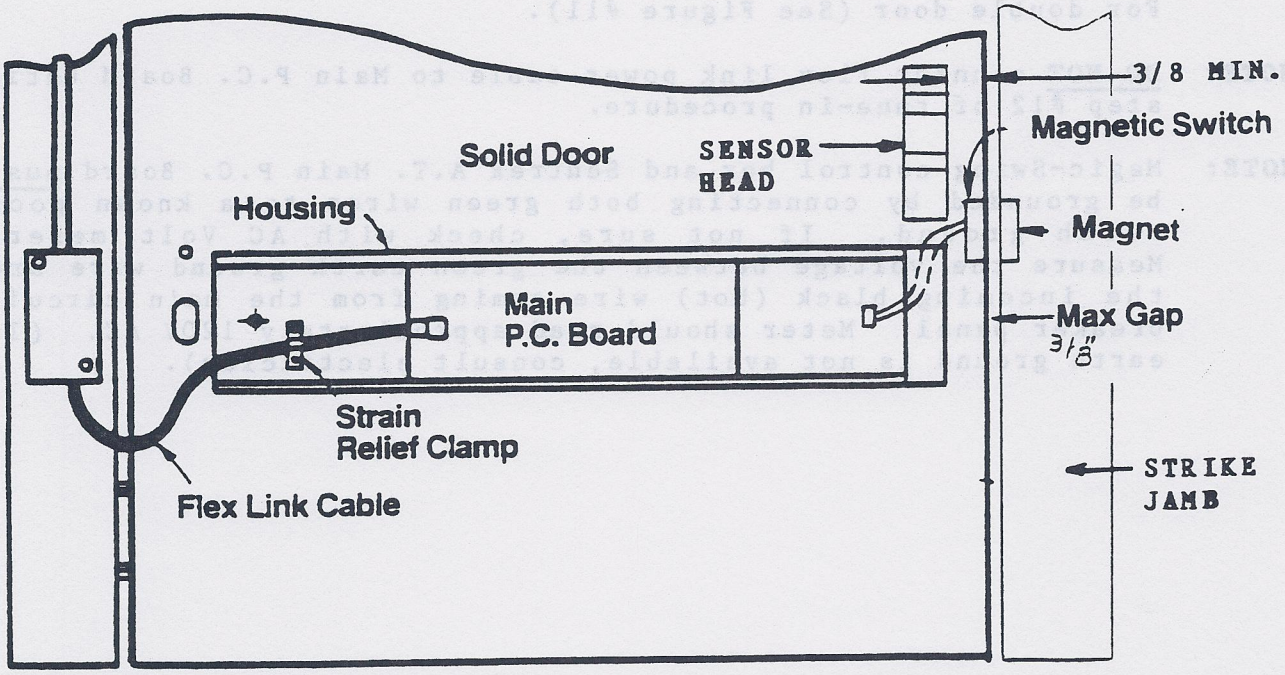


Figure No. 9

NOTE: On pair applications, a magnet and magnetic switch is required for each door leaf. When applying the magnets and magnetic switches to the door leaves, maintain a minimum 1" gap between each assembly.

FINAL ASSEMBLY

1. Mount Magic-Swing operator with motor encoder.

2. Mount Magic-Swing control box with stall logic. (Refer to Addendum #2 on pages 24, 25, 26 & 27 of manual for additional control box adjustments.)

3. Connect transformer to harness as shown in Figures 10 & 11.

NOTE: Failure to make proper connections will cause cross talk between Sentrex A.T. systems.

4. Mount transformer behind control box, secure in place with velcro (provided).

5. Make electrical connections as shown.
   For single door (See Figure #10).
   For double door (See Figure #11).

NOTE: **DO NOT** connect flex link power cable to Main P.C. Board until step #12 of tune-in procedure.

NOTE: Magic-Swing control box and Sentrex A.T. Main P.C. Board must be grounded by connecting both green wires to a known good earth ground. If not sure, check with AC Volt meter. Measure the voltage between the green earth ground wire and the incoming black (hot) wire coming from the main circuit breaker panel. Meter should read approximately 120V AC. (If earth ground is not available, consult electrician).

Electrical Connections (L.H. Door Shown)

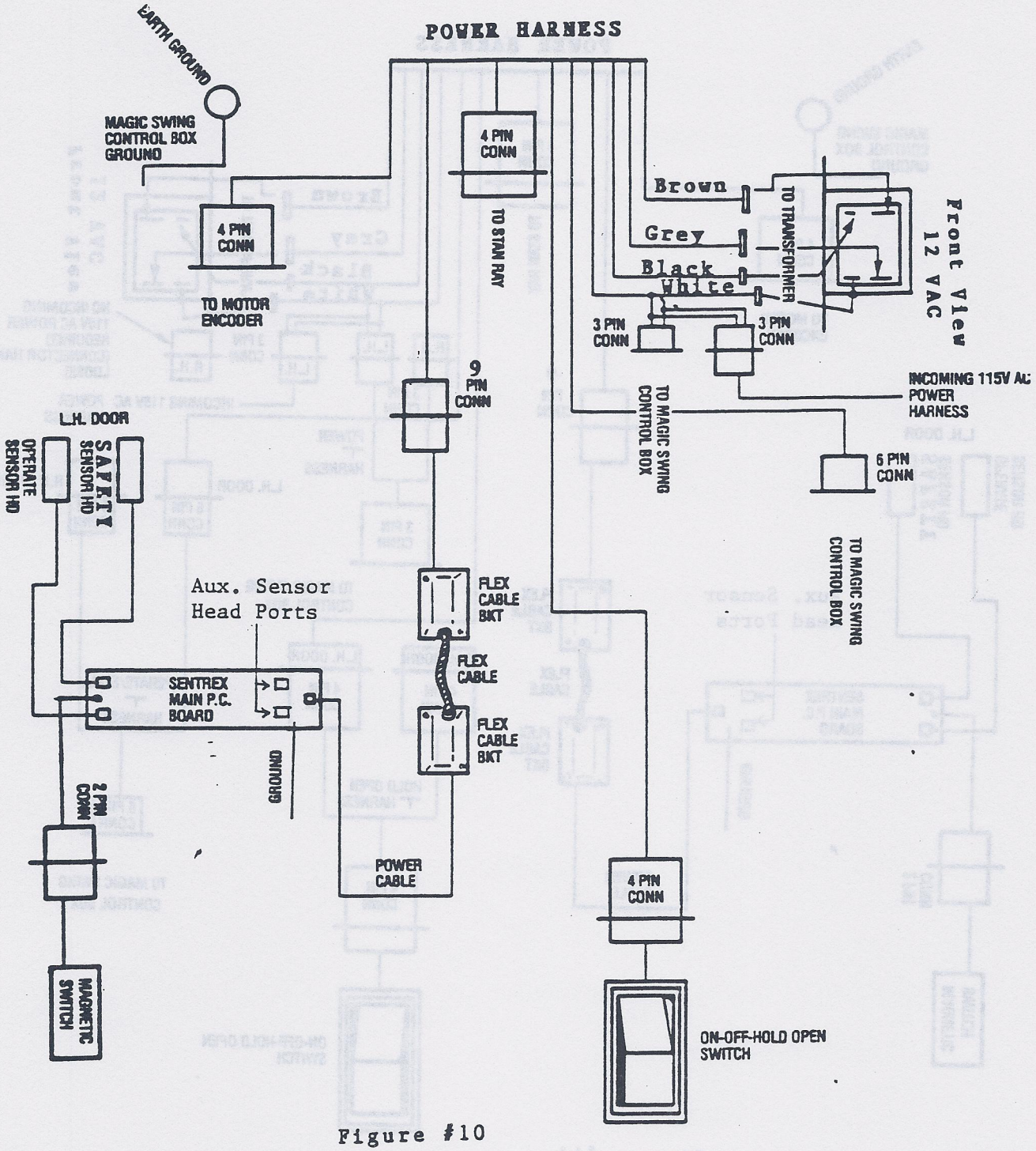


Figure #10

Double Door–"Y" Harness Electrical Connections (L.H. Door Shown)

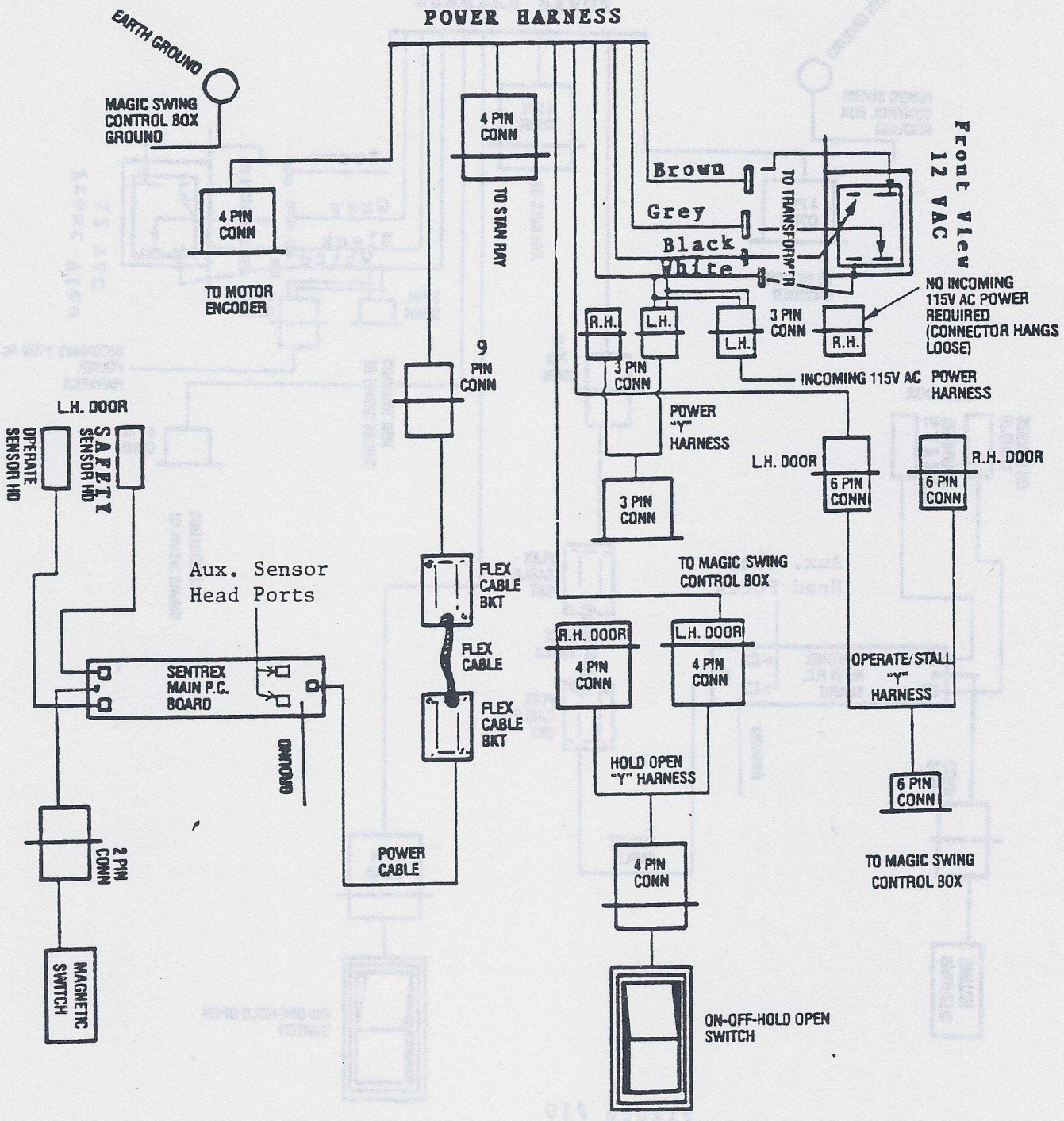


Figure #11

SENTREX A.T. TUNE-IN PROCEDURE

After all connections are made, proceed as follows:

1. **DO NOT** connect flex link power cable to Main P.C. Board until step #12 of tune-in procedure.

2a. Set Magic-Swing Rev. F control box slide switch labelled- "Timer/Carpet" to the "Timer" position. turn on-off-hold open switch to "off" position and control box power switch to "on" position.

2b. Set Magic-Swing Rev. D or E control box slide switch labelled - "minimum closing delay 0 sec./6 sec." to the "0 sec." position. Turn on-off-hold open switch to "off" position and control box power switch to "on" position.

3. Turn Stan-Ray sensitivity and time delay potentiometers to minimum (turn potentiometers fully counter clockwise).

4. Turn on-off-hold open switch to "hold open" position. Make sure safety side is free of objects or people to enable door to open to a full 90 degrees.

5. Door should open and stop at 90 degrees. Make adjustments to operator stop if door does not stop at 90 degrees. (Refer to Magic-Swing Installation Manual part no. 203585). Adjust Magic-Swing control box speeds using on-off-hold open switch to operate door. (Refer to Addendum #2 on pages 24, 25, 26 & 27 of manual for recommended settings.) **Adjust time delay to minimum.**

6. Adjust the Magic-Swing control box stall current. With the door in the hold open position, wait 12 seconds and then proceed with adjustment. Adjust the stall current potentiometer towards minimum until door begins to creep closed. Increase the stall current slightly until the door stalls (does not creep closed or open). Turn on-off-hold open switch from "off" position back to "hold open" position, wait 12 seconds and then check once again that the door does not creep open or closed.

7. For more than one door, program Sentrex A.T. Main P.C. Board. (See Figure #12). Set the 2 miniature slide switches (SW2, SW3) on Main P.C. Board to your application description. In applications where there are more than 4 Sentrex A.T. doors, all within close proximity to one another, keep similar coded doors as far apart as possible.

NOTE: In order to change your program switch setting, you must first disconnect the flex link power cable from the Main P.C. Board.

Application Description	Switch Two	Switch Three
Door Code 1	On	On
Door Code 2	On	Off
Door Code 3	Off	On
Door Code 4	Off	Off

8. Having adjusted the Magic-Swing control box speeds and time delay and with the stall current fine-tuned, proceed as follows.

9. Verify that the master range potentiometer on the Main P.C. Board is set to approximately level 70. (See Figure #12).

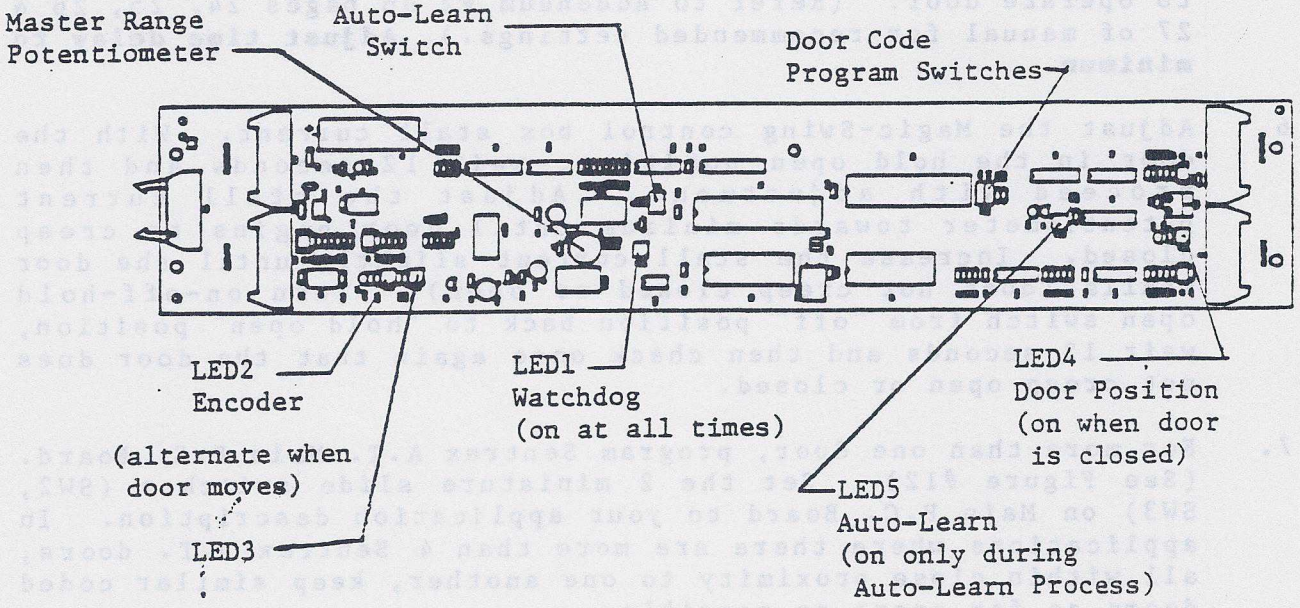


Fig. 12

10. Adjust the sensitivity to the operate and safety sensor heads to 50%. (See Figure #13). Before continuing, set up perimeters for zones to be covered by erecting temporary walls (use cardboard). See Figure #14. Set zone of coverage to ANSI standards (area between rails).

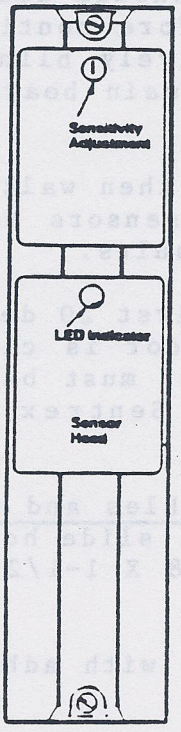


Fig. #13

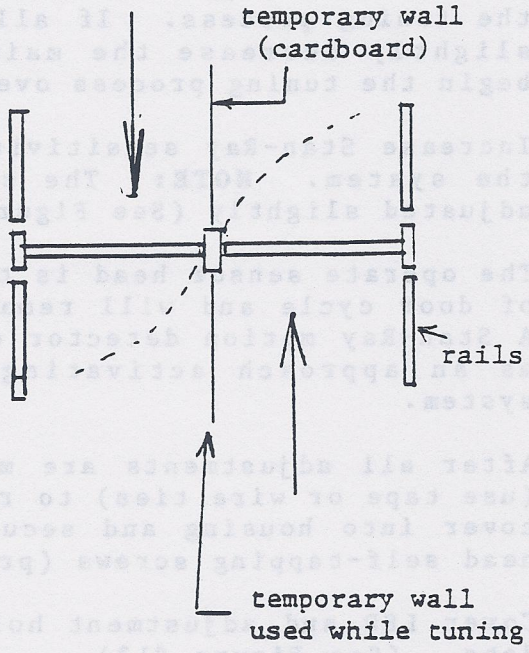


Fig. #14

11. Turn on-off-hold open switch to "on" position.

12. Single Door Applications - Connect the flex link power cable to the Main P.C. Board. Make sure that magnetic switch LED #4 is on and the door is closed.

13. Press and hold for 1 second the auto-learn push button switch. Stand clear of the door. After 5 seconds, LED #5 will light, the door will open and the sensors will start learning the zone. Starting from full open, the door will stop at approximately 63 positions while Sentrex sensors automatically tune in. When tuning is complete, LED #5 will turn off.

NOTE: It is important to observe the LED's on Sentrex heads while door is tuning. In each of the 63 positions, the system will turn all 8 infrared LED's on in each of the heads. The main board then proceeds to turn the strength of each infrared LED down until the detector sensor does not receive a reflection. Hence, in observing a head, if you see the red LED flash 4 times it has most likely turned down 4 of the 8 LEDs. Therefore, the coverage has been reduced. While observing the heads at tuning, if you notice excessive blinking (4 times or more per head, away from walls), you should decrease the sensitivity on that head immediately before continuing the tuning process. If all heads are excessively blinking, slightly decrease the main gain control on main board and begin the tuning process over.

14. Increase Stan-Ray sensitivity and time delay, then walk test the system. **NOTE:** The sensitivity of the sensors may be adjusted slightly (See Figure #13) for best results.

NOTE: The operate sensor head is turned off in the first 20 degrees of door cycle and will remain off while the door is closed. A Stan-Ray motion detector or wall switch, etc. must be used as an approach activating device with the Sentrex A.T. system.

15. After all adjustments are made, <u>bundle all cables and wires</u> (use tape or wire ties) to remove excess slack, slide housing cover into housing and secure end caps with #8 X 1-1/2" pan head self-tapping screws (provided).

16. Cover LED and adjustment holes on sensor heads with adhesive dots. (See Figure #13).

17. Replace Magic-Swing header cover.

NOTE: If an individual is present in the safety zone while another individual approaches the Stan-Ray detection zone, the Magic-Swing control box will drop into its stall current mode. If that individual in the safety zone is present for more than 12 seconds, the Magic-Swing control box will remain in its stall current mode to protect the motor. To operate the door, the Stan-Ray detection zone must be cleared of that individual so that the Magic-Swing control box can reset itself.

18. <u>Double Door Applications</u> - Install the tuning shield on the door opposite the one being tuned.

19. Disconnect power to all other Sentrex doors.

20. Connect the flex link power cable to the Main P.C. Board of the door being tuned. Make sure that magnetic switch LED #4 is on and the door is closed.

21. Press and hold for 1 second the auto-learn push button switch. Stand clear of the door. After 5 seconds, LED #5 will light, the door will open and the sensors will start learning the zone. Starting from full open, the door will stop at approximately 63 positions while Sentrex sensors automatically tune in. When tuning is complete, LED #5 will turn off.

22. Remove door shield. Repeat procedure for second door.

23. Increase Stan-Ray sensitivity and time delay, then walk test the system. **NOTE:** The sensitivity of the sensors may be adjusted slightly for best results (See Figure #13).

NOTE: The operate sensor head is turned off in the first and last 20 degrees of door cycle and will remain off while the door is closed. A Stan-Ray motion detector or wall switch, etc. must be used as an approach activating device with the Sentrex A.T. system.

24. After all adjustments are made, bundle all cables and wires (use tape or wire ties) to remove excess slack, slide housing cover into housing and secure end caps with #8 X 1-1/2" pan head self-tapping screws (provided).

25. Cover LED and adjustment holes on sensor heads with adhesive dots. (See Figure #13).

26. Replace Magic-Swing header cover.

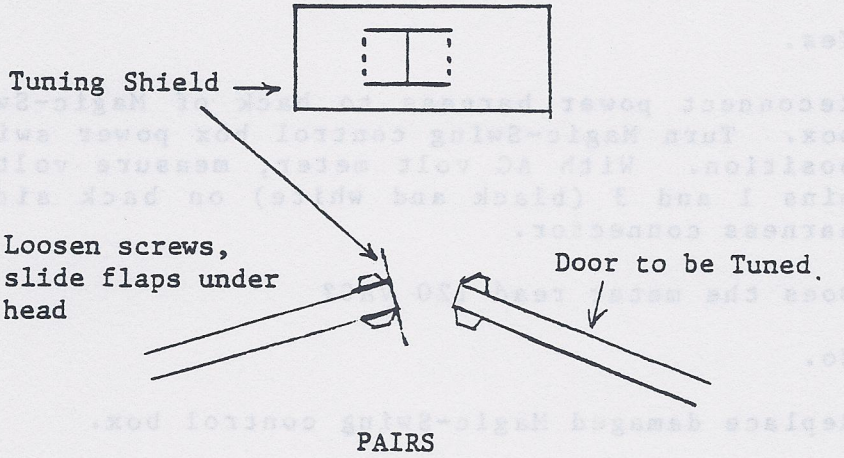


Figure 14A

TROUBLESHOOTING SECTIONS 1-5

TROUBLESHOOTING SECTION 1

TROUBLE: Door does not go through Auto-Learn cycle as referred to in step #13 of the tune-in procedure.

CHECK: Was push button depressed for at least 1 second with door closed?

ANSWER: No.

REMEDY: Refer to step #13.

ANSWER: Yes.

CHECK: Does the Magic-Swing control box have stall logic? (Refer to addendum #1 in manual)

ANSWER: No.

REMEDY: Replace control box with stall logic control box (Rev. D & up).

ANSWER: Yes.

TEST: Disconnect power harness from back of Magic-Swing control box. With AC volt meter, measure voltage between pins 2 and 3 (black and white) on power harness connector.

CHECK: Does meter read 120 VAC?

ANSWER: No.

REMEDY: Consult electrician (no incoming 120 VAC power).

ANSWER: Yes.

TEST: Reconnect power harness to back of Magic-Swing control box. Turn Magic-Swing control box power switch to "ON" position. With AC volt meter, measure voltage between pins 1 and 3 (black and white) on back side of power harness connector.

CHECK: Does the meter read 120 VAC?

ANSWER: No.

REMEDY: Replace damaged Magic-Swing control box.

ANSWER: Yes.

CHECK: Turn on-off-hold open switch to "OFF" position. Does the magnetic switch LED on the Main P.C. Board turn "ON" when the door is closed?

ANSWER: No.

TEST: With AC volt meter, measure the secondary voltage (two large tabs) on 12 VAC transformer.

CHECK: Does the meter read 12 VAC?

ANSWER: No.

REMEDY: Replace defective transformer.

ANSWER: Yes.

TEST: Visually check the position of the magnetic switch. Is it in line and within 1/2" of the magnet? If so, disconnect the magnetic switch harness from the Main P.C. Board. With OHM meter, check magnetic switch VIA harness wires for continuity.

CHECK: Does the OHM meter read infinity OHMS-door open, 0 OHMS-door closed?

ANSWER: No.

REMEDY: Replace damaged magnetic switch.

ANSWER: Yes.

TEST: Slowly push door open.

CHECK: Do encoder LED´s (LED2 & LED3) on Main P.C. Board alternately blink "ON" & "OFF"?

ANSWER: No.

REMEDY: Replace defective encoder or flex link power cable.

ANSWER: Yes.

REMEDY: Replace defective Main P.C. Board.

TROUBLESHOOTING SECTION 2

TROUBLE: Operate and/or safety sensor head LED´s do not turn "ON" when approached. Note: The operate sensor head is turned "OFF" in the first and last 20 degrees of door cycle and will remain "OFF" while the door is closed.

CHECK: How many sensor head LED´s don´t turn "ON"?

ANSWER: One.

TEST: Disconnect both sensor heads from Main P.C. Board. Use the functional (LED "ON") sensor head as a test unit. Connect it to the other sensor head port on Main P.C. Board.

CHECK: Does the sensor head LED turn "ON" when connected to the other port on the Main P.C. Board.

ANSWER: Yes.

REMEDY: Replace defective sensor head.

ANSWER: No.

CHECK: Sensitivity set at 40%?

ANSWER: Yes.

REMEDY: Replace damaged Main P.C. Board.

ANSWER: More than one sensor head LED won't turn "ON".

CHECK: Did you connect the flex link power cable to the Main P.C. Board?

ANSWER: No.

REMEDY: Refer to tune-in procedure step #12.

ANSWER: Yes.

REMEDY: Is there any visible damage to the Main P.C. Board?

ANSWER: Yes.

REMEDY: Replace damaged Main P.C. Board.

ANSWER: No.

TEST: Disconnect sensor heads from Main P.C. Board. Connect one sensor head at a time to its correct position on the Main P.C. Board. Test and then disconnect from board. NOTE: Test safety sensor head with door in the closed position and operate sensor head with the door in the fully open position.

CHECK: Did any sensor head function (LED turn "ON") when connected to the Main P.C. Board?

ANSWER: Yes.

REMEDY: Replace the non-functioning sensor head(s) (LED's didn't turn "ON").

ANSWER: No.

CHECK: Is the master range potentiometer on the Main P.C. Board set at level 10?

ANSWER: Yes.

REMEDY: Refer to tune-in procedure step #9.

ANSWER: No.

CHECK: Is the sensor head sensitivity potentiometer set at minimum?

ANSWER: Yes.

REMEDY: Refer to tune-in procedure step #10.

ANSWER: No.

REMEDY: Replace damaged Main P.C. Board.

TROUBLESHOOTING SECTION 3

TROUBLE: Door stalls before reaching full open - 90 degree position. (Refer to tune-in procedure step #12)

CHECK: Is Magic-Swing control box and Sentrex A.T. Main P.C. Board grounded to a good earth ground? (Refer to final assembly step 4 in manual).

ANSWER: No.

REMEDY: Ground the components.

ANSWER: Yes.

CHECK: Are the safety and operate sensor heads connected properly on the Main P.C. Board?

ANSWER: No.

REMEDY: Connect sensor heads to correct positions on Main P.C. Board. Repeat tune-in procedure.

ANSWER: Yes.

CHECK: Is safety sensor head defective? Exchange safety sensor head and operate head and reconnect at main P.C. board. Does door stall before full open?

ANSWER: No.

REMEDY: Get new sensor head to replace defective one.

ANSWER: Yes.

REMEDY: Replace damaged main P.C. board.

TROUBLESHOOTING SECTION 4

TROUBLE: Sensor head LED's won't turn "OFF".

REMEDY: Decrease sensitivity to sensor head.

CHECK: Does sensor head function properly.

ANSWER: Yes.

REMEDY: Replace damaged sensor head.

TROUBLESHOOTING SECTION 5

TROUBLE: Door is ghosting and/or cross talking.

CHECK: Are the program switches on the Main P.C. Board set per your application description? (Refer to tune-in procedure step #7).

ANSWER: No.

REMEDY: Remove flex link power cable from Main P.C. Board and program Sentrex A.T. per your application description.

ANSWER: Yes.

CHECK: Did you connect the wires to the transformer as per Figures #10 & 11?

ANSWER: No.

REMEDY: Connect colored wires to transformer as per figures #10 & 11.

ANSWER: Yes.

REMEDY: Consult factory.

ADDENDUM NO. 1

INSTRUCTIONS TO RETROFIT AN EXISTING MAGIC-SWING WITH SENTREX A.T.

1. Switch on-off-hold open switch to "hold open" position.
2. Verify sufficient side clearance for Sentrex A.T. sensor head. (At least 2" between wall and door.)
3. Disconnect door from operator.
4. Remove door.
5. Switch on-off-hold open switch to "off" position.
6. Remove header service cover.
7. Turn control box power switch to "off" position.
8. Disconnect all harnesses from back of control box.
9. Remove operator and control box from header.

CHECKLIST FOR EXISTING MAGIC-SWING OPERATORS

Does the back end of the motor shaft have a hole drilled into it?

1. No:

A. Remove existing motor from operator and replace with new motor encoder kit (part #912 312717) and motor (part #907 514542).

B. Loosen set screw and remove coupling half from old motor shaft.

NOTE: It may be necessary to heat coupling half as set screw is held in place with Loctite. Clean old Loctite from screw, reapply Loctite, Grade 242 (medium) to set screw.

C. Slide coupling half onto new motor shaft and retighten the set screw.

D. Using the old screws, fasten new encoder prepared motor to gear housing.

NOTE: Make sure elastic coupling piece is in place between the motor coupling and operator coupling.

2. Yes:

A. Remove motor encoder kit from box (part #912 312717) and follow the enclosed installation instructions.

Sentrex A.T. requires a Magic-Swing control box equipped with stall logic. A stall logic control box can be identified by the following: revision D and up, or having a stall current potentiometer, a switch labelled - "Minimum Closing Delay 0 sec/6 sec." or a switch labelled - "Timer/Carpet". Also check the line and operate connectors on the back of control box. The line connector should have three female pins and the operate connector should have four female pins.

If stall logic is not evident, replace control with new Magic-Swing control box (part #907 312824).

CAUTION! If present, disconnect power harness ground (green wire) from pin 1 of line connector. Use grounding pigtail provided.

ADDENDUM NO. 2

MAGIC-SWING CONTROL BOX (REV. D & E) ADJUSTMENTS & RECOMMENDED SETTING FOR SENTREX A.T. APPLICATIONS (SEE FIGURE #15)

NOTES: 1. Remove control box cover for access to internal switches.

2. Internal switches S4, S1 and S2 can only be found on Magic-Swing control box Rev. E, as well as function S2-B. Functions S4-A, S1-A and S2-A are hard-wired features of the Magic-Swing control box Rev. D.

3. On double door applications, one Magic-Swing Rev. D control box was required per operator whereby a Rev. E control box will operate one or two operators.

S3 SWITCH (External Adjustment, Labelled - "minimum closing delay 0 sec/6 sec")

Actuation Source - Sentrex A.T.
Position Setting - 0 sec

S4 SWITCH (Internal Adjustment)

Actuation Source - Sentrex A.T.
Position Setting - pull out
Function - adds 1.5 second safety hold beyond loss of signal ("Safety Plus")

S1 SWITCH (Internal Adjustment)

Actuation Source - Sentrex A.T.
Position Setting - push in
Function - hold operate signal for entire length of preset hold open delay (0-45 seconds). Time delay resets after each operate signal.

S2 SWITCH (Internal Adjustment)

A) Position Setting - push in
Function - for single door operation

B) Position Setting - pull out
Function - for double door operation

OPEN DELAY POTENTIOMETER (External Adjustment)

With S3 Switch in "0 sec." position - adjustable door hold open time delay (0-45 seconds)

STALL CURRENT POTENTIOMETER (External Adjustment)

Actuation Source - Refer to Sentrex A.T. Tune-In Procedure, Step 6 for recommended setting.

OPEN SPEED & CHECK SPEED POTENTIOMETERS (External Adjustment)

RECOMMENDED SETTINGS

OPERATING AREA	ELAPSED TIME
Open to Opening Check (0° - 75°)	1.25 - 1.6 seconds
Open Check to Fully Open (75° - 90°)	1.0 - 1.5 seconds
Close to Latching Check (90° - 10°)	2.5 - 4.0 seconds
Latching Check to Fully Closed (10° - 0°)	Not less than 1.5 sec

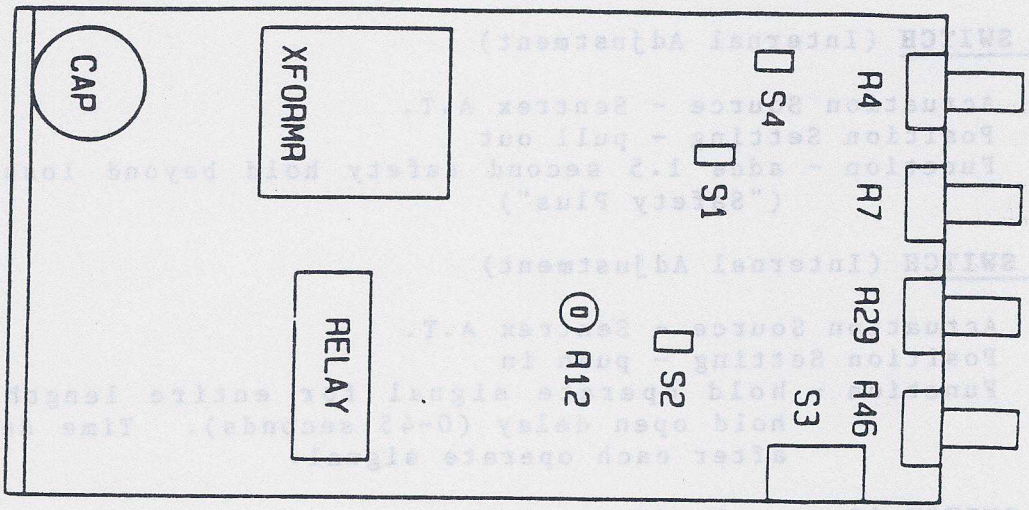
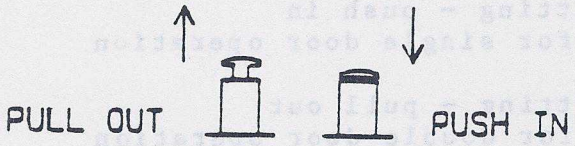


Figure #15



MINIATURE SWITCH (S1, S2, S4)

MAGIC-SWING CONTROL BOX (REV. F) ADJUSTMENTS & RECOMMENDED SETTINGS FOR SENTREX A.T. APPLICATIONS (SEE FIGURE #16)

NOTE: Remove control box cover for access to internal switches (S2 and S4). (Switches may be slide or push/pull type, refer to legend for position settings).

S2 SWITCH (Internal Adjustment)

A) Position Setting - "ON" or "IN"
Function - For single door operation

B) Position Setting - "OFF" or "OUT"
Function - For double door operation

S4 SWITCH (Internal Adjustment)

Actuation Source - Sentrex A.T.
Position Setting - "OFF" or "OUT"
Function - Adds 1.5 second hold open delay beyond loss of signal ("Safety Plus")

S3 SWITCH (External Adjustment, Labelled - "Timer/Carpet")

Actuation Source - Sentrex A.T.
Position Setting - Timer

OPEN DELAY POTENTIOMETER (External Adjustment)

Actuation Source - Sentrex A.T.
Function - Adjustable door hold open delay (1.5-45 seconds). Timer resets after each operate signal.

STALL CURRENT POTENTIOMETER (External Adjustment)

Actuation Source - Refer to Sentrex A.T. Tune-In Procedure, step 6 for recommended setting.

OPEN SPEED & CHECK SPEED POTENTIOMETERS (External Adjustment)

RECOMMENDED SETTINGS

OPERATING AREA	ELAPSED TIME
Open to Opening Check (0° - 75°)	1.25 - 1.6 seconds
Open Check to Fully Open (75° - 90°)	1.0 - 1.5 seconds
Close to Latching Check (90° - 10°)	2.5 - 4.0 seconds
Latching Check to Fully Closed (10° - 0°)	Not less than 1.5 sec

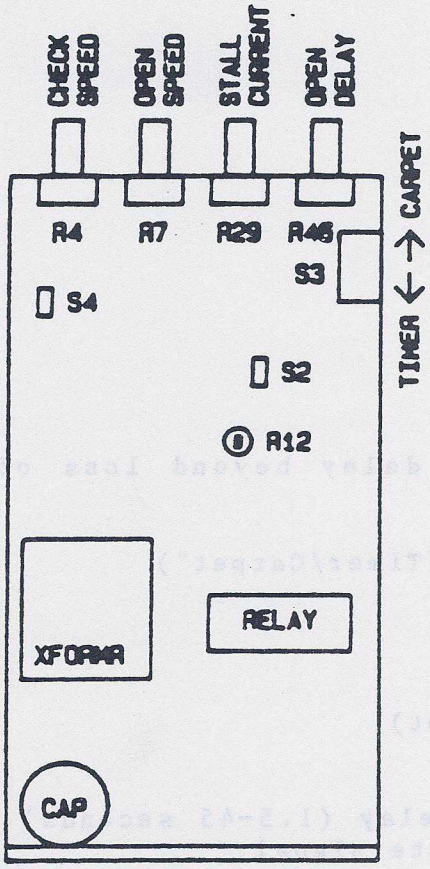
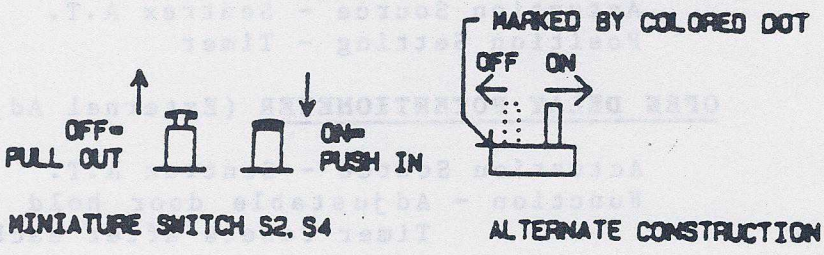


Figure #16



LEGEND