

CLASS FRONT ALUMINUM BOOKS (C9)

SENTREX CY INSTALLATION

TUNE-IN & TROUBLESHOOTING MANUAL

# STANLEY SENTREX-I

GLASS FRONT ALUMINUM DOORS (GF)

SENTREX GF INSTALLATION,  
TUNE-IN & TROUBLESHOOTING MANUAL

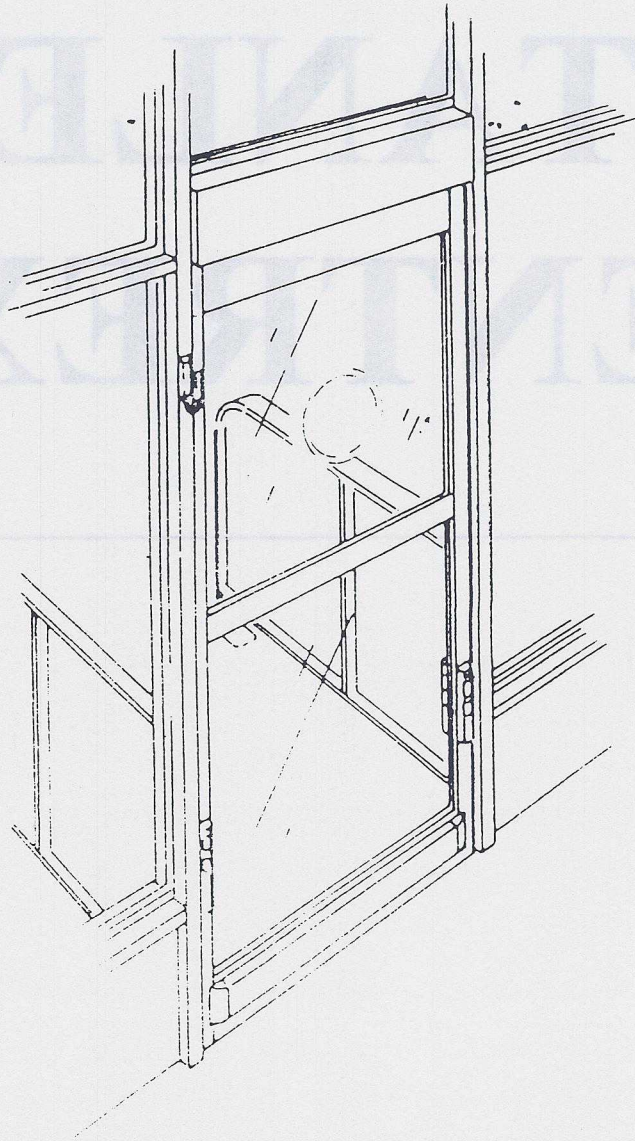


TABLE OF CONTENTS

PAGE NO.

BILL OF MATERIAL-----	1
REQUIRED TOOLS & EQUIPMENT-----	1
APPLICATION INTRODUCTION-----	2
INSTALLATION INSTRUCTIONS-----	3-13
SENTREX TUNE-IN PROCEDURE-----	13-17
SENTREX TROUBLESHOOTING SECTIONS 1 THROUGH 4-----	18-28
ADDENDUM NO. 1 - RETROFIT-----	29-30
ADDENDUM NO. 2 - CONTROL BOX ADJUSTMENTS-----	31-32
ADDENDUM NO. 3 - PARTS & ACCESSORIES-----	33-35

NOTE: If installing Sentrex to an existing Magic-Swing, refer to Addendum No. 1 - Retrofit Instructions, on Pages 29 and 30 of Manual, prior to starting installation.

# BILL OF MATERIAL

- 4 - Sensor Heads (2) R.H. and (2) L.H.  
936 515087 - R.H. CL, 936 515088 - L.H. CL  
936 535087 - R.H. BR, 936 535088 - L.H. BR
- 1 - Main P.C. Board - 936 108639
- 1 - P.C. Board Spacer (Cardboard Insulator) - 936 411693
- 1 - Housing Assembly - 936 312696 - CL, 936 332696 - BR
- 1 - Power Supply - 936 515373
- 1 - Power Supply Harness (Pre 11/86) - 936 515242  
(New Style) - 936 109520
- 1 - On-Off-Hold Open Switch - 936 411562
- 1 - Switch Package - 936 312694
- 1 - Flex Link Cable & Bracket Assembly - 936 411799 - CL  
- 936 411561 - BR
- 1 - Motor Encoder Retrofit Kit - 912 312717
- 1 - Hardware Package - 936 312689
- 1 - Transformer (New Style) - 936 411873

# REQUIRED TOOLS & EQUIPMENT

Power Drill  
3/16", 3/8" & #28 drill bits  
1" & 1-1/4" hole saws  
#2 phillips screwdriver  
security screwdriver (Stanley Part #936 711919)  
(2) Saw Horses  
OHM Meter  
Volt Meter

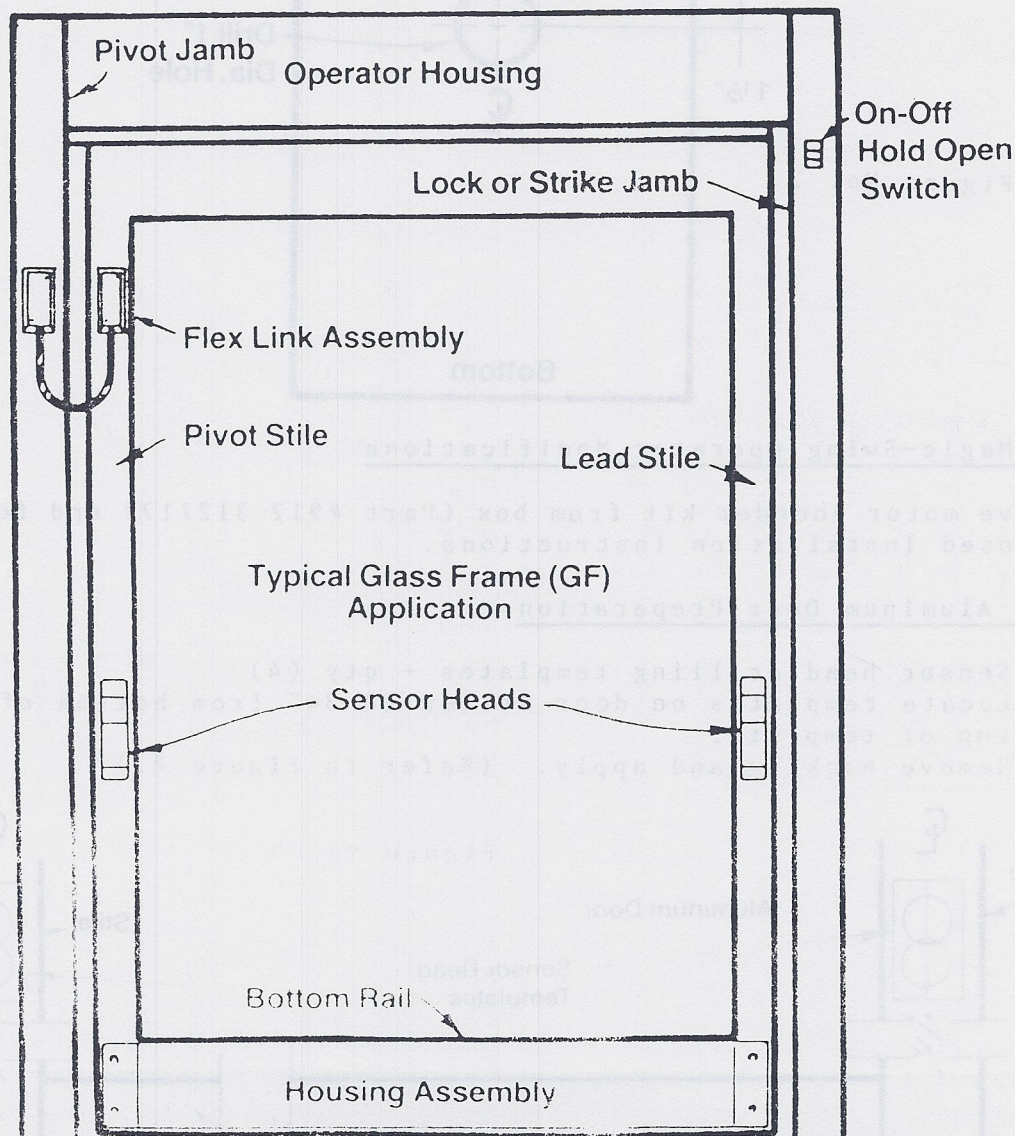
**APPLICATION INTRODUCTION  
SENTREX GLASS FRONT/ALUMINUM DOOR (GF)  
(Refer to Figure #1)**

GF - Determine mounting position and location of the Sentrex 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 perfect for this type of application.

If the housing assembly is to be mounted to the top rail, you will need four extension cables, 31" long (part #936 411859). When routing the cables around the lock mechanism, make sure that the cables do not interfere with the mechanical working of the lock.

The flex link assembly is to be located on the inside of the building (if applicable, the interior stall side).



Interior Elevation - Stall Side

Figure No. 1

## INSTALLATION INSTRUCTIONS

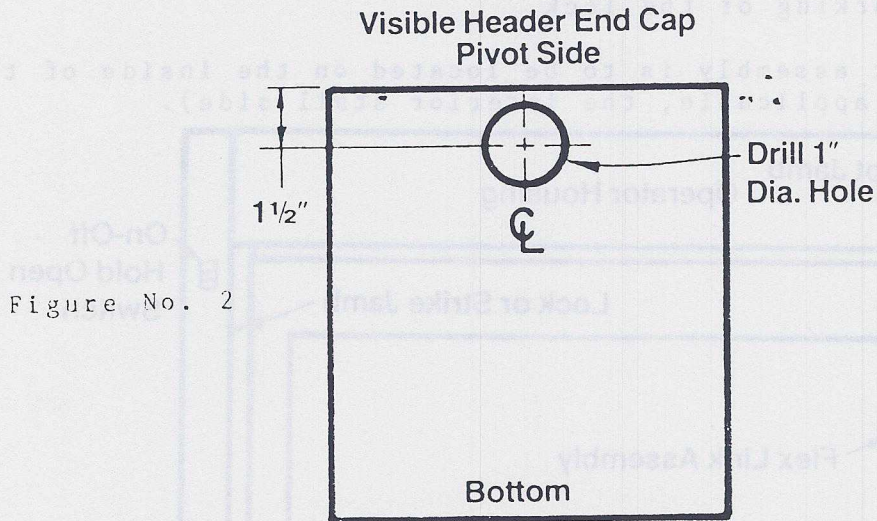
**NOTE:** Prior to starting your Sentrex installation, visualize the door in the full open, 90 degree position. Is there sufficient side clearance between the wall and the door face for the sensor heads? If less than 2", consult factory.

### In-Header Preparation - Pivot Side

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

### Visible Header Preparation - Pivot Side

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

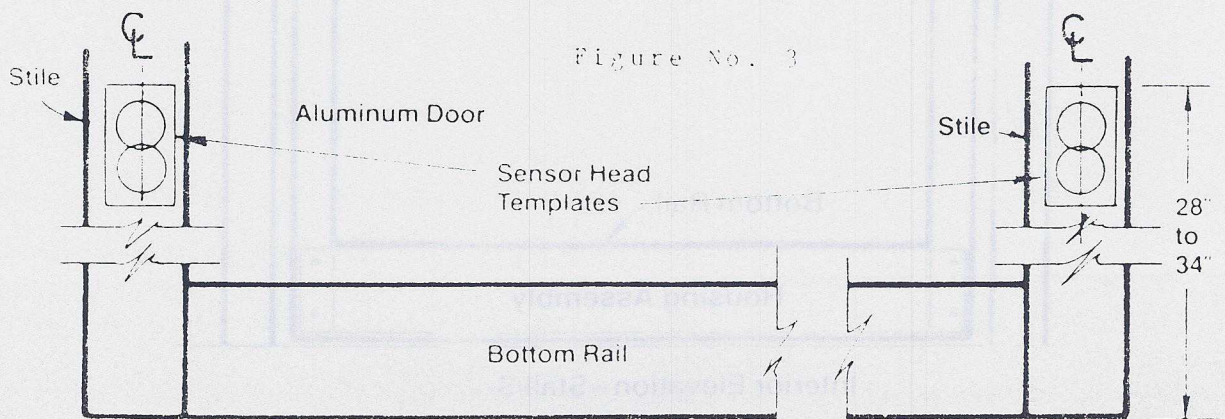


### New Magic-Swing Operator Modifications

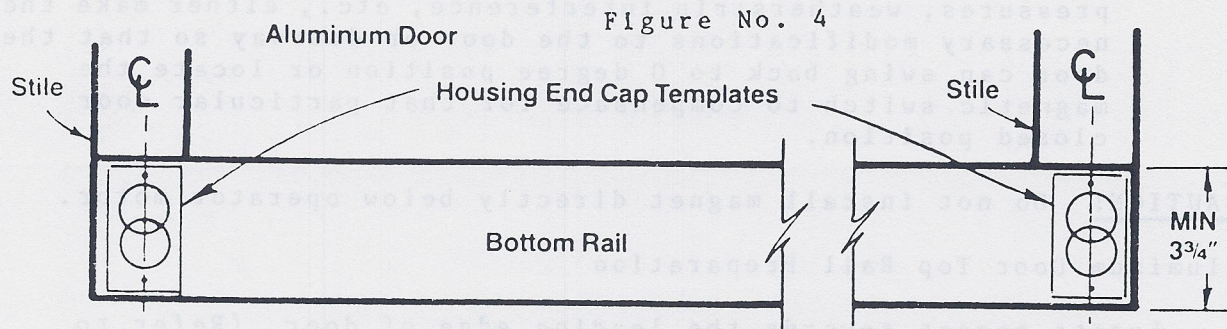
Remove motor encoder kit from box (Part #912 312717) and follow the enclosed installation instructions.

### GF - Aluminum Door Preparation

1. Sensor head drilling templates - qty (4)  
Locate templates on door stiles 28-34" from bottom of door to top of template.  
Remove backing and apply. (Refer to Figure #3)



2. Sentrex 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)



#### GF - Pivot Jamb and Pivot Stile Preparation

1. Flex link bracket drilling templates - qty (2)  
Locate template on pivot stile 4-1/2" from top of door to top of template.  
Locate 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.

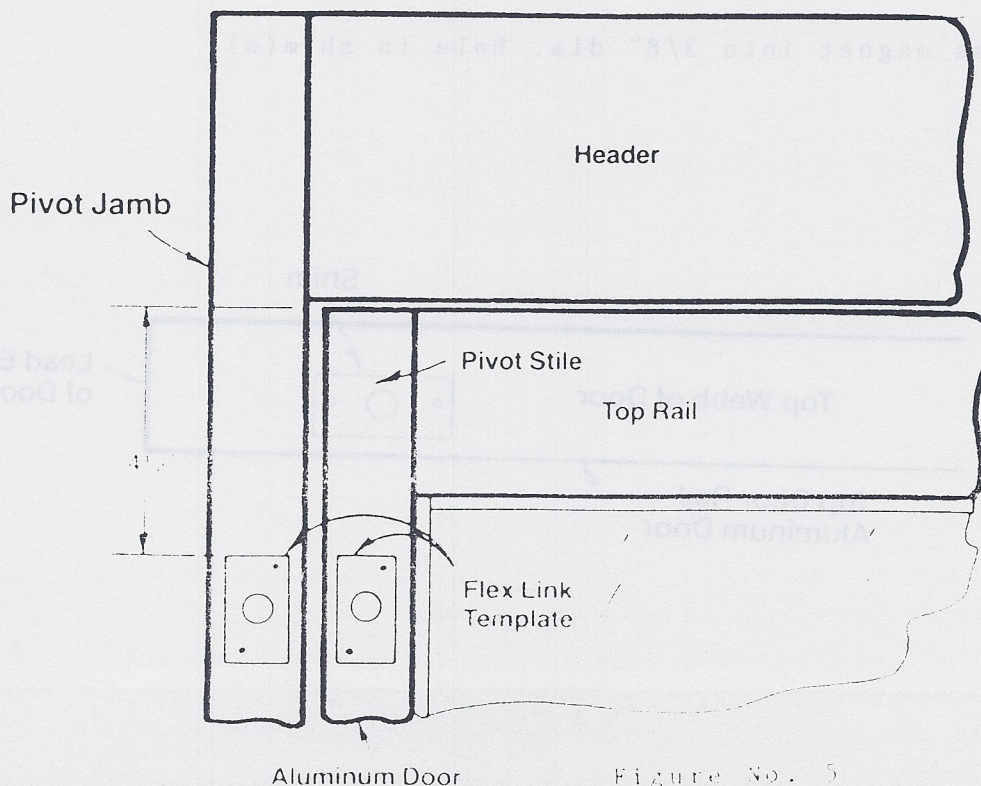


Figure No. 5

## GF - Installation of Magnet

**NOTE:** The magnetic switch is required to reset the door position counter at 0 degree closed door position. Every Sentrex door panel must have a magnetic switch for proper operation.

If the door does not close to 0 degree position due to stack pressures, 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 magnet directly below operator motor.

### Aluminum Door Top Rail Preparation

1. Locate magnet towards the leading edge of door. (Refer to Figure #6)
2. Using shim as a template, drill two #28 (.140 dia.) holes through top web.
3. Drill one #3/8" (.375 dia.) hole through top web.
4. Stack shims together so that they are almost flush with the top edge of door.
5. Maximum distance between magnet and magnetic switch 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. Press magnet into 3/8" dia. hole in shim(s).

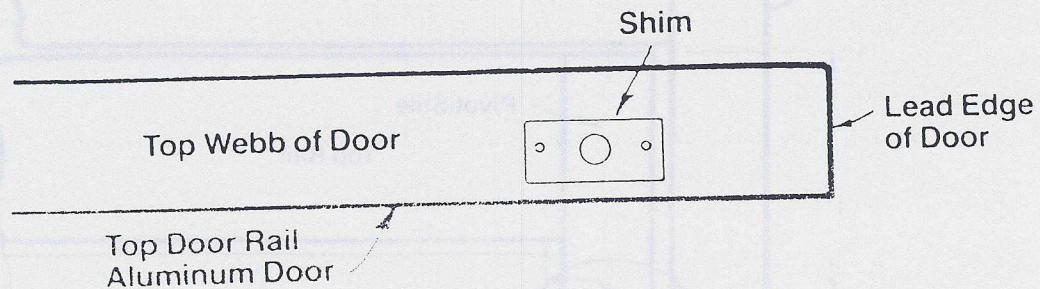


Figure No. 6

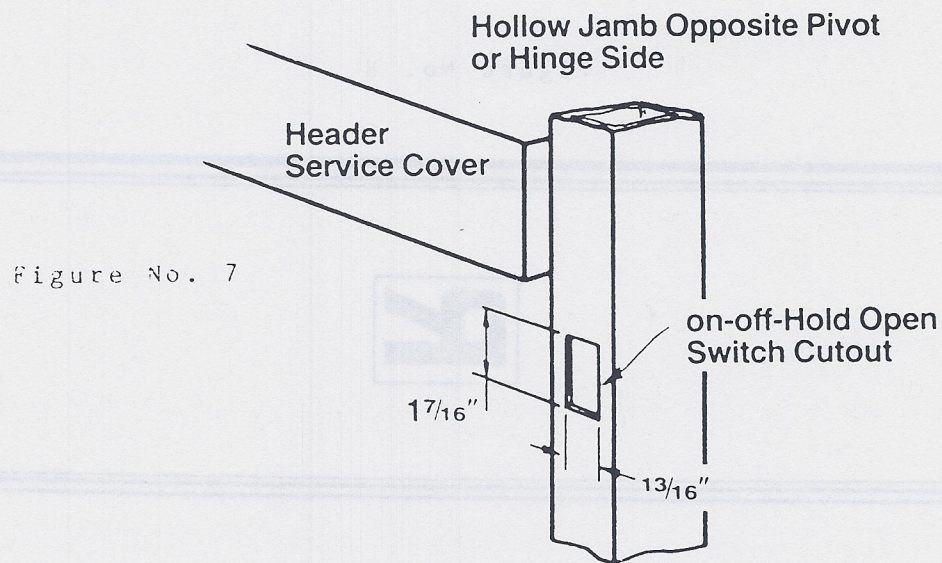
GF - Installation of on-off-hold open switch (if required)

Hollow Jamb Preparation (Refer to Figure #7)

1. Locate on-off-hold open switch on interior jamb opposite 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.



GF - Installation of Flex Cable Assembly - Door Portion

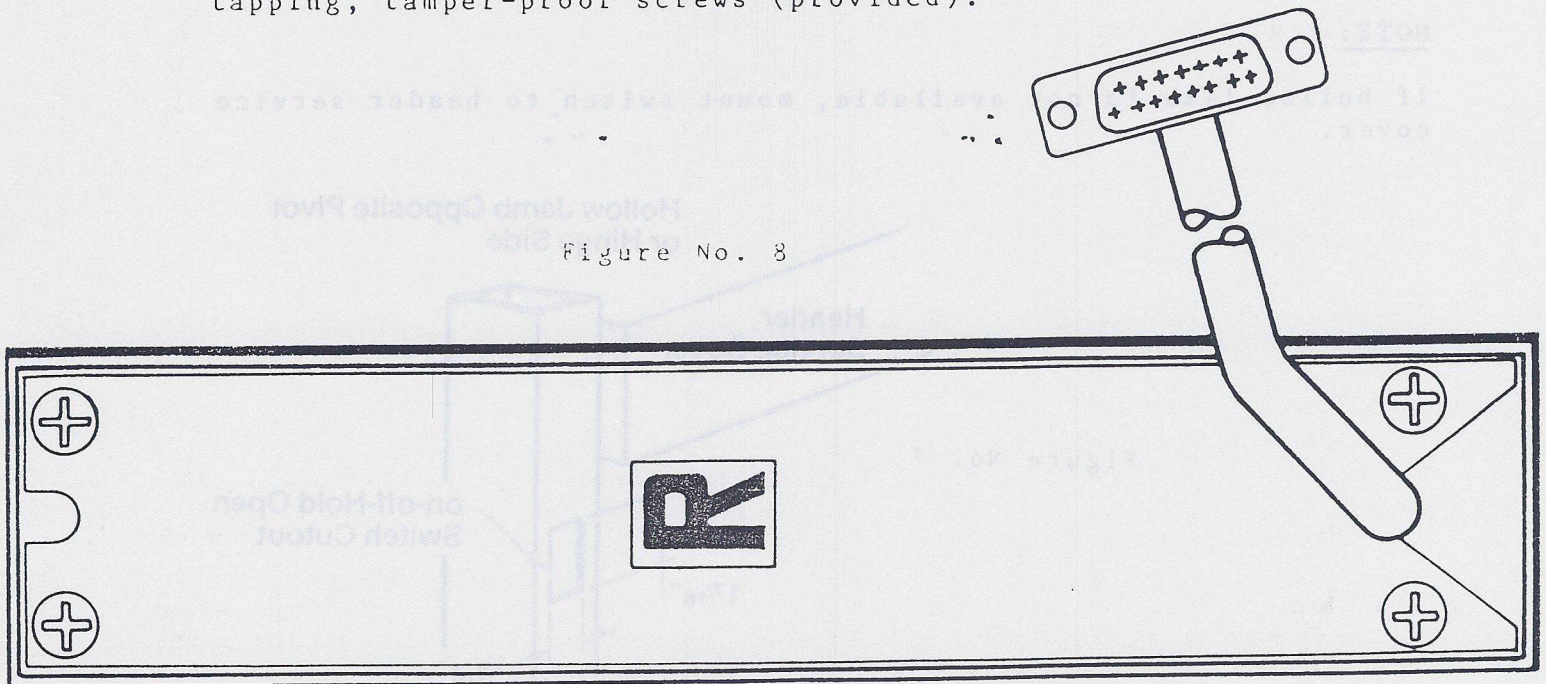
1. Insert power cable (nine-pin connector) through clearance hole in pivot stile.
2. Run cable down the stile and out through the housing end cap clearance hole.
3. Fasten cable bracket to door with (2) #8 X  $\frac{3}{8}"$  LG self-tapping, tamper-proof screws (provided).

#### GF - Installation of Sensor Heads (4)

NOTE: Each sensor head is handed and labelled (Refer to Figure #8)(e.g. the R.H. sensor head mounts to the R.H. pivot stile or R.H. lead stile).

1. Prior to mounting, use masking tape and label each sensor head cable connector with its intended function (e.g. operate or stall).
2. Insert sensor head cable through clearance hole in stile.
3. Run cable down the stile and out through the housing end cap clearance hole.
4. Fasten each sensor head to door with (2) #8 X 1-1/4" LG. self-tapping, tamper-proof screws (provided).

Figure No. 8

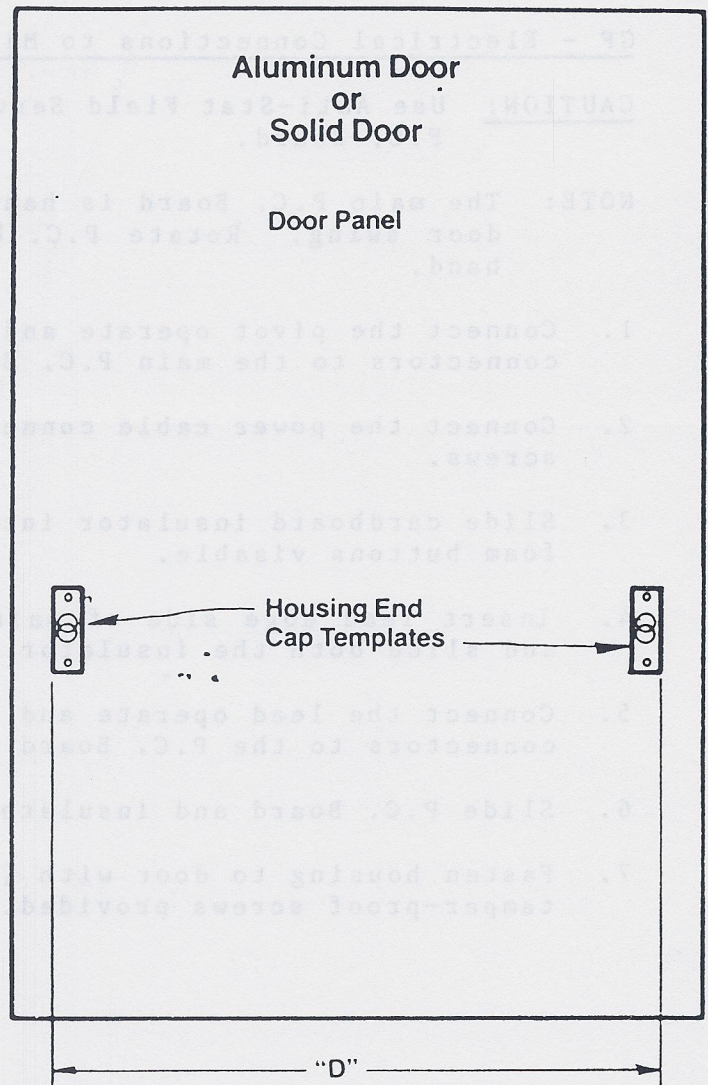


#### GF - Preparation of Sentrex Housing Assembly

1. Cut aluminum housing and cover to exact length. Deburr. (Refer to Figure #9)
2. Fasten housing end cap to pivot stile with (2) #8 X 1-1/4" LG. self-tapping, tamper-proof screws (provided).
3. Slide housing into end cap.
4. Fasten housing end cap to lead stile.

Calculation for  
Housing & Cover length =  $D - 2\frac{1}{2}"$

Figure No. 9



5. Drill (2) #28 (.140 dia.) holes through housing and into door approximately 2" in from each end, on center. (Refer to Figure #10)
6. Remove end caps and housing. Deburr and remove excess material.
7. Drill (2) #3/16 (.188 dia.) clearance holes through existing #28 holes in housing. Deburr.

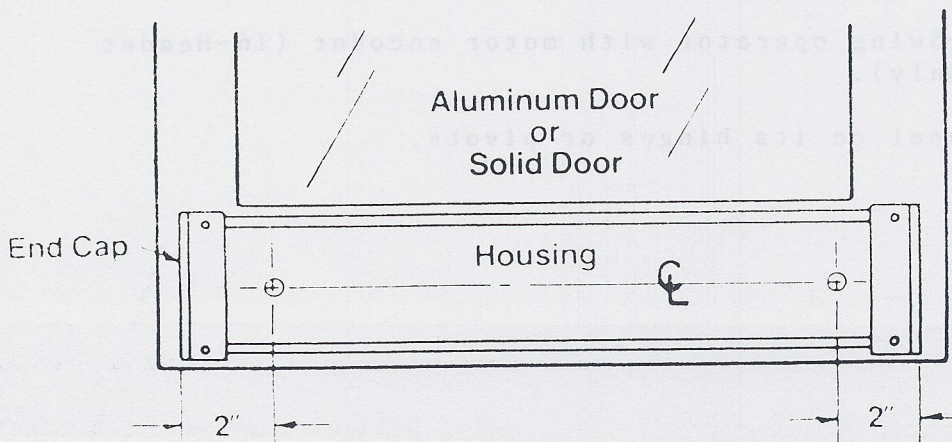


Figure No. 10

GF - Electrical Connections to Main P.C. Board

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

NOTE: The main P.C. Board is handed and labelled relative to the door swing. Rotate P.C. board 180 degrees for opposite hand.

1. Connect the pivot operate and pivot stall sensor head cable connectors to the main P.C. Board with screws.
2. Connect the power cable connector to the main P.C. Board with screws.
3. Slide cardboard insulator into the bottom of housing, with foam buttons visible.
4. Insert lead edge side of main P.C. Board into housing groove and slide both the insulator and P.C. Board to other end.
5. Connect the lead operate and lead stall sensor head cable connectors to the P.C. Board with screws.
6. Slide P.C. Board and insulator back to the center of housing.
7. Fasten housing to door with (2) #8 X 3/8" LG. self-tapping, tamper-proof screws provided.

GF - Installation of Flex Link Assembly - Pivot Jamb

1. Insert power cable (six pin connector) through clearance hole in jamb.
2. Route power cable up jamb and into header via header cable clearance hole.
3. Fasten cable bracket to pivot jamb with (2) #8 X 3/8" LG. self-tapping, tamper-proof screws (provided).
4. Remount Magic-Swing operator with motor encoder (In-Header Applications Only).
5. Rehang door panel on its hinges or pivots.

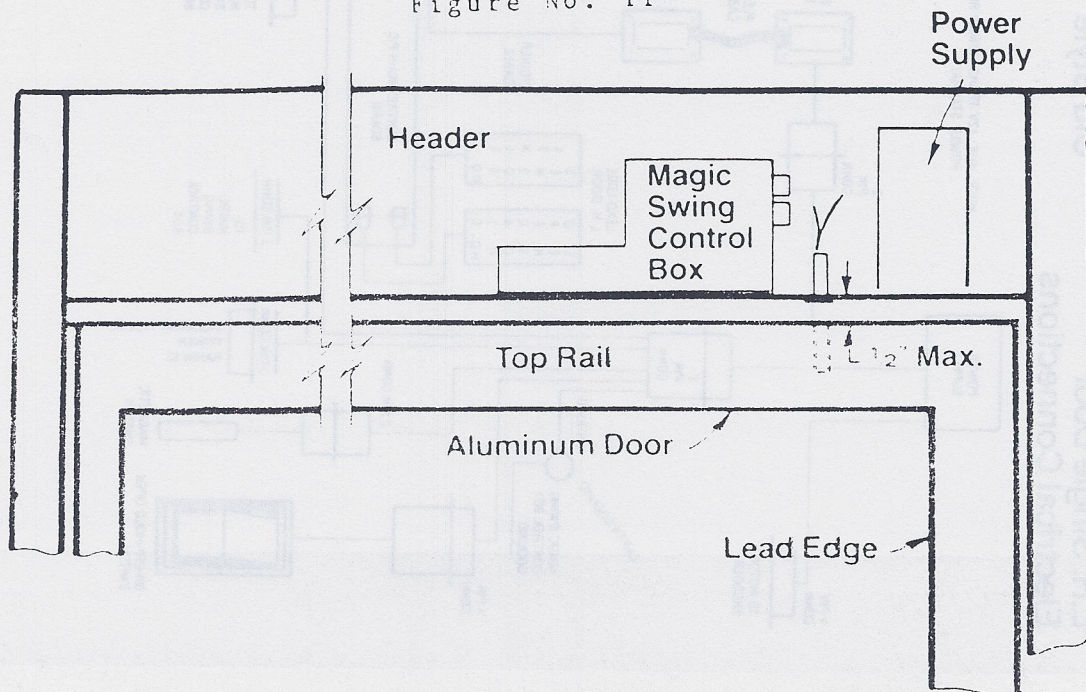
# GF - Installation of Magnetic Switch

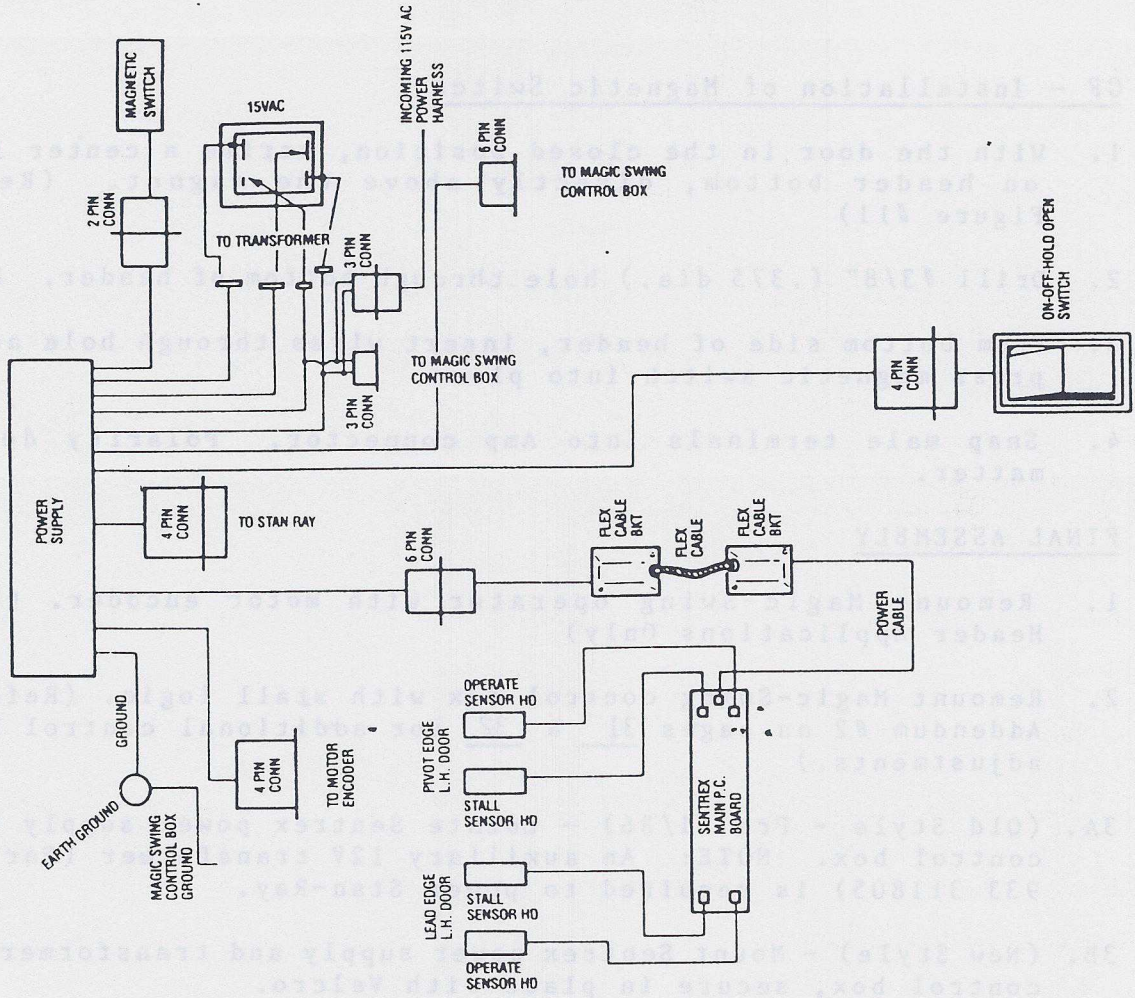
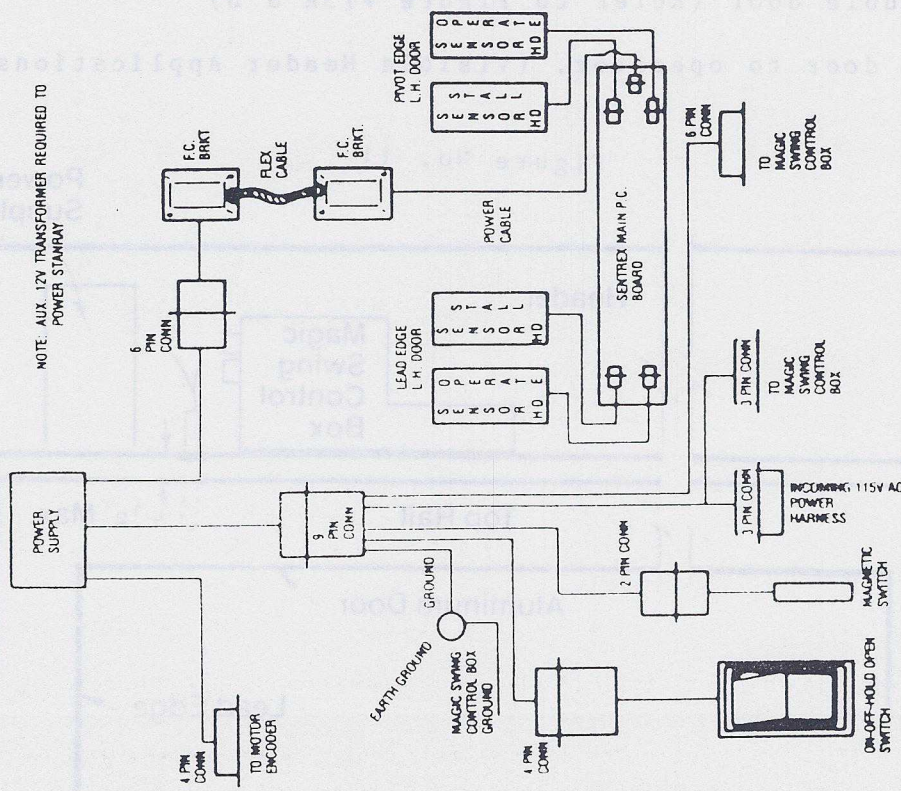
1. With the door in the closed position, scribe a center line on header bottom, directly above the magnet. (Refer to Figure #11)
2. Drill  $\frac{3}{8}$ " (.375 dia.) hole through bottom of header. Deburr.
3. From bottom side of header, insert wires through hole and hand press magnetic switch into place.
4. Snap male terminals into Amp connector. Polarity does not matter.

## FINAL ASSEMBLY

1. Remount Magic-Swing operator with motor encoder. (Visible Header Applications Only)
2. Remount Magic-Swing control box with stall logic. (Refer to Addendum #2 on pages 31 & 32 for additional control box adjustments.)
- 3A. (Old Style - Pre 11/36) - Locate Sentrex power supply behind control box. NOTE: An auxiliary 12V transformer (Part # 933 311805) is required to power Stan-Ray.
- 3B. (New Style) - Mount Sentrex power supply and transformer behind control box, secure in place with Velcro.
4. Make electrical connections as shown.  
For single door (Refer to Figure #12A & B)  
For double door (Refer to Figure #13A & B)
5. Connect door to operator. (Visible Header Applications Only)

Figure No. 11







NOTE: Magic-Swing control box and Sentrex power supply 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 or call factory.)

#### SENTREX TUNE-IN PROCEDURE

After all connections are made, proceed as follows:

1. Switch on-off-hold open switch to off position.
2. Turn master range potentiometer to minimum (fully counter-clockwise). Set one code select switch on. Each door should have different code. 2 doors in close vicinity set one code to 1 and set other code to 8. (Refer to Figure #14)
3. Adjust the sensitivity to all four sensor heads to minimum (turn potentiometers fully counterclockwise). (Refer to Figure #15).

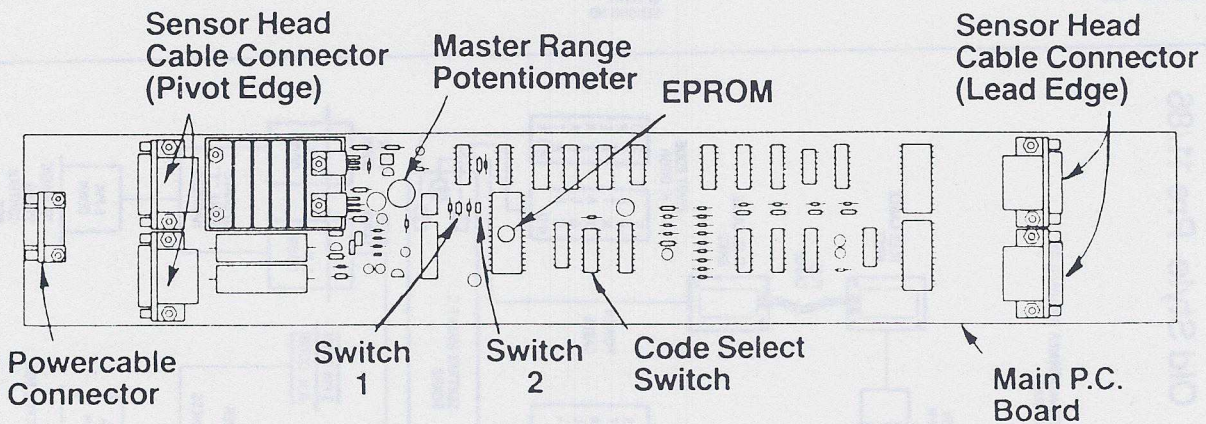


Figure No. 14

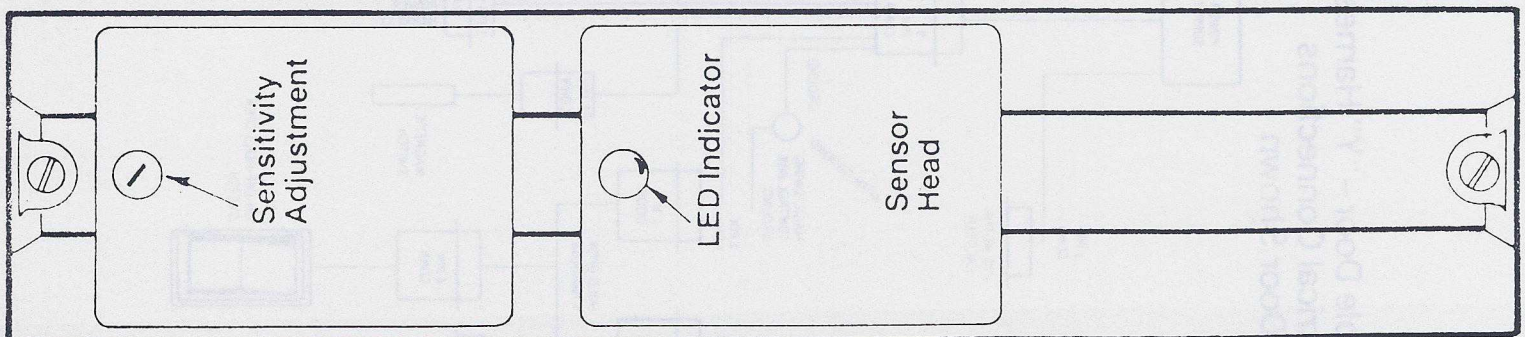


Figure No. 15

## 4. Program Sentrex Main P.C. Board. (Refer to Figure #14)

NOTE: In order to program Sentrex, the EPROM located on the Main P.C. Board must have the following identification code - part #411672, Rev. Level 711955, check sum OBEE41. (If EPROM does not have ID code, consult factory.)

<u>Application Description</u>	<u>Switch One Position</u>	<u>Switch Two Position</u>	<u>Operate Sensor Head Functions</u>
.White painted side walls non-existent .One or two doors within close proximity to each other & each being controlled by Sentrex	Push In	Push In	Sensor Heads are on with door closed
.White painted side walls .One or two doors within close proximity to each other & each being controlled by Sentrex	Pull Out	Pull Out	Sensor Heads are on with door closed
.White painted side walls non-existent .Three or more doors within close proximity to one another & all being controlled by Sentrex .Corridor side approach .Security (using wall plates, card readers, etc. to activate doors)	Push In	Pull Out	Sensor Heads are off in the first & last 20 degrees of door cycle & remain off while the door is closed
.White painted side walls .Three or more doors within close proximity to one another & all being controlled by Sentrex .Corridor side approach .Security (using wall plates, card readers, etc. to activate doors)	Pull Out	Push In	Sensor Heads are off in the first & last 20 degrees of door cycle & remain off while the door is closed

5. Set Magic-Swing control box minimum closing delay switch to "0 second" position. Turn control box power switch to on position.

6. Note that Sentrex power supply LED is lit. (Refer to Figures #16A & B)

Figure No. 16A

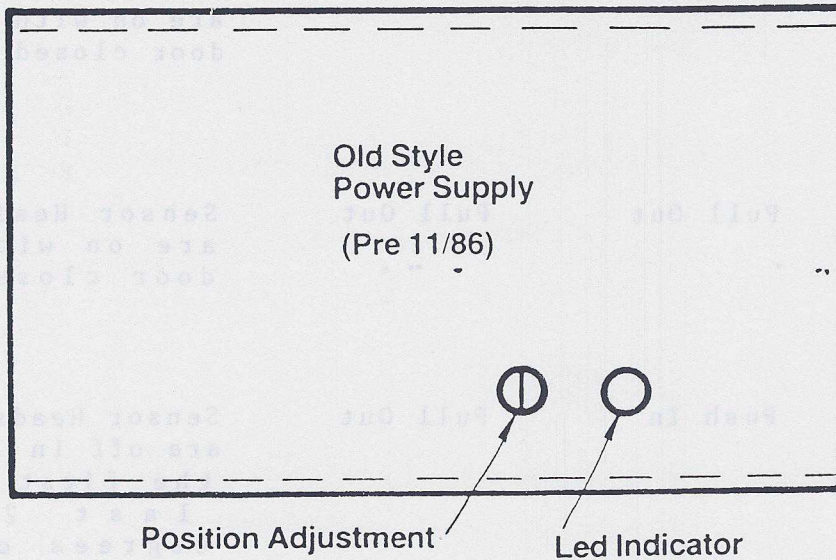
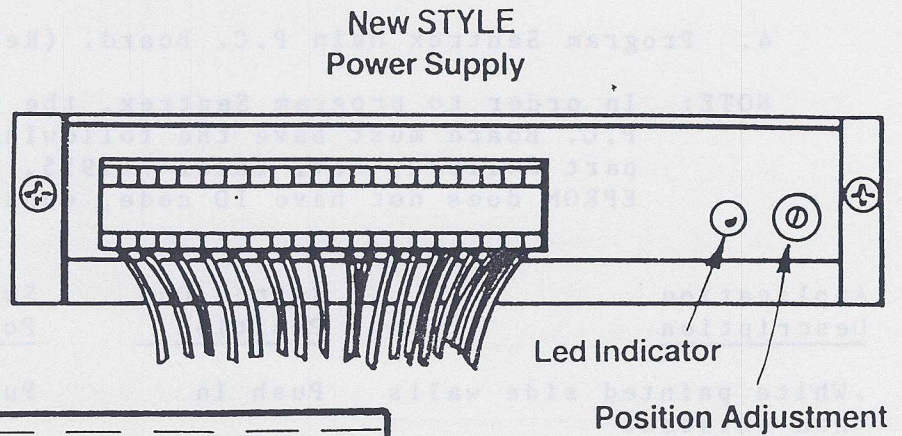


Figure No. 16B

7. Approach each sensor head and note that the LED flashes when you are in its zone. Depending upon how you have programmed your Main P.C. Board, the operate sensors might be turned off in the closed position and will not flash. Manually open door to approximately 30 degrees and check for sensor head flashing.
8. Turn on-off-hold open switch to hold open position. Be sure stall side is free of objects or people to enable door to open to a full 90 degrees.
9. 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 31 & 32 for recommended settings.)
10. Adjust the Magic-Swing control box stall current. With the door in the hold open position, adjust the stall current potentiometer towards the minimum until the door begins to creep closed. Increase the stall current slightly until the door stalls (does not creep closed or open). Switch door to hold open from closed position and check once again that the door does not creep closed.

11. With the door in the full open position, adjust Sentrex power supply potentiometer until LED flashes continuously. (Refer to Figures #16A & B)
12. Turn on-off-hold open switch to off position. After door is fully closed, switch to hold open position. Door should open to 90 degrees. When door is in the full open position, check to see that the Sentrex power supply LED is flashing continuously. If not flashing, re-adjust and repeat steps 10 and 11.
13. Turn master range potentiometer on Main P.C. Board to level 50.
14. Adjust the sensitivity to all four sensor heads to maximum (turn potentiometer fully clockwise).
15. With no one present in stall zone, turn on-off-hold open switch to hold open position. Door should open to 90 degrees. Should the door stall before reaching 90 degrees, reduce the sensitivity to the flashing stall side sensor(s). Turn on-off-hold open switch to off position, door should close. If the sensitivity on the stall side sensor head is at its minimum and the door continues to stall, decrease the master range potentiometer setting on the Main P.C. Board one level. Repeat steps 14 & 15 until door opens without stalling.
16. Turn on-off-hold open switch to on position. Approach the operate zone, door should open to 90 degrees. Move out of the operate zone, the door should close after time delay times out. If the door recycles open without anyone present in the operate zone, reduce the sensitivity to the flashing operate sensor head(s). Repeat this step until door closes without recycling.
17. Walk test system. Check the operate and stall side of door for proper function.
18. Operate door and slowly walk through opening. Come to a complete stop when the lead edge operate sensor head stops flashing. 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 tamper proof screws.
20. Cover LED and adjustment access holes on sensor heads with adhesive dots. (Refer to Figure #15)
21. Replace header cover.

NOTE: If an individual is present in the stall zone while another individual approaches the operate zone, the Magic-Swing control box will drop into its stall current mode. If that individual in the stall 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 operate zone must be cleared of people so that the Magic-Swing control box can reset itself.

# TROUBLESHOOTING SECTIONS 1-4 REFER TO FIGURES #17 & 18

## TROUBLESHOOTING SECTION 1

- TROUBLE: Sentrex power supply LED will not light up when Magic-Swing control box is powered on. (Refer to Tune-In Procedure step #6)
- 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 #1: 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.

### NEW STYLE POWER SUPPLY - 5" X 4" X 1"

- TEST #2A: Reconnect power harness to back of Magic-Swing control box and switch Magic-Swing control box power 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 meter read 120 VAC?
- ANSWER: No.
- REMEDY: Replace damaged Magic-Swing control box.
- ANSWER: Yes.
- TEST 2B: With AC Volt Meter, measure output voltage (two large tabs) on 15 VAC transformer.
- CHECK: Does meter read 15 to 17 VAC?
- ANSWER: No.

# Troubleshooting Section 1

REMEDY: Replace damaged transformer.

ANSWER: Yes. (Advance to test #3)

## OLD STYLE POWER SUPPLY - 4-3/8" X 4-3/8" X 2-1/2"

TEST #2A: Reconnect power harness to back of Magic-Swing control box and switch Magic-Swing control box power to on position. Disconnect power supply harness from power supply. With AC Volt Meter, measure voltage between pins 2 and 3 (black and white) on power supply harness 9 pin connector.

CHECK: Does meter read 120 VAC?

ANSWER: No.

TEST #2B: With OHM Meter, check wires in harness for continuity (0 OHMS=good -  $\infty$  OHMS=bad).

CHECK: Is there a broken or loose wire?

ANSWER: Yes.

REMEDY: Repair or replace damaged power supply harness.

ANSWER: No.

REMEDY: Replace damaged Magic-Swing control box.

ANSWER: Yes (meter reads 120 VAC).

TEST #3: Disconnect all sensor heads from Main P.C. Board.

CHECK: Does power supply LED light come on?

ANSWER: Yes.

TEST #4: Reconnect sensor head(s) to Main P.C. Board one at a time.

CHECK: Does power supply LED light stay on after each sensor head is connected?

ANSWER: No.

REMEDY: Replace damaged sensor head(s) that caused the LED to go off.

ANSWER: No (power supply LED light does not come on).

# Troubleshooting Section 1

TEST #5: Disconnect flex link power cable from Main P.C. Board.

CHECK: Does power supply LED light come on?

ANSWER: Yes.

REMEDY: Replace damaged Main P.C. Board.

ANSWER:

TEST #6: Disconnect flex link power cable from power supply.

CHECK: Does power supply LED light come on?

ANSWER: No.

REMEDY: Replace or repair damaged flex link power cable.

ANSWER: No.

TEST #7: Reconnect flex link power cable to power supply and Main P.C. Board. Disconnect motor encoder 4 pin connector from power supply.

CHECK: Does power supply LED light come on?

ANSWER: Yes.

REMEDY: Replace damaged motor encoder.

ANSWER: No.

REMEDY: Replace damaged power supply.

## TROUBLESHOOTING SECTION 2

**TROUBLE:** One or more sensor head LED's do not flash when approached. (Refer to Tune-In Procedure step 7)

**CHECK:** How many sensor heads are not flashing?

**ANSWER:** 1, 2 or 3 non-flashing sensor heads.

**TEST #1:** Disconnect all sensor heads from Main P.C. Board. Use one of the functional (flashing) sensor heads as a test unit. Connect it to each of the four sensor head ports on Main P.C. Board.

**CHECK:** Does the sensor head function (flash) when connected to each port on Main P.C. Board?

**ANSWER:** No.

**REMEDY:** Replace damaged Main P.C. Board.

**ANSWER:** Yes.

**REMEDY:** Replace damaged sensor head(s) that did not flash when approached.

**ANSWER:** 4 non-flashing sensor heads.

**CHECK:** Did you turn one code switch to on position? (Refer to Tune-In Procedure step 2)

**ANSWER:** No.

**REMEDY:** Set one code switch to on position.

**ANSWER:** Yes.

**CHECK:** Is there any visible damage to Main P.C. Board?

**ANSWER:** Yes.

**REMEDY:** Replace damaged Main P.C. Board.

**ANSWER:** No.

**TEST #2:** Disconnect all sensor heads from Main P.C. Board. Connect one sensor head at a time to its correct position on Main P.C. Board. Test and then disconnect from board.

**CHECK:** Did any sensor head function (flash) when connected to the Main P.C. Board by itself?

**ANSWER:** Yes.

## Troubleshooting Section 2

REMEDY: Replace damaged sensor head(s) that did not flash when connected to Main P.C. Board.

ANSWER: No.

CHECK: Is the cardboard insulator in place between the Main P.C. Board and aluminum housing? (Foam buttons must be facing towards Main P.C. Board.)

ANSWER: No.

REMEDY: Insert insulator in place.

ANSWER: Yes.

TEST #3: Disconnect flex link power cable from Main P.C. Board. With DC Volt Meter, measure voltage between pins 2(-) and 1(+) on power cable connector..

CHECK: Does the voltage measure approximately 18 to 20 VDC?

ANSWER: Yes.

REMEDY: Replace damaged Main P.C. Board.

ANSWER: No.

TEST #4: Disconnect flex link power cable from power supply. With DC Volt Meter, measure voltage between pins 2(-) and 1(+) on power supply connector.

CHECK: Does the voltage measure approximately 18 to 20 VDC?

ANSWER: Yes.

REMEDY: Replace or repair damaged flex link power cable.

ANSWER: No.

REMEDY: Replace damaged power supply.

## TROUBLESHOOTING SECTION 3

TROUBLE: With door in the full open-90 degree position, the power supply LED will not flash. (Refer to Tune-In Procedure step 10)

TEST #1: With on-off-hold open switch, close door. Disconnect all sensor heads from Main P.C. Board. Turn on-off-hold open switch to hold open position.

CHECK: Can adjustment be made to power supply for flashing LED?

ANSWER: Yes.

TEST #2: Connect each sensor head, one at a time to its correct position on Main P.C. Board.

CHECK: Does power supply LED stop flashing?

ANSWER: Yes.

REMEDY: Replace damaged sensor head(s).

ANSWER: No.

TEST #3: With on-off-hold open switch, close door. Disconnect flex link power cable from Main P.C. Board. Manually open door to 90 degree position.

CHECK: Can adjustment be made to power supply for flashing LED?

ANSWER: Yes.

REMEDY: Replace damaged Main P.C. Board.

ANSWER: No.

TEST #4: Disconnect flex link power cable from power supply. Manually open door to 90 degree position.

CHECK: Can adjustment be made to power supply for flashing LED?

ANSWER: Yes.

REMEDY: Replace or repair damaged flex link power cable.

ANSWER: No.

TEST #5: Disconnect magnetic switch from power supply. With OHM Meter, check magnetic switch for continuity.

CHECK: Does the OHM Meter read  $\infty$  OHMS-door open, 0 OHMS-door closed?

### Troubleshooting Section 3

ANSWER: No.

REMEDY: Replace damaged switch.

ANSWER: Yes.

REMEDY: Replace either damaged motor encoder or power supply (process of elimination).

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

ANSWER: Yes.

TEST #1: With the door in the closed position and power to control turned on, manually open door to full open-90 degree position.

CHECK: Is power supply LED flashing?

ANSWER: No.

REMEDY: Adjust power supply until LED flashes. If adjustment can not be made, refer to Troubleshooting Section 3.

ANSWER: Yes.

CHECK: Are the stall sensor heads flashing?

ANSWER: No.

REMEDY: Refer to Tune-In Procedure steps 1A and 1B.

ANSWER: Yes.

TEST #2: Disconnect flex link power cable from Main P.C. Board and manually operate door. With a DC Volt Meter, measure the voltage between pins 2(+) and 6(-) on flex link power cable connector.

CHECK: Does the meter read 5 VDC in 90 degree-door open position and 0 VDC in 0 degree-door closed position?

ANSWER: No.

TEST #3: Disconnect flex link power cable from power supply and manually operate door. With a DC Volt Meter, measure the voltage between pins 2(+) and 6(-) on power supply connector.

CHECK: Does the meter read 5 VDC in 90 degree-door open position and 0 VDC in 0 degree-door closed position?

#### TROUBLESHOOTING SECTION 4

**TROUBLE:** Door stalls before reaching full open-90 degree position.  
(Refer to Tune-In Procedure step 15)

**CHECK:** Are stall and operate sensor heads connected to their designated positions on Main P.C. Board?

**ANSWER:** No.

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

**ANSWER:** Yes.

**TEST #1:** With the door in the closed position and power to control turned on, manually open door to full open-90 degree position.

**CHECK:** Is power supply LED flashing?

**ANSWER:** No.

**REMEDY:** Adjust power supply until LED flashes. If adjustment can not be made, refer to Troubleshooting Section 3.

**ANSWER:** Yes.

**CHECK:** Are the stall sensor heads flashing?

**ANSWER:** No.

**REMEDY:** Refer to Tune-In Procedure steps 14 and 15.

**ANSWER:** Yes.

**TEST #2:** Disconnect flex link power cable from Main P.C. Board and manually operate door. With a DC Volt Meter, measure the voltage between pins 5(+) and 6(-) on flex link power cable connector.

**CHECK:** Does the meter read 5 VDC in 90 degree-door open position and 0 VDC in 0 degree-door closed position?

**ANSWER:** No.

**TEST #3:** Disconnect flex link power cable from power supply and manually operate door. With a DC Volt Meter, measure the voltage between pins 5(+) and 6(-) on power supply connector.

**CHECK:** Does the meter read 5 VDC in 90 degree-door open position and 0 VDC in 0 degree-door closed position?

Troubleshooting Section 4

ANSWER: Yes.

REMEDY: Replace or repair damaged flex link power cable.

ANSWER: No.

REMEDY: Replace damaged power supply.

ANSWER: Yes, meter reads 5 VDC in 90 degree-door open position and 0 VDC in 0 degree-door closed position.

TEST #4: With on-off-hold open switch, open door.

CHECK: Does door stall before reaching full open-90 degree position?

ANSWER: Yes.

TEST #5: Exchange flashing stall sensor head(s) with same hand operate sensor head(s) and reconnect to Main P.C. Board.

CHECK: Does door stall before full open position?

ANSWER: No.

REMEDY: Replace damaged (flashing) stall side sensor head(s).

ANSWER: Yes.

REMEDY: Replace damaged Main P.C. Board.

Power Supply Harness (New Style)  
For 5" x 4" x 1" Power Supply Box

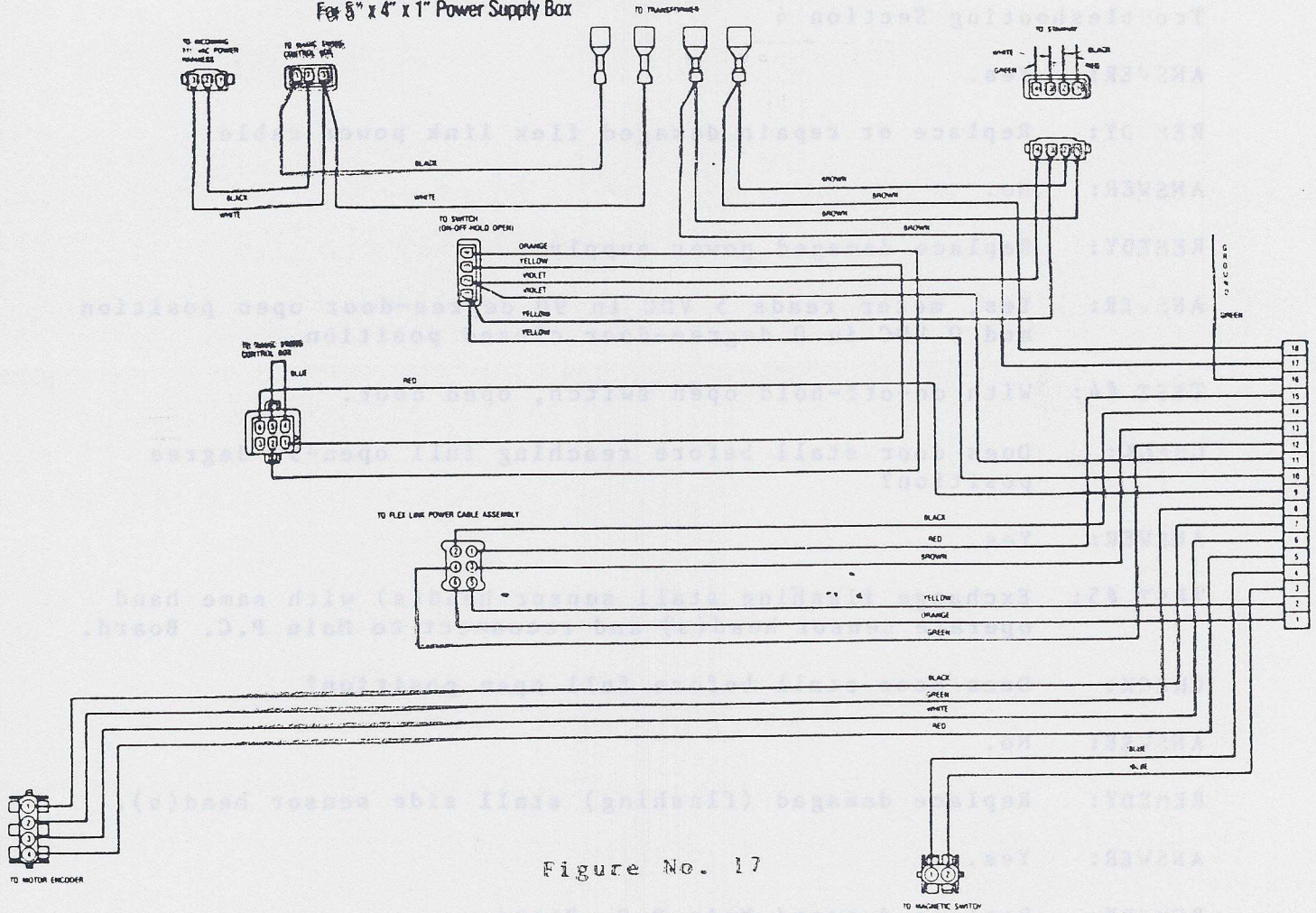
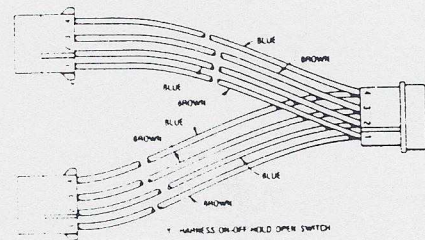
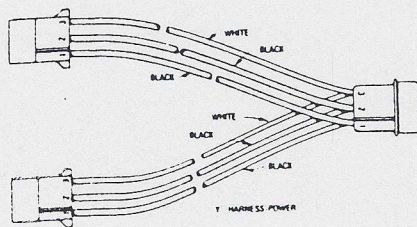
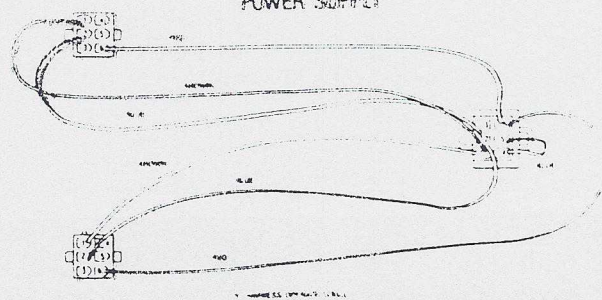


Figure No. 17



DOUBLE DOOR APPLICATION  
"Y" HARNESS  
NEW AND OLD STYLE  
POWER SUPPLY



Power Supply Box (Old Style Pre 11/86)  
4 3/8" x 4 3/8" x 2 1/2"

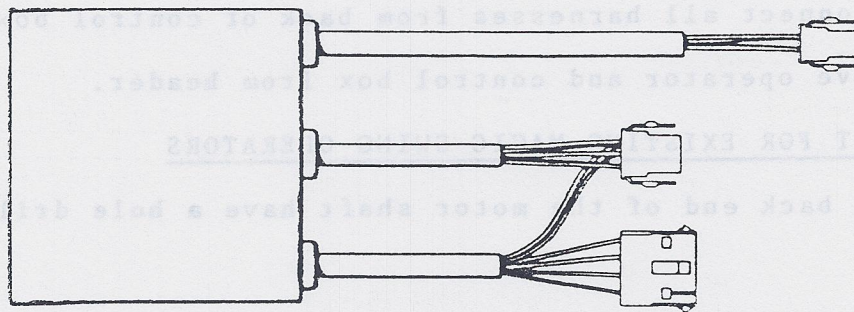
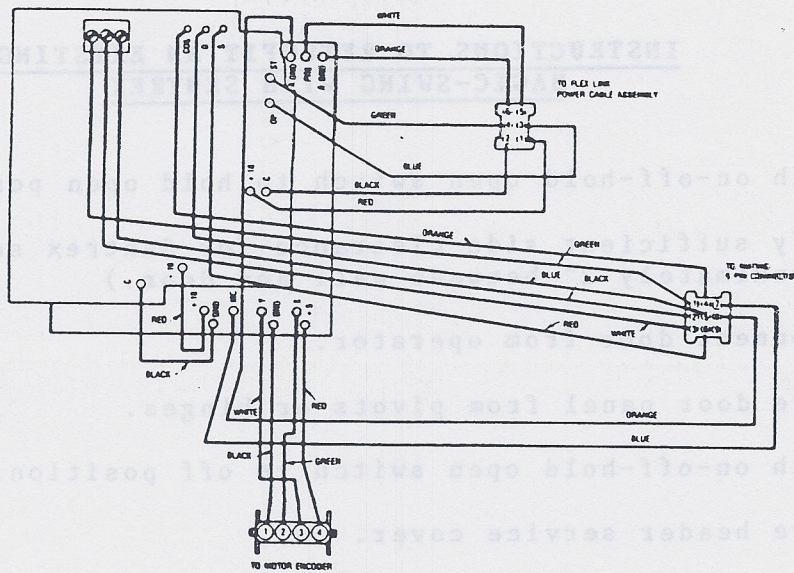
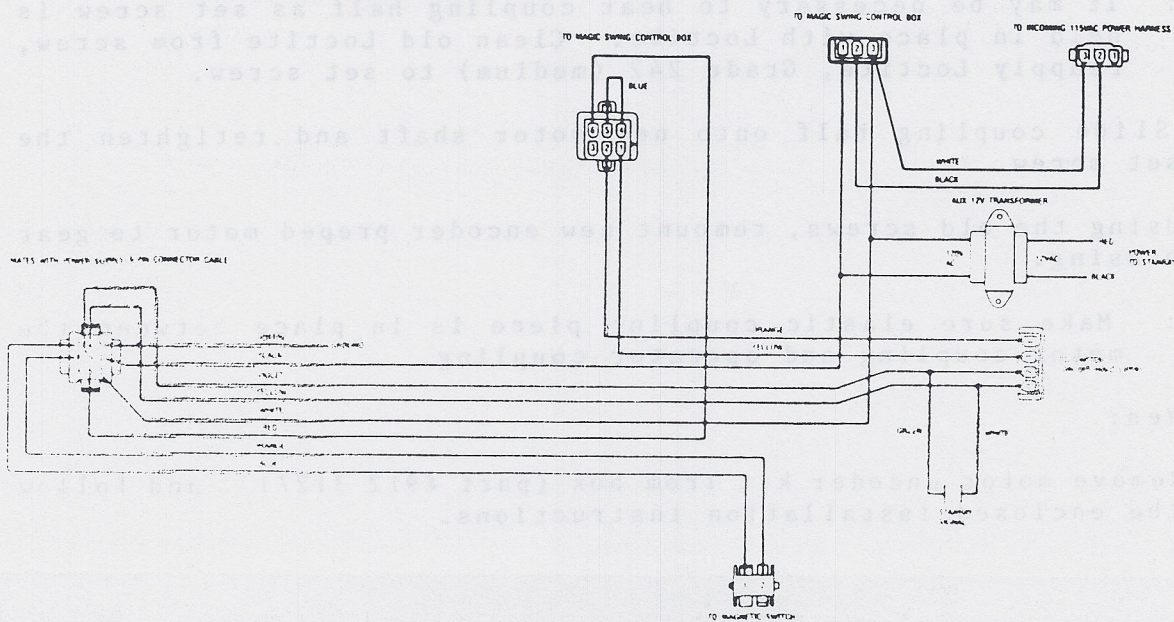


Figure No. 18

Power Supply Harness (Old Style Pre 11/86)  
For 4 $\frac{3}{8}$ " x 4 $\frac{3}{8}$ " x 2 $\frac{1}{2}$ " Power Supply Box



ADDENDUM NO. 1

INSTRUCTIONS TO RETROFIT AN EXISTING  
MAGIC-SWING WITH SENTREX

1. Switch on-off-hold open switch to hold open position.
2. Verify sufficient side clearance for Sentrex sensor heads.  
(Approximately 2" between wall and door.)
3. Disconnect door from operator.
4. Remove door panel from pivots or hinges.
5. Switch on-off-hold open switch to off position.
6. Remove header service cover.
7. Switch off power to control box.
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, remount new encoder preped 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 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 and minimum closing delay 0 sec/6 sec switch. Also check the power harness amp connector on the back of control box. It should contain 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!** Never connect a power harness which has a green ground wire in its connector into a stall logic control box. Remove green ground wire from connector and ground control box from exterior.

## ADDENDUM NO. 2

### MAGIC-SWING CONTROL BOX (REV D & E) ADJUSTMENTS & RECOMMENDED SETTINGS FOR SENTREX APPLICATIONS (REFER TO FIGURE #19)

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

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

S4 SWITCH (Internal Adjustment)

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

S1 SWITCH (Internal Adjustment)

- A) Actuation Source - all types  
Position Setting - push in  
Function - holds actuation signal for entire length of preset  
hold open delay (0-45 seconds). Time delay resets  
after each actuation 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) S3 Switch in 0 sec position - adjustable door hold open time  
delay (0-45 seconds)

STALL CURRENT POTENTIOMETER (External Adjustment)

- A) Actuation Source - Refer to Sentrex Tune-In Procedure, Step 10  
for recommended setting.

OPEN SPEED & CHECK SPEED POTENTIOMETERS (External Adjustment)

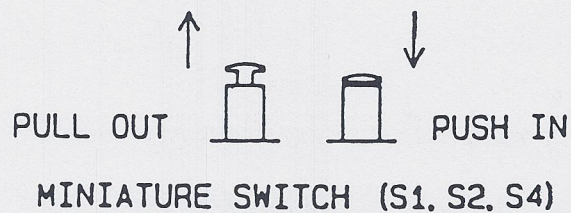
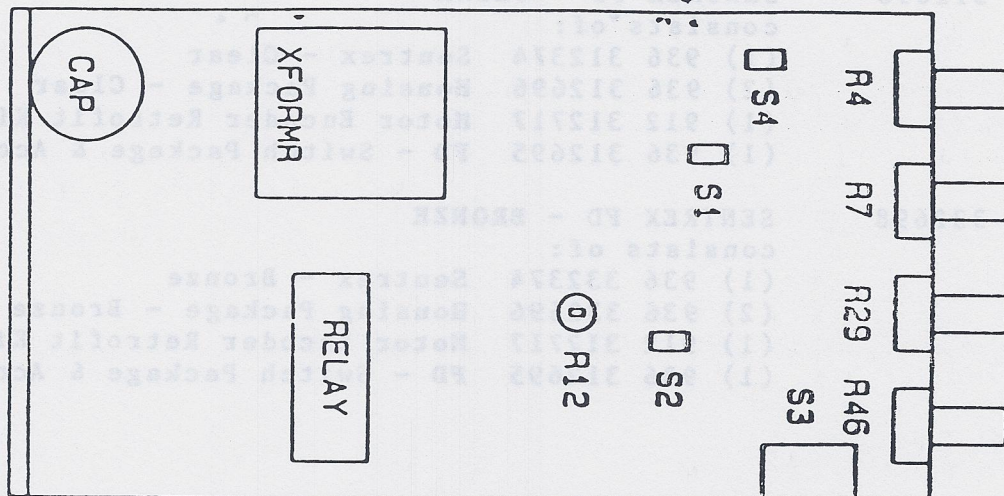
Open to open check (0 - 75 ) - 1.25 - 1.6 seconds  
Open check to full open (75 - 90 ) - 1.0 - 1.5 seconds  
Close to latch check (90 - 10 ) - 2.5 - 4.0 seconds  
Latch check to close (10 - 0 ) - not less than 1.5 seconds

## Addendum No. 2

- NOTE: 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 S2B. Functions S4-A, S1-A and S2-A are hard-wired features of Magic-Swing Control Box Rev. D.

NOTE: 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.

Figure No. 19



## ADDENDUM NO. 3

SENTREX  
SWING DOOR SENSOR SYSTEM  
PARTS & ACCESSORIES

- 936 312697 SENTREX GF - CLEAR  
consists of:  
(1) 936 312374 Sentrex - clear  
(1) 936 312696 Housing Package - clear  
(1) 912 312717 Motor Encoder Retrofit Kit
- 936 332697 SENTREX GF - BRONZE  
consists of:  
(1) 936 332374 Sentrex - bronze  
(1) 936 332696 Housing Package - bronze  
(1) 912 312717 Motor Encoder Retrofit Kit
- 936 312698 SENTREX FD - CLEAR  
consists of:  
(1) 936 312374 Sentrex - Clear  
(2) 936 312696 Housing Package - Clear  
(1) 912 312717 Motor Encoder Retrofit Kit  
(1) 936 312695 FD - Switch Package & Accessories
- 936 332698 SENTREX FD - BRONZE  
consists of:  
(1) 936 332374 Sentrex - Bronze  
(2) 936 332696 Housing Package - Bronze  
(1) 912 312717 Motor Encoder Retrofit Kit  
(1) 936 312695 FD - Switch Package & Accessories

## Addendum No. 3

**SENTREX**  
**REPLACEMENT PARTS**

936 711760	Sentrex Crash Bar (4'0") - clear
936 731760	Sentrex Crash Bar (4'0") - bronze
936 711564	Sentrex Crash Bar Bumper Strip (4'0")
936 411828	End Cap - bronze
936 411829	End Cap - clear
936 515373	Sentrex Power Supply
936 108639	Main P.C. Board
936 711522	GF Magnet Assembly
936 711684	FD Magnet Assembly
936 711520	Connector (Magnetic Switch)
936 411562	On-Off-Hold Open Switch Assembly
914 411577	3-Position Rocker Switch
936 411780	Flex Link & Bracket Assembly - clear
936 411550	Flex Link & Bracket Assembly - bronze
936 411825	Flex Link Bracket - clear
936 411824	Flex Link Bracket - bronze
936 411778	Flex Link Assembly - clear
936 411560	Flex Link Assembly - bronze
936 515087	Sensor Head R.H. - clear
936 515088	Sensor Head L.H. - clear
936 535087	Sensor Head R.H. - bronze
936 535088	Sensor Head L.H. - bronze
936 411693	P.C. Board Spacer (Cardboard Insulator)
936 411873	15V-Transformer - Stan-Ray/Power Supply (5" X 4" X 1" power box)
933 311805	12V-Transformer - Stan-Ray (4-3/8" X 4-3/8" X 2-1/2" power box)
936 515226	Sensor Head Housing - clear
936 515225	Sensor Head Housing - bronze
936 515086	Sensor Head Lens
936 711462	Lens Gasket
936 411755	"Y" Harness - Power
936 411756	"Y" Harness - On-Off-Hold Open
936 411757	"Y" Harness - Operate/Stall
936 515242	Power Supply Harness (4-3/8" X 4-3/8" X 2-1/2" Power Box)
936 109520	Power Supply Harness (5" X 4" X 1" Power Box)
936 411731	Sentrex Housing Ext. Base - clear
936 491731	Sentrex Housing Ext. Base - bronze
936 711609	Sentrex Housing Ext. Cover - clear
936 791609	Sentrex Housing Ext. Cover - bronze
936 411827	Housing End Cap - clear
936 411826	Housing End Cap - bronze

Active Parts as of 10/86

## Addendum No. 3

936 312898	Sentrex Hardware Package (misc. screws, etc.)
907 514542	Magic-Swing Motor
907 312824	Magic-Swing Control Box Rev. E
912 312717	Motor Encoder Retrofit Kit
907 410895	Bottom Pivot - Door Portion
907 410897	Pivot Plate Assembly (Surface Pivot)
907 710150	Pivot Bearing - bottom only
907 710151	Retrofit Bolt
917 411932	Pivot Body (recessed pivot)

**SENTREX**  
**ACCESSORIES**

936 411859	Sensor Head Extension Cable - Qty 4 (for non-bottom mounting)
936 312373	Crash Bar - clear
936 332373	Crash Bar - bronze
936 711919	Security Screw Driver (required for installation & service)
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
907 311727	Surface Floor Pivot

Active Parts as of 10/86