STANLEY SENTREX-II

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NOTE: 1 A Stan-Ray™ motion sensor or wall switch, etc. must be used as an approach operating device with the Sentrex^2 system.

2 If installing Sentrex^2 to an existing Magic-Swing, refer to Addendum No. 1 - Retrofit Instructions in manual prior to starting installation.

BILL OF MATERIAL

2 - Sensor Heads 736 515511 - CL, 736 535511 - BR

1 - Main P.C. Board - 736 110002

1 - Housing Assembly - 936 312696 - CL, 936 332696 - BR

1 - Harness - 736 110003

1 - On-Off-Hold Open Switch - 736 411562

1 - Switch Package - 936 312694

1 - Flex Link Power Cable & Bracket Assembly - 736 412103 - CL
- 736 412104 - BR

1 - Motor Encoder Retrofit Kit - 912 312717

1 - Hardware Package - 936 312961

1 - Transformer 12V - 436 412100

1 - Magnetic Switch Harness - 736 412105

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
OHM Meter
Volt Meter

APPLICATION INTRODUCTION
SENTREX^2 GLASS FRONT/ALUMINUM DOOR (GF)
(Refer to Figure #1)

GF - Determine mounting position and location of the Housing Assembly. The ideal location is on the stall side, with the housing assembly mounted to the bottom of the door.

If for some reason you have to mount the Housing Assembly to the bottom rail on the operate side, 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.

If the Housing Assembly is to be mounted to the top rail, you will need two Extension Cables, 31" long (part #936 412093). When routing the cables around the lock mechanism, make sure that the cables do not interfere with the mechanical workings of the lock.

The Flex Link Power Cable Assembly is to be located on the inside of the building (if applicable, the interior safety side).

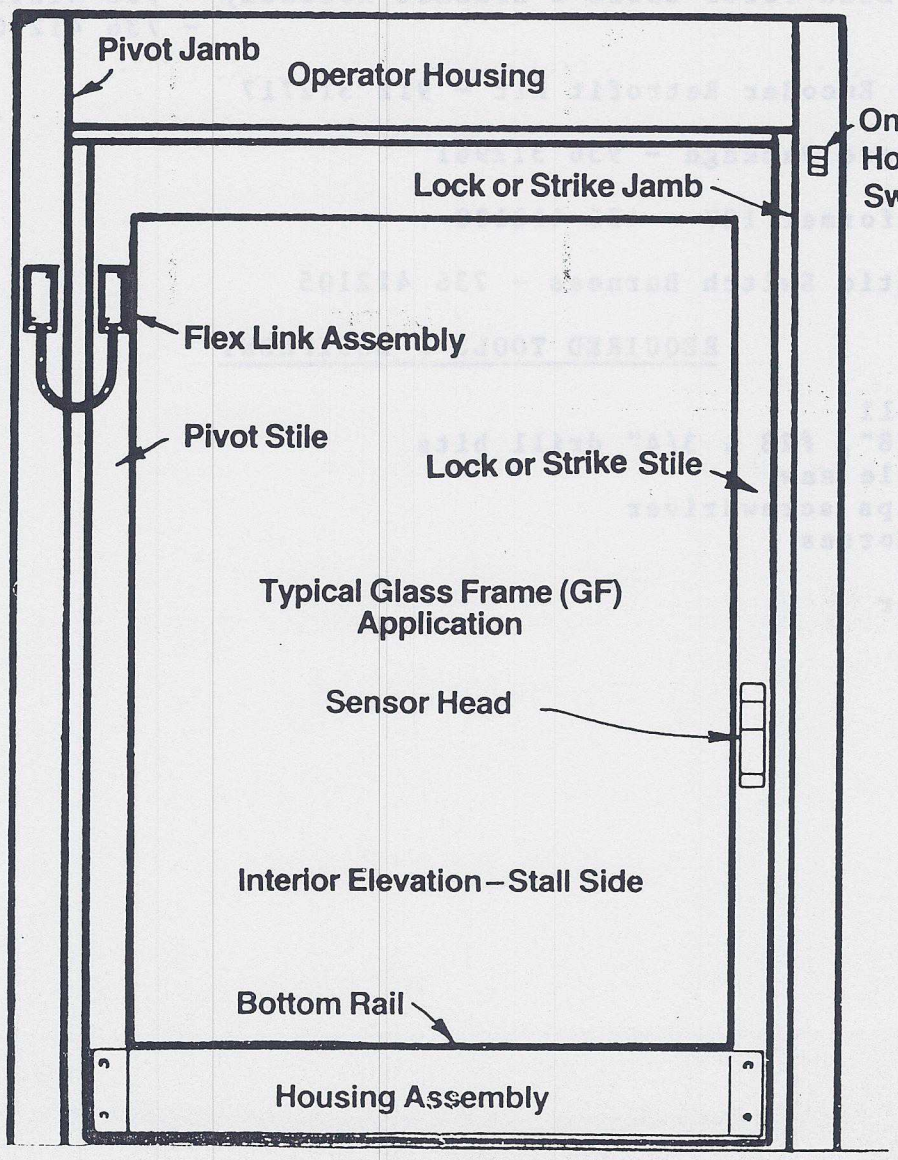


Figure #1

INSTALLATION INSTRUCTIONS

NOTE: Prior to starting your Sentrex^2 installation manually open the door to the full open 90 degree position. Is there sufficient side clearance between the wall and the door face for the Safety Sensor Head? If less than 2", consult factory.

Magic-Swing In-Header Preparation - Pivot Side

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

Magic-Swing Visible Header Preparation - Pivot Side

Drill a 1 1/4" dia. cable clearance hole through end cap (Refer to Figure #2) or through top of header.

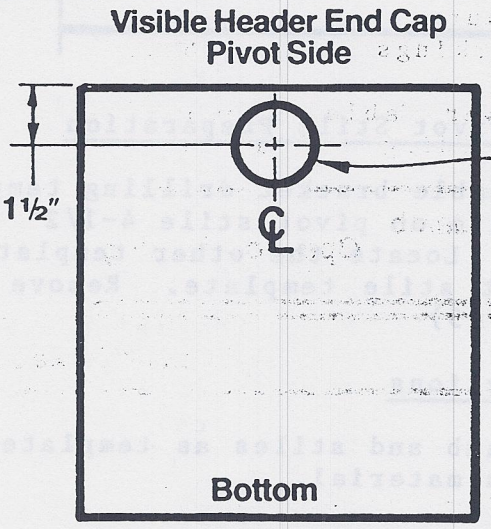


Figure #2

New Magic-Swing Operator Modifications

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

GF - Aluminum Door Preparation

1. Sensor head drilling templates - qty (2)
   Locate templates on both sides of the strike/lock stile, 28-34" from bottom of door to top of template.

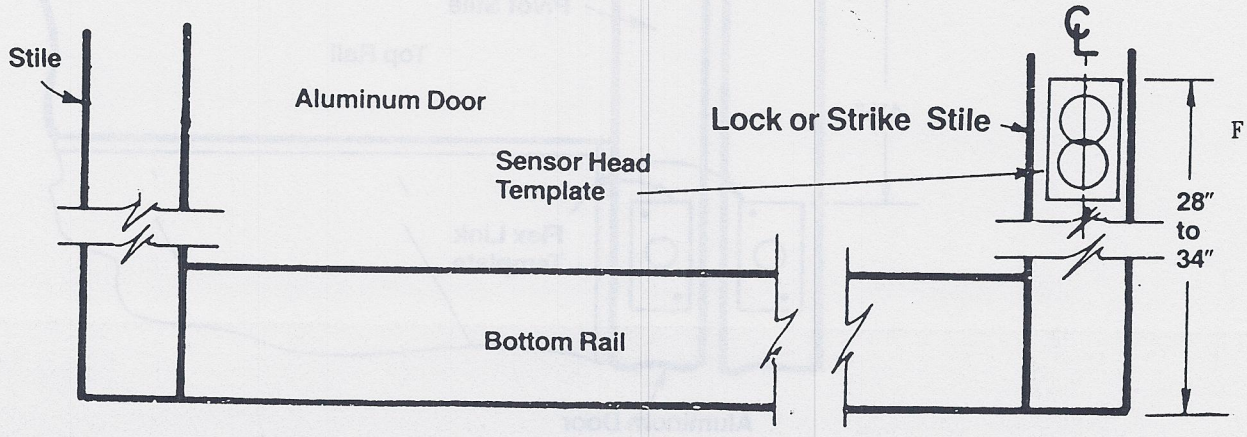
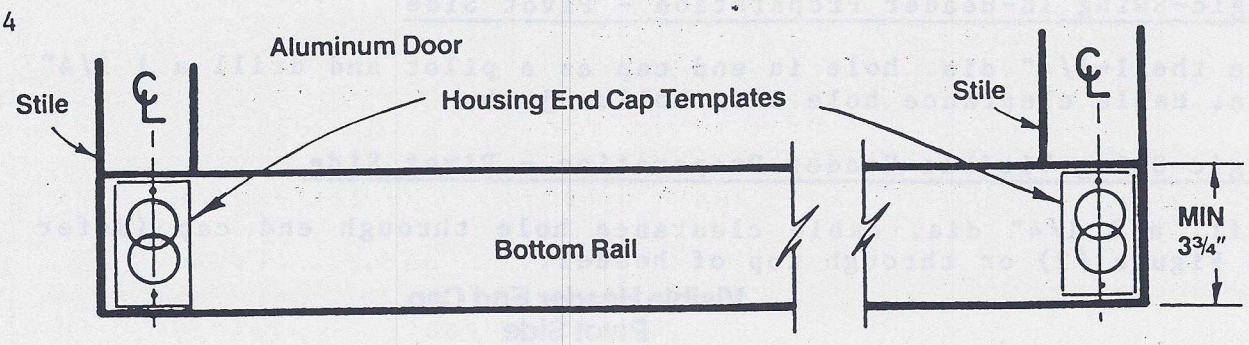


Figure #3

Remove backing and apply. (Refer to Figure #3)

2. Housing end cap drilling templates - qty (2). Locate templates on door stiles a minimum 3-3/4" from bottom of door to top of template or from top of door to bottom of template. Remove backing and apply. (Refer to Figure #4)

Figure #4



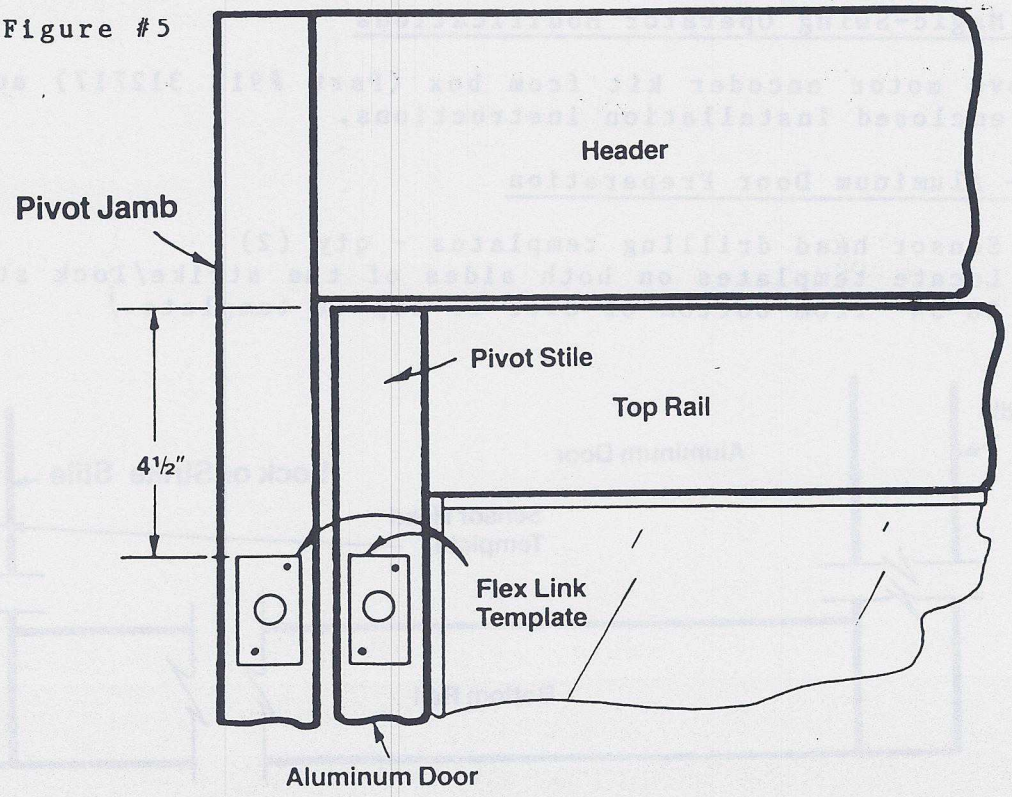
GF - Pivot Jamb and Pivot Stile Preparation

1. Flex link power cable bracket drilling templates - qty (2) Locate one template on pivot stile 4-1/2" from top of door to top of template. Locate the other template on pivot jamb adjacent to pivot stile template. Remove backing and apply. (Refer to Figure #5)

GF - Drilling Instructions

1. Drill holes in jamb and stiles as templates indicate. Deburr and remove excess material.

Figure #5



GF - Installation of Magnetic Switch

NOTE: The magnetic switch is required to reset the door position counter at 0 degree closed door position. Every Sentrex^2 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.

CAUTION! Do not install magnetic switch directly below operator motor.

Aluminum Door Top Rail Preparation

1. Locate magnetic switch towards the leading edge of door, off center. (Refer to Figure #6)

2. Drill one 3/4" (.750 dia.) magnetic switch wire clearance hole in center of rail thru top web.

3. Position shim against the rail edge and in line with the 3/4" clearance hole. Use shim as a template and drill two #28 (.140 dia.) holes and one 3/8" (.375 dia.) hole thru top web.

4. Stack shims together so that they are just about flush with the top edge of door rail.

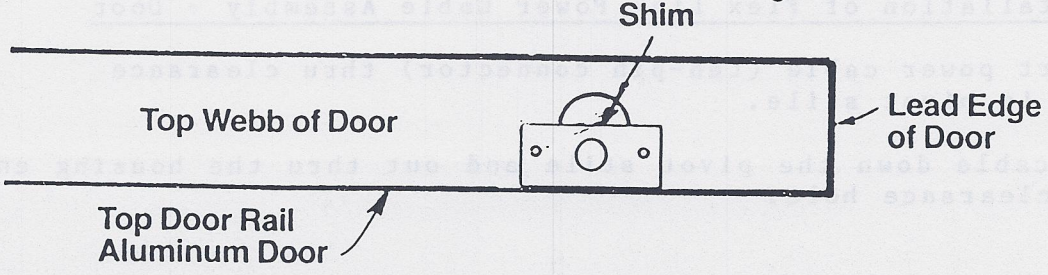
5. Maximum distance between magnetic switch and magnet not to exceed 1/2".

6. Fasten shims to rail with (2) #8 X 1-1/2" LG. self-tapping pan head screws provided.

7. Hand press magnetic switch thru 3/8" dia. hole in shim(s).

8. Carefully pull magnetic switch wires back up thru 3/4" dia. clearance hole. Wires should now be visible.

Figure #6



9. Snap male terminals into amp connector. Polarity does not matter.

10. Connect the magnetic switch amp connector to the magnetic switch harness. Route the magnetic switch harness down the strike/lock stile and out thru the housing end cap clearance hole.

GF - Installation of on-off-hold open switch (if required)

Hollow Jamb Preparation (Refer to Figure #7)

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.

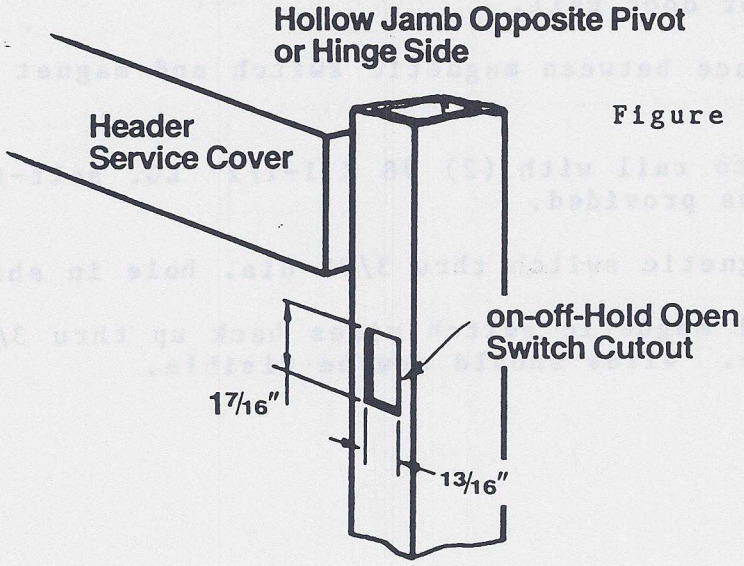


Figure #7

GF - Installation of Flex Link Power Cable Assembly - Door

1. Insert power cable (ten-pin connector) thru clearance hole in pivot stile.

2. Run cable down the pivot stile and out thru the housing end cap clearance hole.

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

GF - Installation of Sensor Heads (2) (Refer to figure #8)

1. Prior to mounting, use masking tape and label each sensor head cable connector with its intended function (e.g. operate or safety).

2. Insert sensor head cable thru clearance hole in stile.

3. Run cable down the strike/lock stile and out thru the housing end cap clearance hole.

4. Fasten each sensor head to door with (2) #8 X 1-1/4" LG. pan head self-tapping, screws (provided).

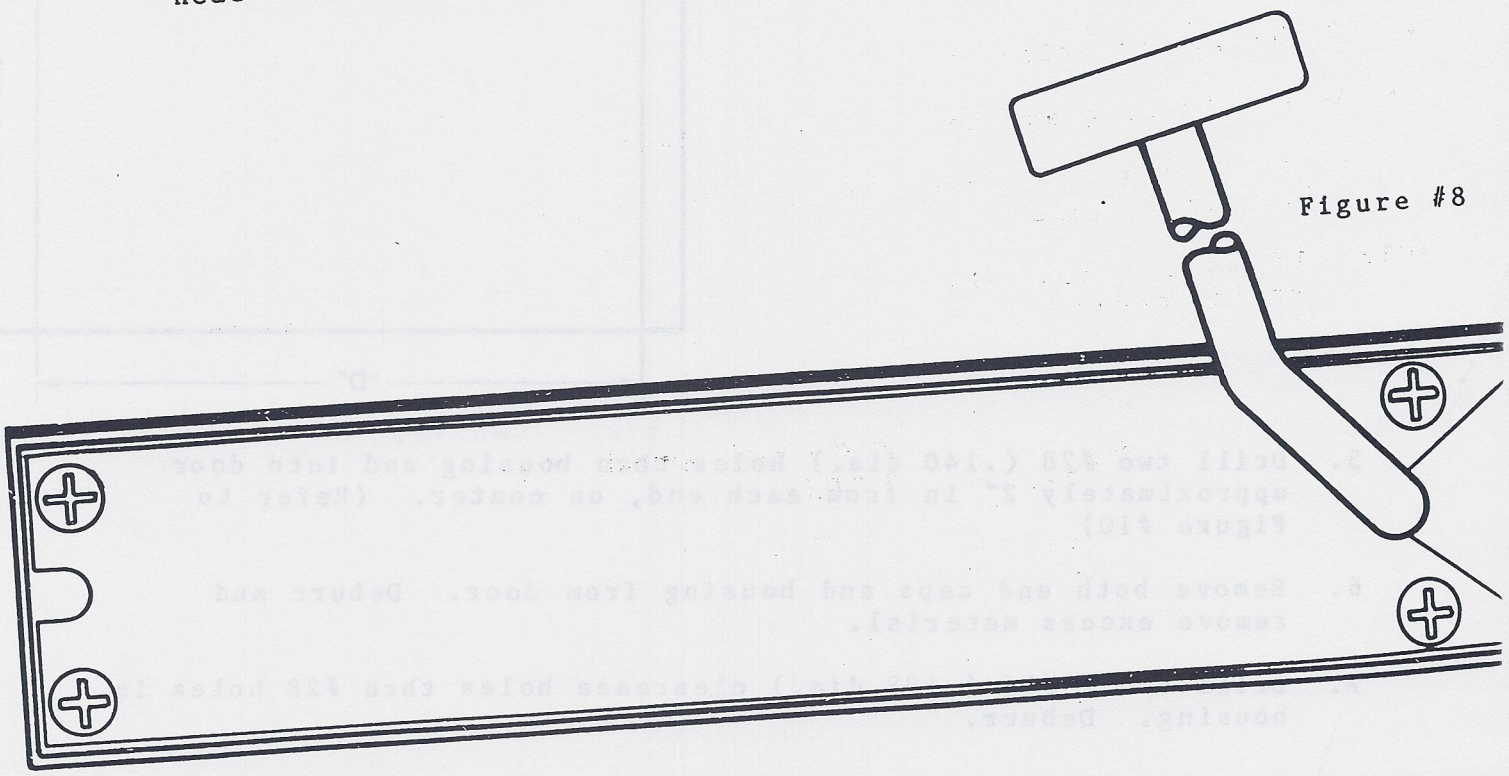


Figure #8

GF - Preparation of Housing Assembly

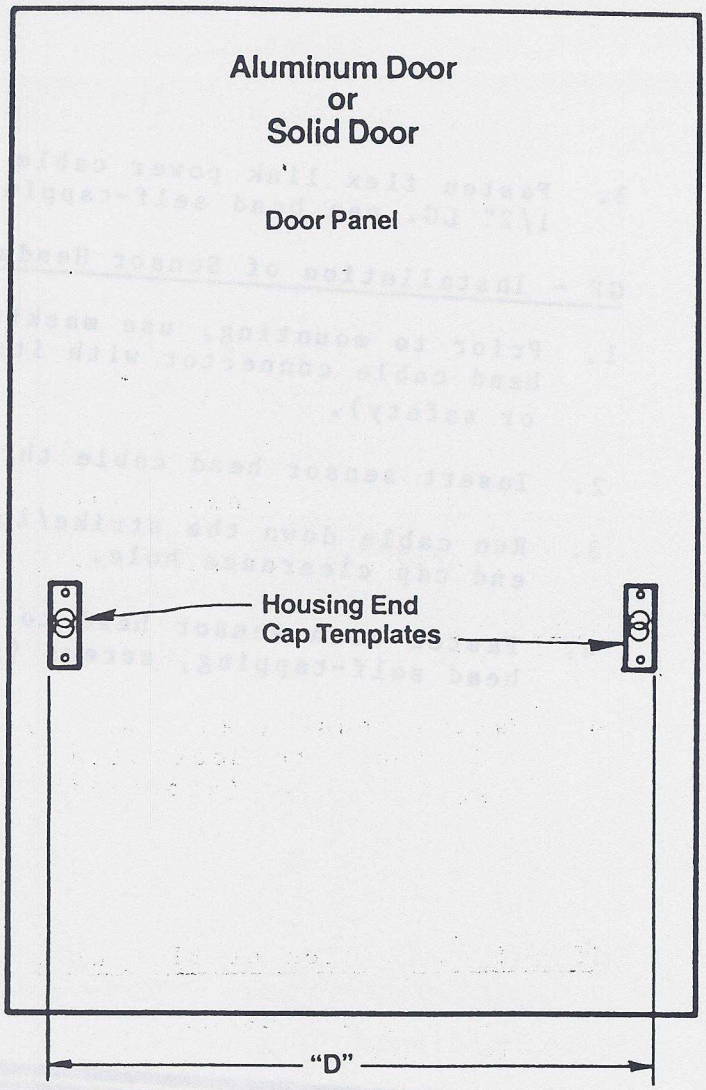
1. Cut aluminum housing and cover to exact length. Deburr. (Refer to Figure #9)

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

3. Slide housing into end cap.

4. Fasten the other housing end cap to strike/lock stile.

Figure #9



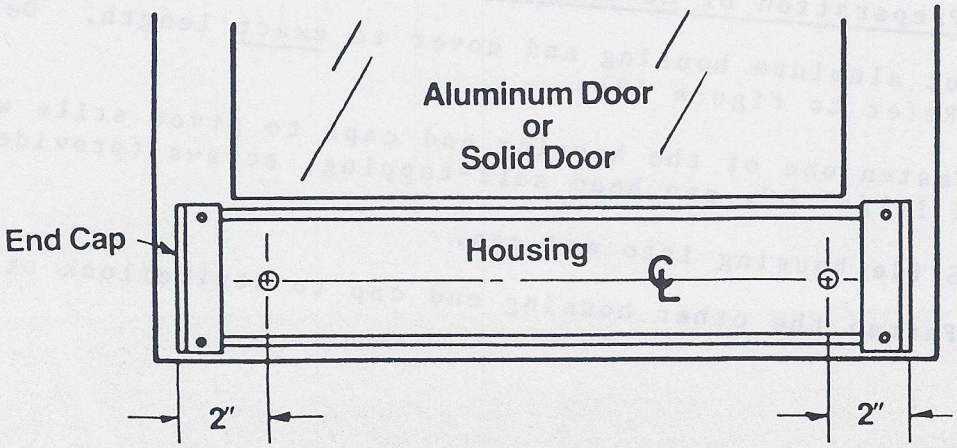
Calculation for
Housing & Cover length = D − 2½"

5. Drill two #28 (.140 dia.) holes thru housing and into door approximately 2" in from each end, on center. (Refer to Figure #10)

6. Remove both end caps and housing from door. Deburr and remove excess material.

7. Drill two #3/16 (.188 dia.) clearance holes thru #28 holes in housing. Deburr.

Figure #10



GF - Electrical Connections to Main P.C. Board (Refer to fig #14)

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

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

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

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

1. Insert power cable (9 pin connector) thru pivot jamb cable clearance hole

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

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

4. Mount the Magic-Swing operator with motor encoder (In-Header Applications Only).

5. Install door panel.

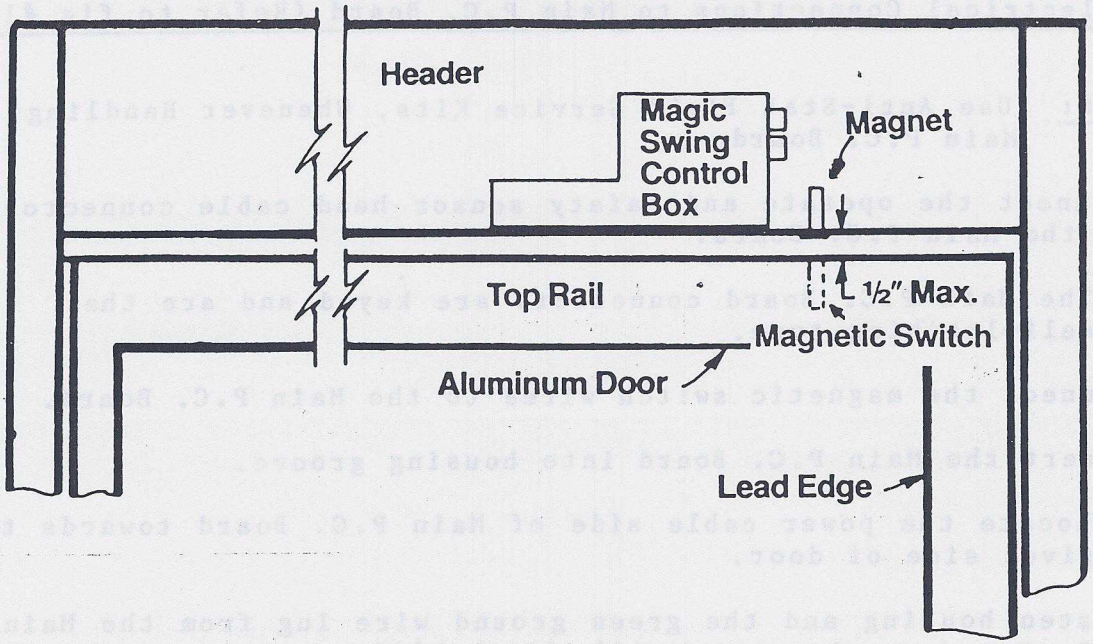
GF - Installation of Magnet

1. With the door in the closed position, scribe a center line on header bottom, directly above the magnetic switch. (Refer to Figure #11)

2. Drill one #3/8" (.375 dia.) hole thru bottom of header. Deburr.

3. From bottom side of header, insert magnet thru hole and press into place.

Figure #11



FINAL ASSEMBLY

1. Mount Magic-Swing operator with motor encoder. (Visible Header Applications Only)

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

3. Connect transformer to harness as shown in figures #12 and #13.

NOTE: Failure to make proper connections will cause cross talk between Sentrex^2 systems.

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

5. Make electrical connections as shown.
   For single door (Refer to Figure #12)
   For double door (Refer to Figure #13)

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

6. Connect door to operator. (Visible Header Applications Only)

NOTE: Magic-Swing control box and Sentrex^2 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 120 VAC. (If earth ground is not available, consult electrician or call factory.)

Electrical Connections
L.H. Door Shown

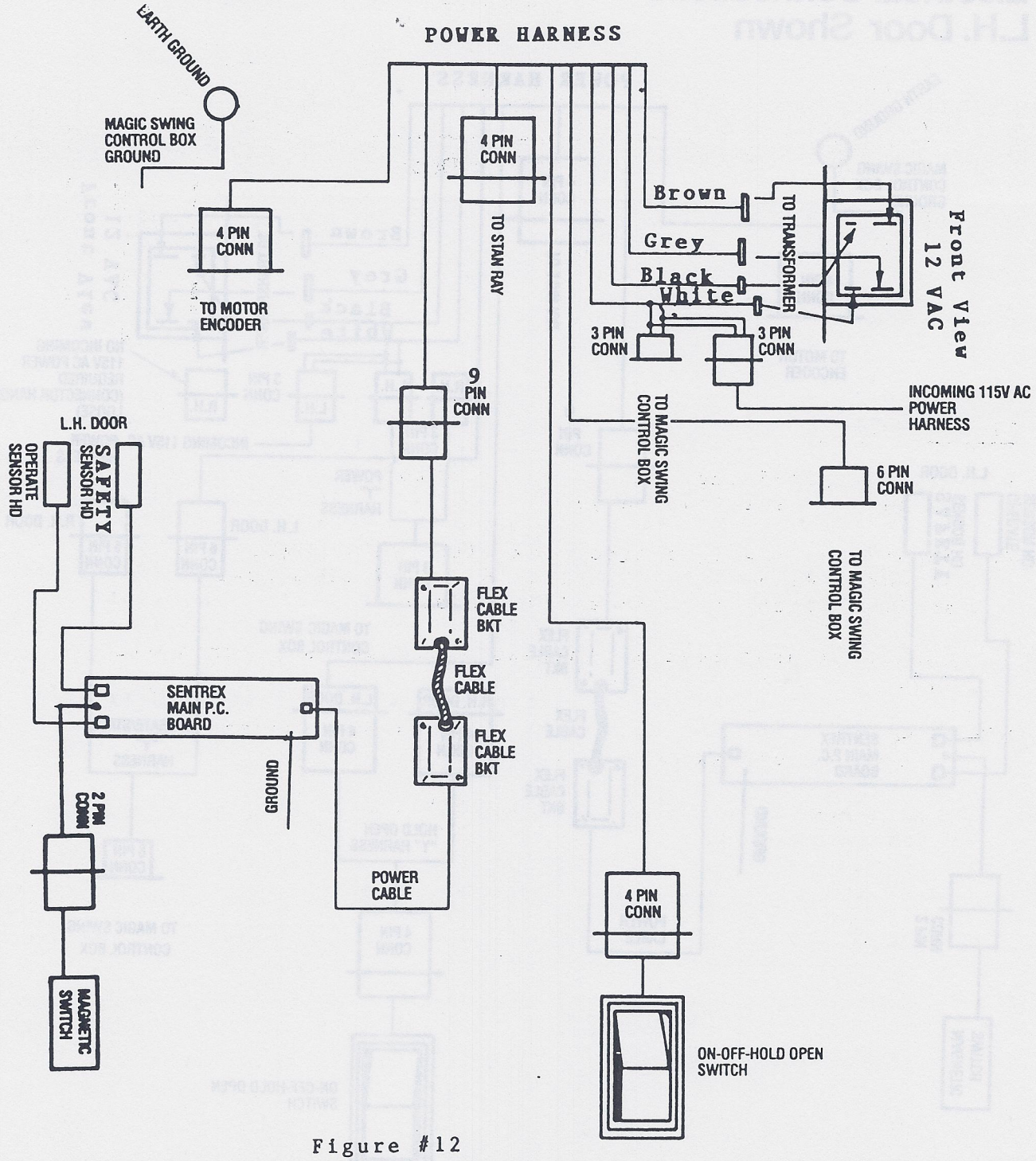


Figure #12

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

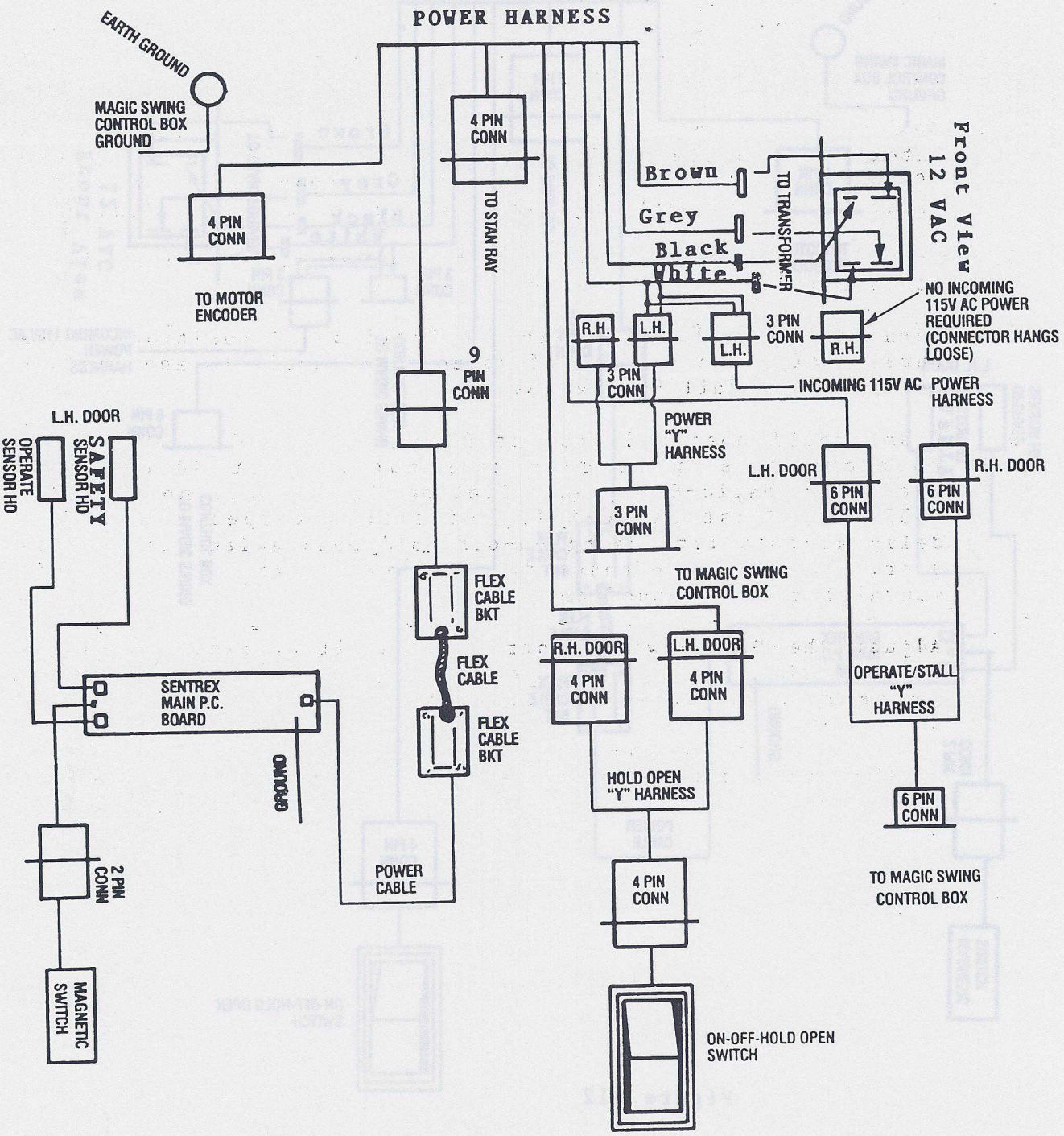


Figure #13

SENTREX^2 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 potentiometer to minimum (turn potentiometer 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. 203585-6835M). Adjust Magic-Swing control box speeds and time delay at this time using on-off-hold open switch to operate door. (Refer to Addendum #2 on pages 24, 25, 26 and 27 of manual for recommended settings.)

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.

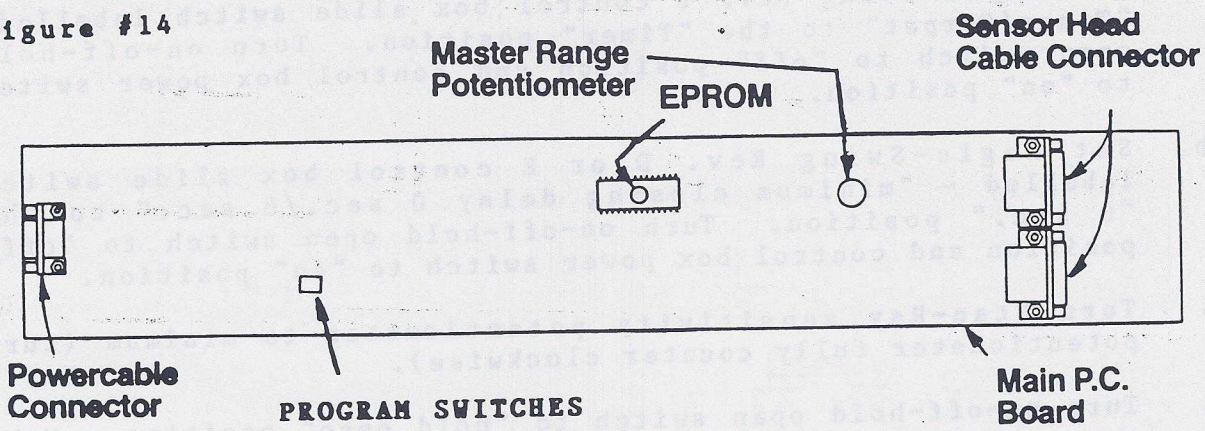
7. Program Sentrex^2 Main P.C. Board. (Refer to Figure #14) Set the 4 miniature rocker switches on Main P.C. Board to your application description. In applications whereby there are more than 4 sentrex^2 doors all within close proximity to one another, keep similar coded doors as far apart from one another.

NOTES: 1. In order to change your program switch setting you must first disconnect the flex link power cable from the Main P. C. Board.

2. In order to program Sentrex^2, the EPROM located on the

Main P.C. Board must have the following identification code - part #412094, Rev. level 712174, Check Sum 4896 (If EPROM does not have this I.D. code, consult factory.)

Figure #14



Switch One	Switch Two	Application Description
ON	ON	DOOR CODE 1
ON	OFF	DOOR CODE 2
OFF	ON	DOOR CODE 3
OFF	OFF	DOOR CODE 4

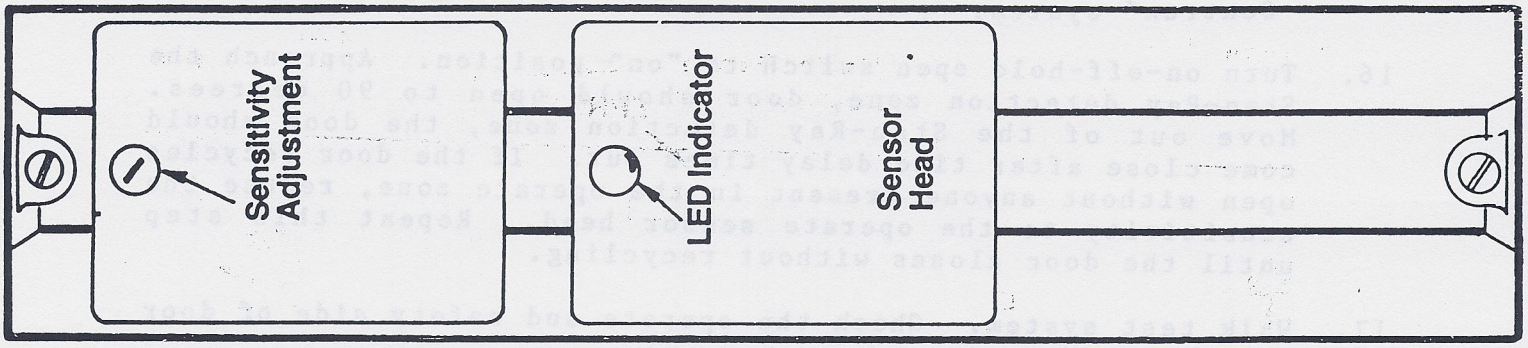
Switch Three	Switch Four	Application Description
ON	ON	RIGHT HAND OPERATOR, OTHER THAN WHITE PAINTED SIDE WALLS
ON	OFF	RIGHT HAND OPERATOR W/ WHITE PAINTED SIDE WALLS
OFF	ON	LEFT HAND OPERATOR W/ WHITE PAINTED SIDE WALLS
OFF	OFF	LEFT HAND OPERATOR, OTHER THAN WHITE PAINTED SIDE WALLS

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

9. Turn master range potentiometer on Main P.C. Board to level 0. (Refer to Figure #14)

10. Adjust the sensitivity to the operate and safety sensor heads to maximum. (Turn potentiometer fully clockwise). (Refer to Figure #15)

Figure #15



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 and stand clear from door. In approximately five seconds the door will begin to open (jerky) in check speed. The door is now going through the 90 degree Automatic Learning Mode (initialization).
Double Door Applications- Each door panel must cycle through its own Automatic Learning Mode independent of the other door panel. Connect flex link power cable to Main P.C. Board, one door at a time. Stand clear and let doors cycle. Note, both doors will open jerky but only one door is being initialized. Connect the other flex link cable to other Main P.C. Board. Stand clear and let doors cycle once again. Both doors panels should have now gone through initialization.

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

13. With the door in the closed position, adjust the master range potentiometer on Main P.C. Board to level 90.

14. With no one present in the safety zone, turn on-off-hold open switch to "hold open" position. Door should open to 90 degrees. Should the door stall (safety sensor head LED lit) prior to reaching 90 degrees, reduce the sensitivity to the safety side sensor head. Turn on-off-hold open switch to "off" position, door should close. If the sensitivity to the safety side sensor head is set at its minimum and the door continues to stall, decrease the master range potentiometer setting on the Main P.C. Board one level and Repeat steps 10 & 14 until door opens without stalling.

15. Adjust the Stan-Ray detection zone and sensitivity.

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 actuating device with Sentrex^2 system.

16. Turn on-off-hold open switch to "on" position. Approach the Stan-Ray detection zone, door should open to 90 degrees. Move out of the Stan-Ray detection zone, the door should come close after time delay times out. If the door recycles open without anyone present in the operate zone, reduce the sensitivity to the operate sensor head. Repeat this step until the door closes without recycling.

17. Walk test system. Check the operate and safety side of door for proper function.

18. Operate door and slowly walk through opening. Come to a complete stop when the operate sensor head LED turns off. Door should close after time delay times out.

19. After all adjustments are made, tuck in cables and wires, slide housing cover into housing and secure end caps with #8 x 1 1/2" lg. pan head self-tapping screws provided.

20. Cover LED and adjustment holes on sensor heads with adhesive dots. (Refer to Figure #15)

21. 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 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.

TROUBLESHOOTING SECTIONS 1-5

TROUBLESHOOTING SECTION 1

TROUBLE: Door does not go thru Auto Learn Cycle as referred to in step #12 of the tune-in procedure.

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 directly below 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 ∞ OHMS-door open, 0 OHMS-door closed?

ANSWER: No.

REMEDY: Replace damaged Magnetic Switch.

ANSWER: Yes.

TEST: Slowly push door open.

CHECK: Does encoder LED's (LED1 & LED2) 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: No.

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^2 per your application description.

ANSWER: Yes.

REMEDY: Replace damaged Main P. C. Board.

ANSWER: Both Sensor Head LED´S 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 both 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-fuctioning 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 0?

ANSWER: Yes.

REMEDY: Refer to tune-in procedure steps #13 & #14.

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: Are the Safety and Operate Sensor Heads connected to their respective positions on Main P. C. Board?

ANSWER: No.

REMEDY: Connect sensor heads to correct positions on Main P. C. Board.

ANSWER: Yes.

REMEDY: Exchange Safety Sensor Head with Operate Sensor Head and reconnect to Main P. C. Board.

CHECK: Does door stall before full open position?

ANSWER: No.

REMEDY: Replace damaged Safety Sensor Head.

ANSWER: Yes.

CHECK: Is Magic-Swing Control Box and Sentrex^2 Main P. C. Board grounded to a good earth ground. (Refer to final assembly step #6 in manual).

ANSWER: No.

REMEDY: Ground the components

ANSWER: Yes.

REMEDY: Replaced 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: Refer to tune-in procedure steps #10 & #14

ANSWER: No.

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^2 per your application description.

ANSWER: Yes.

CHECK: Did you connect the wires to the transformer as per figures #12 & #13?

ANSWER: No.

REMEDY: Connect colored wires to Transformer as per figures #12 & #13.

ANSWER: Yes.

REMEDY: Consult factory.

ADDENDUM NO. 1

INSTRUCTIONS TO RETROFIT AN EXISTING MAGIC-SWING WITH SENTREX^2

1. Switch on-off-hold open switch to "hold open" position.

2. Verify sufficient side clearance for Sentrex^2 sensor head. (Approximately 2" between wall and door.)

3. Disconnect door from operator.

4. Remove door panel.

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.

Addendum No. 1

CHECKLIST FOR EXISTING MAGIC-SWING CONTROL BOXES

Sentrex^2 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 SETTINGS FOR SENTREX^2 APPLICATIONS (REFER TO FIGURE #16)

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")

A) Actuation Source - Sentrex^2
Position Setting - 0 sec

S4 SWITCH (Internal Adjustment)

A) Actuation Source - Sentrex^2
Position Setting - pull out
Function - adds 1.5 second safety hold beyond loss of signal ("Safety Plus")

S1 SWITCH (Internal Adjustment)

A) Actuation Source - Sentrex^2
Position Setting - push in
Function - holds 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)

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

Addendum No.2

STALL CURRENT POTENTIOMETER (External Adjustment)

A) Actuation Source - Refer to Sentrex^2 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 Close (10° - 0°)	Not Less Than 1.5 Sec.

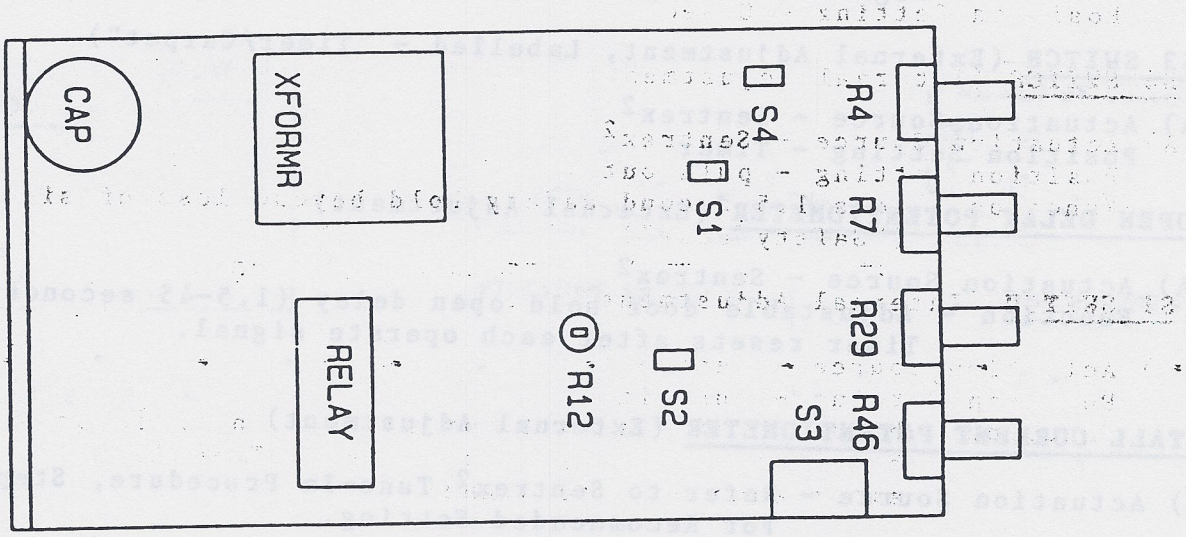
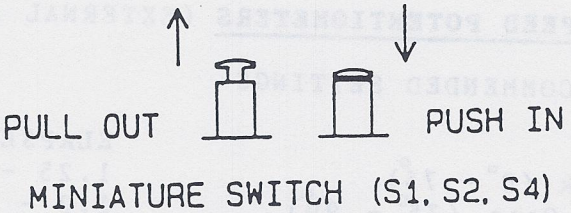


Figure #16



MAGIC-SWING CONTROL BOX (REV F) ADJUSTMENTS & RECOMMENDED SETTINGS FOR SENTREX^2 APPLICATIONS (REFER TO FIGURE #17)

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)

A) Actuation Source - Sentrex^2
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")

A) Actuation Source - Sentrex^2
Position Setting - Timer

OPEN DELAY POTENTIOMETER (External Adjustment)

A) Actuation Source - Sentrex^2
Function - Adjustable door hold open delay (1.5-45 seconds). Timer resets after each operate signal.

STALL CURRENT POTENTIOMETER (External Adjustment)

A) Actuation Source - Refer to Sentrex^2 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.

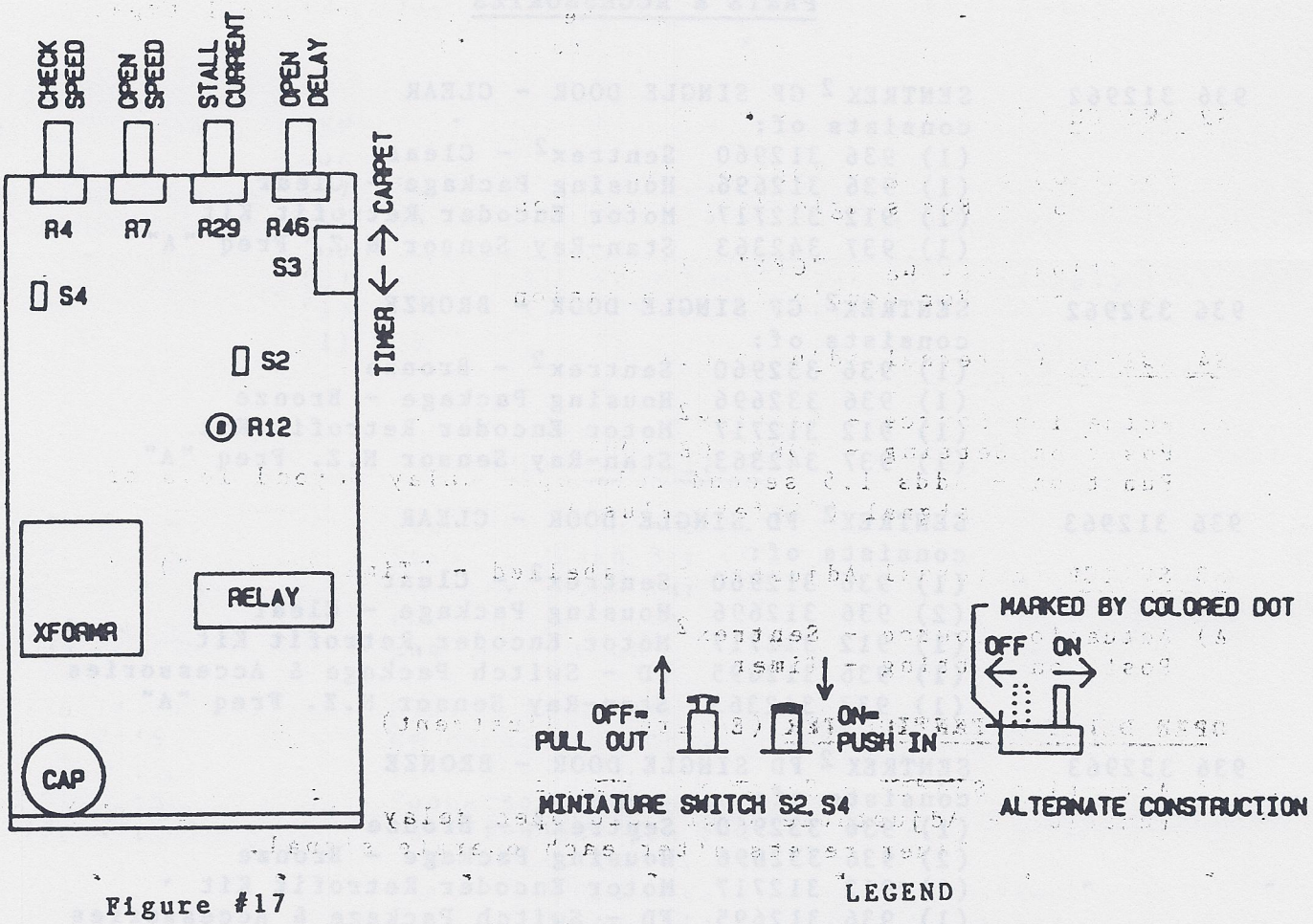

CHECK SPEED
OPEN SPEED
STALL CURRENT
OPEN DELAY
R4
R7
R29
R46
S3
CARPET
TIMER
S4
S2
R12
XFORMR
RELAY
CAP
MARKED BY COLORED DOT
OFF
ON
OFF-
PULL OUT
ON-
PUSH IN
MINIATURE SWITCH S2, S4
ALTERNATE CONSTRUCTION
LEGEND

Figure #17

ADDENDUM NO. 3

SENTREX^2
SWING DOOR SENSOR SYSTEM
PARTS & ACCESSORIES

936 312962 — SENTREX ^{2} GF SINGLE DOOR - CLEAR
consists of:
(1) 936 312960 Sentrex^2 - Clear
(1) 936 312696 Housing Package - Clear
(1) 912 312717 Motor Encoder Retrofit Kit
(1) 937 342363 Stan-Ray Sensor N.Z. Freq "A"

936 332962 — SENTREX^2 GF SINGLE DOOR - BRONZE
consists of:
(1) 936 332960 Sentrex^2 - Bronze
(1) 936 332696 Housing Package - Bronze
(1) 912 312717 Motor Encoder Retrofit Kit
(1) 937 342363 Stan-Ray Sensor N.Z. Freq "A"

936 312963 — SENTREX^2 FD SINGLE DOOR - CLEAR
consists of:
(1) 936 312960 Sentrex^2 - Clear
(2) 936 312696 Housing Package - Clear
(1) 912 312717 Motor Encoder Retrofit Kit
(1) 936 312695 FD - Switch Package & Accessories
(1) 937 342363 Stan-Ray Sensor N.Z. Freq "A"

936 332963 — SENTREX ^{2} FD SINGLE DOOR - BRONZE
consists of:
(1) 936 332960 Sentrex^2 - Bronze
(2) 936 332696 Housing Package - Bronze
(1) 912 312717 Motor Encoder Retrofit Kit
(1) 936 312695 FD - Switch Package & Accessories
(1) 937 342363 Stan-Ray Sensor N.Z. Freq "A"

936 312985 — SENTREX ^{2} GF DOUBLE DOOR - CLEAR
consists of:
(2) 936 312960 Sentrex^2 - Clear
(2) 936 312696 Housing Package - Clear
(2) 912 312717 Motor Encoder Retrofit Kit
(1) 936 312667 "Y" Harness Kit
(1) 937 342361 Stan-Ray Sensor W.Z. Freq "A"

936 332985 — SENTREX ^{2} GF DOUBLE DOOR - BRONZE
consists of:
(2) 936 332960 Sentrex^2 - Bronze
(2) 936 332696 Housing Package - Bronze
(2) 912 312717 Motor Encoder Retrofit Kit
(1) 936 312667 "Y" Harness Kit
(1) 937 342361 Stan-Ray Sensor W.Z. Freq "A"

936 312986 SENTREX^2 FD DOUBLE DOOR - CLEAR
consists of:

(2)	936 312960	Sentrex^2 - Clear
(4)	936 312696	Housing Package - Clear
(2)	936 312717	Motor Encoder Retrofit Kit
(2)	936 312695	FD - Switch Package & Accessories
(1)	936 312667	"Y" Harness Kit
(1)	937 342361	Stan-Ray Sensor W.Z. Freq "A"

936 312986 SENTREX^2 FD DOUBLE DOOR - BRONZE
consists of:

(2)	936 332960	Sentrex^2 - Bronze
(4)	936 332696	Housing Package - Bronze
(2)	936 312717	Motor Encoder Retrofit Kit
(2)	936 312695	FD - Switch Package & Accessories
(1)	936 312667	"Y" Harness Kit
(1)	936 342361	Stan-Ray Sensor W.Z. Freq "A"

SENTREX^2 REPLACEMENT PARTS

736 711760	Stanley Crash Bar (4'0") - clear
736 731760	Stanley Crash Bar (4'0") - bronze
436 711564	Stanley Crash Bar Bumper Strip (4'0")
736 411828	End Cap - bronze
736 411829	End Cap - clear
736 110002	Main P.C. Board
736 711522	GF Magnet Assembly
736 711684	FD Magnet Assembly
436 711520	Connector (Magnetic Switch)
736 411562	On-Off-Hold Open Switch Assembly
914 411577	3-Position Rocker Switch
736 412103	Flex Link Power Cable & Bracket Assembly-CL
736 412104	Flex Link Power Cable & Bracket Assembly-BR
736 411825	Flex Link Bracket - clear
736 411824	Flex Link Bracket - bronze
736 412101	Flex Link Assembly - clear
736 412102	Flex Link Assembly - bronze
736 515511	Sensor Head - clear
736 535511	Sensor Head - bronze
436 412100	12V-Transformer - Stan-Ray
736 515226	Sensor Head Housing - clear
736 515225	Sensor Head Housing - bronze
436 515086	Sensor Head Lens
436 711462	Lens Gasket
736 411755	"Y" Harness - Power
736 411756	"Y" Harness - On-Off-Hold Open
736 411757	"Y" Harness - Operate/Stall
736 110003	Power Harness
736 412105	Magnetic Switch Harness

436 411731	Housing Ext. Base - clear
436 491731	Housing Ext. Base - bronze
436 711609	Housing Ext. Cover - clear
436 791609	Housing Ext. Cover - bronze
736 411827	Housing End Cap - clear
736 411826	Housing End Cap - bronze
936 312898	Sentrex^2 Hardware Package (screws,etc.)
907 514542	Magic-Swing Motor
907 312824	Magic-Swing Control Box Rev. F
912 312717	Motor Encoder Retrofit Kit
717 412079	Pivot Plate Assembly-Tapered (Surface pivot)
907 410895	Bottom Pivot - Door Portion
707 410897	Pivot Plate Assembly-Dovetail (Surface Pivot)
407 710150	Pivot Bearing - bottom only
707 710151	Retrofit Bolt
717 411932	Pivot Body (recessed pivot)

SENTREX^2 ACCESSORIES

936 412093	Sensor Head Extension Cable - Qty 2 (for non-bottom mounting)
936 312373	Crash Bar - clear
936 332373	Crash Bar - bronze
936 312667	"Y" Harness Kit for double door
936 312897	FD Sensor Head Shim - clear
936 332897	FD Sensor Head Shim - bronze
936 312721	Magnetic Switch Assembly (Hollow Metal In-Header Application)
917 312847	Recessed Floor Pivot (door & floor portion)
907 311727	Surface Floor Pivot-Dovetail (door & floor portion)
917 312976	Surface Floor Pivot-Tapered (door & floor portion)
917 312877	Surface Pivot-Dovetail (floor portion)
917 312878	Recessed Pivot (floor portion)
917 312903	Surface Pivot-Tapered (floor portion)

Active Parts as of 7/1/87