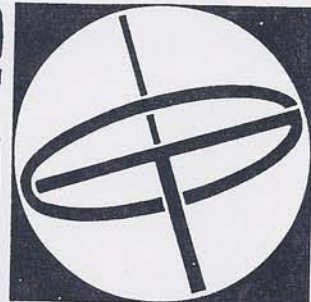


SYSTEM

1100

**GYRO
TECH** inc



INSTALLATION

AND

SERVICE MANUAL

FOR

SLIDING DOOR UNIT

“GYRO-SLIDE”

Automatic Door Operators

SPECIAL GLOSSARY OF TERMS

- 1) JAMB TUBE -- Vertical tube, support tube, strike tube or any other vertical supporting tube which is bolted to the slide unit at its ends.
- 2) SYNC -- When a door is in "SYNC" it will open at a fast speed, slow down, stop in the full open position, move closed at a fast speed, slow down and stop in the fully closed position. A door that is out of "SYNC" will open and close slow, then fast, then slow, or any other combination of speeds.
- 3) HEADER -- 6-1/2" x 6-1/2" square casing which houses the operator, control and the belt drive system.
- 4) TRANSOM -- Any horizontal tube above the header but still attached to the vertical jamb tubes.
- 5) MOTOR -- Permanent magnet motor 1/8 h.p., 2350 r.p.m., 115 v. d.c..
- 6) ACTIVATING DEVICES -- Any electrical device other than mat switches used to activate this equipment must be of the momentary type switch as opposed to a hold open switch type and must be so mounted within eyesight of door.

I N D E X

This manual will cover information necessary for the installation of a single or bi-parting slide unit with or without transom. One chapter outlines our recommended repair and servicing techniques while another is devoted to trouble shooting.

- I) RECOMMENDED TOOLS - PAGE #2
- II) PARTS CHECK - PAGE #2 THRU #4
- III) FRAME ASSEMBLY - PAGE #4 THRU #7
- IV) INSTALLATION OF DOORS IN FRAME AND MECHANICAL HOOK-UP - PAGE #8 THRU #16
- V) FINAL ASSEMBLY, ADJUSTMENTS AND FINE TUNING - PAGE #17 THRU #25
- VI) SWITCH MAT INSTALLATION - PAGE #25 THRU #28
- VII) RECOMMENDED REPAIR AND SERVICING TECHNIQUES - PAGE #29 THRU #33
- VIII) TROUBLE SHOOTING - PAGE #33 THRU #40

FIGURE KEY:

All Figures in this manual are labeled in a special manner. The first number denotes the chapter that it appears in. The second number is the number of that drawing in that particular chapter.

EXAMPLE: Figure #51
 Chapter #5 Drawing #1

I) RECOMMENDED TOOLS:

- A) #2 Phillips Screw Driver
- B) #3 Phillips Screw Driver
- C) Small Flat Blade Screw Driver
- D) 3/16" Hex Key
- E) 7/16" Box Wrench
- F) 5/64" Hex Key
- G) 1/2" Combination Wrench
- H) 7/16" Combination Wrench
- I) 9/16" Combination Wrench

II) PARTS CHECKS:

Within seven (7) days of receipt of material used in the fabrication of a slide unit, all boxes should be opened and checked to assure that no parts are missing. On orders where more than one slider has been shipped, all boxes for a particular slider are coded alike. (ie: 1 of 2, 2 of 2, etc.) Each slider is assembled and packed as a unit, care should be taken to assemble each slide unit from parts removed from the boxes marked specifically for that unit. Failure to follow this strict rule may result in less than satisfactory operation of the slide unit.

- A) Header Package-Operator, Control Box, Soft Start, Tape Switch, Belt Assembly, Drive Idler Assembly, Belt Tensioner Sprocket Assembly, Electrical Wiring, Header Weather Extrusion (2 pieces), Decal Package, and Instruction Manual. In some isolated instances, the header can be "crushed" in shipment. See Figure #21 for the minimum dimension between header base rail and fixed header.

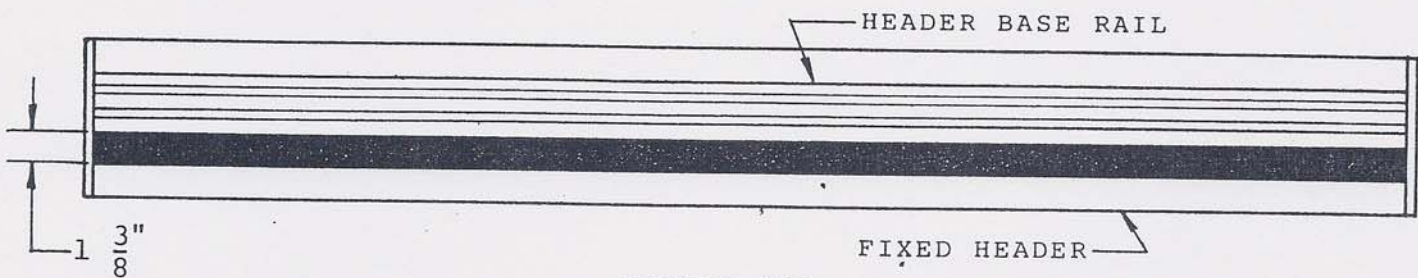


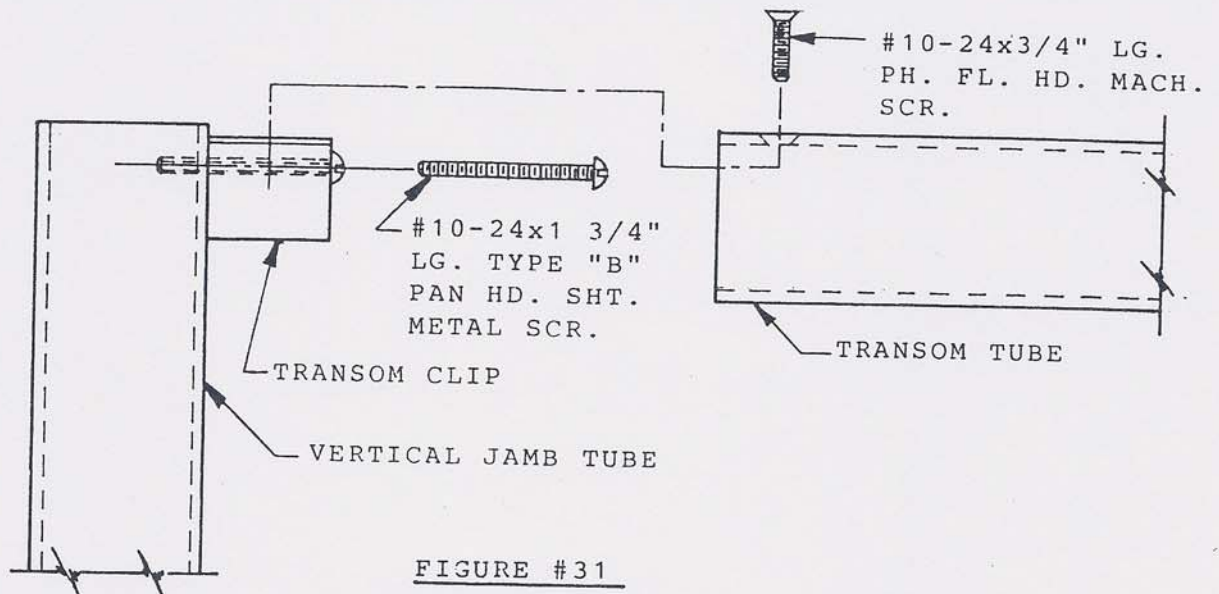
FIGURE #21

- B) Two (2) jamb tubes - $1 \frac{3}{4}$ " x $4 \frac{1}{2}$ "
- C) Vertical Mullion - One per single slider, two per bi-part slider.
- D) Sidelight Screw Assembly Box - Each box contains all screws, brackets, washers and bolts to assemble a single slider. Two boxes are sent with each bi-part.

- E) Sidelite Base Rail - One per single slider, two per bi-part slider.
- F) Glass Stop and Vinyl - Enough vinyl to insert in all the glass stop for the entire frame assembly.
- G) Door(s) - One per single slider, two per bi-part slider. Inclusive - glass stop and vinyl, screws, bottom door roller and one complete anti-riser assembly (white box), two hanger rollers (white box) and one drive bar (identified in Figure #41 and drawing #414354 found in Chapter IV).

TIGHTEN ALL SCREWS THAT MAY HAVE LOOSENED DURING SHIPPING

- III) Frame Assembly - See attached exploded view of typical slide unit; page 7.
 - A) Remove cover (drawing #414353, item #5) from header proper by removing the 10-24 x 1/2" flat head phillips machine screws. At this point, all factory installed screws, brackets, etc., should be checked to confirm that they are tight. The vibration of shipment can cause even the tightest screws to loosen. Mount each jamb tube (1-3/4" x 4-1/2") with (4) 1/4-20 x 1" hex bolts and (4) 1/4" star washers. A 7/16" box wrench will allow you to reach around any tight spots. If your slide unit is equipped with a transom, when mounting transom tube to vertical tubes, refer to Figure #31.



B) Sidelite Assembly (Refer to Drawing #414353 and Figure #32)

1. Fasten sidelite base rail(s), item #10, to jamb tube item #9 sidelite assembly clip item #14 with (1) #1/4-20 x 3/4", lg. ph. fl. hd. mach. screw item #20.
2. Mount the mullion base clip item #15. Locate the clips two mounting holes 1 5/16" from edge of base rail. Drill (2) 1/4" dia. holes x 1" deep to accept hi-red screw anchors, item #18. In instances where the finished floor is not flush, use spacer shims item #16 to shim base clip. This will keep entire unit square. (If an air gap appears along the bottom of sidelite base, caulk along the exterior edge of the sidelite base).
3. Fasten the fixed sidelite muntin bar item #11 to jamb tube item #9 - sidelite assembly clip item #14 with (1) #1/4-20 x 3/4" lg. ph. fl. hd. machine screw item #20.

4. Slide the 3/4" wide, 84" long nylon thermal brush into the internal vertical mullion weathering groove.
5. Fasten vertical mullion item #12 to fixed rail item #2 - sidelite assembly clip item #14 with (1) #1/4-20 x 3/4" lg. ph. fl. hd. mach. screw item #20.
6. Fasten the fixed sidelite muntin bar item #11 and sidelite base rail item #10 to vertical mullion item #12 - sidelite assembly clip item #14 with (1) 1/4-20 x 3/4" lg. ph. fl. hd. mach. screw item #20.
7. Slide entire unit over mullion base clip item #15 and fasten vertical mullion item #12 to mullion base clip, item #15 with (1) #1/4-20 x 3/4" lg. ph. fl. hd. mach. screw, item #20.

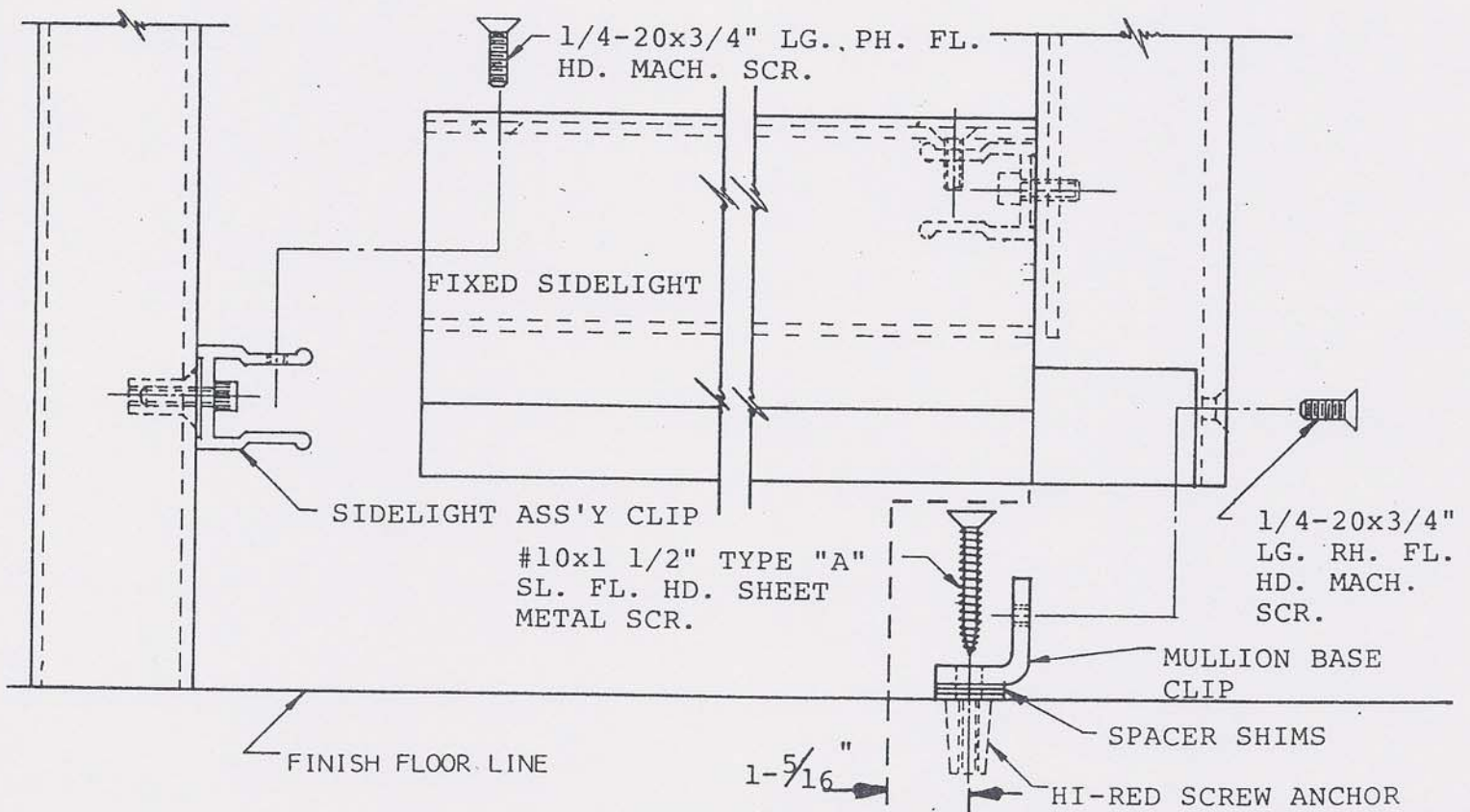


FIGURE # 32

IV) Installation of doors in frame and mechanical hook-up;

Before installing door:

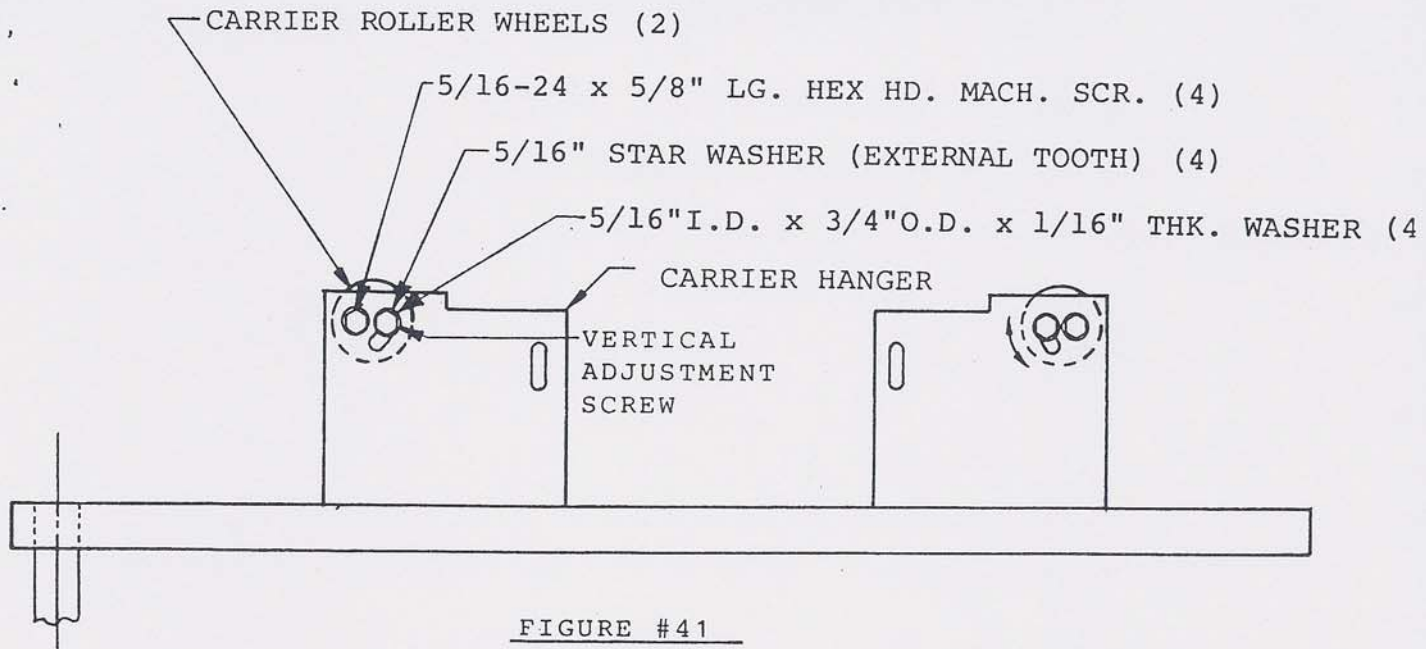
- 1) Remove the adjustable spring loaded sweep positioned in the bottom of each sliding door rail. Slide springs over the studs then brush holder and fasten with nuts to allow brush to be fully exposed.
- 2) Insert bottom guide assembly into the pivot style of the door as illustrated on drawing #414354 item #18 and associated hardware. Leave this loose to be fine tuned later.
- 3) Stand up door so that it is parallel with the header and tilt to insert the hanger ears on the carrier bar between the base rail and the main part of the header extrusion.
- 4) Work door up and into the opening so that it is parallel with the sidelite.

Note: Be careful to avoid damaging power down assembly located near strike stile of door leaf.

- 5) Prop up door on both ends with one inch thick wood. Attach carrier roller wheels with the two 5/16 - 24 hexhead machine screws to the carrier ears and locate so that the door is at the highest point, refer to figure 41.

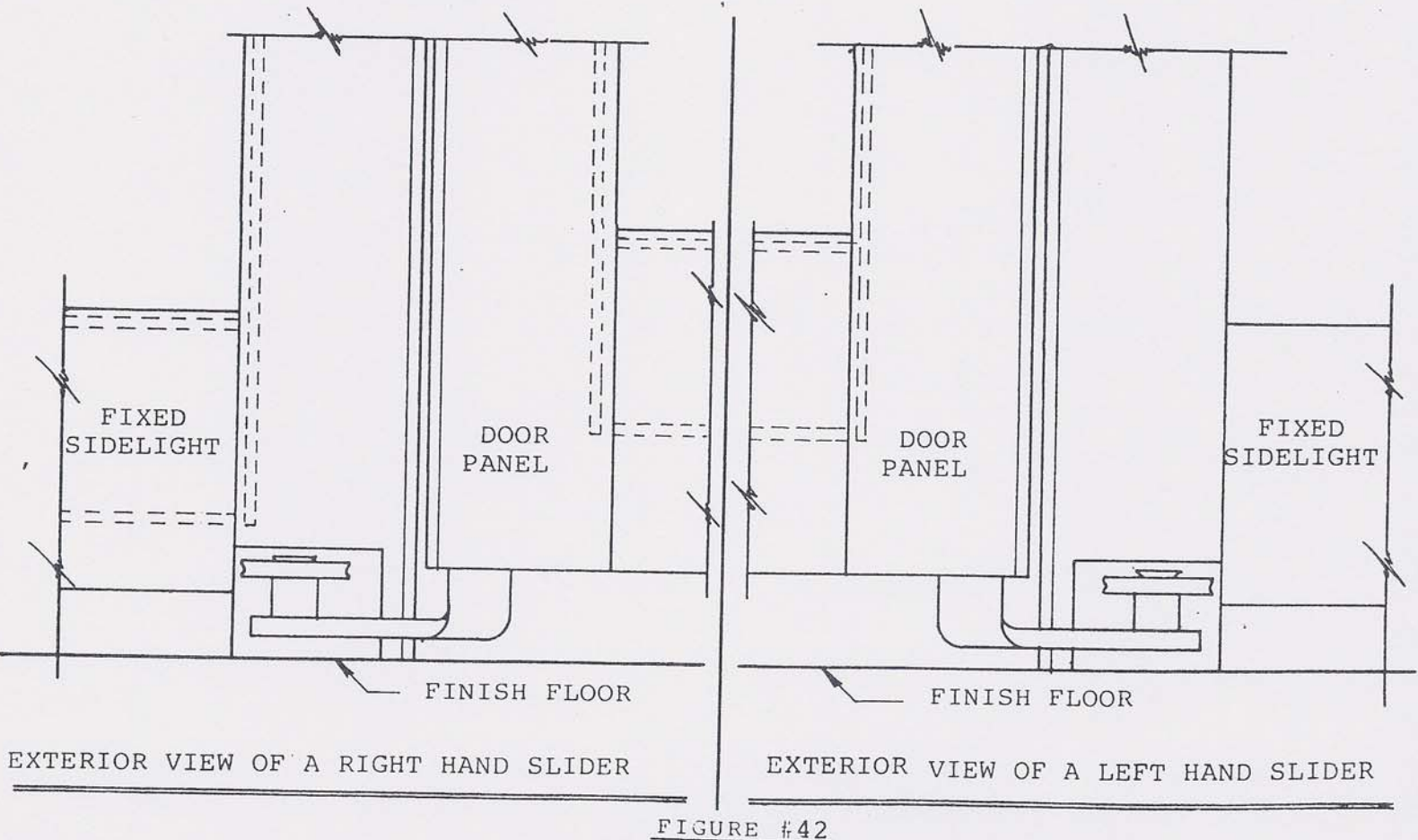
Note: Remove wooden blocks

- 6) Now that the door is hung on the rollers, panic the door and slide the bottom guide roller into



cont. 6) the sidelite base rail through the cutout on the bottom of the vertical mullion, refer to figure 42.

Note: At this time do not tighten bottom guide roller screws.



- 7) Align the doors using the carrier roller adjustment so the door hangs parallel with the sidelite, and in the case of a bi-part both dress channels are parallel. If unit has muntin bars these can also serve as alignment references.
- 8) Install drive bar using a #10-24 socket head cap screws and internal tooth washers as supplied, see figures 43 and 44 for proper attachment.
- 9) See drawing 414354 and 254464. Assemble items #14, #15, and #16 so that item #16 the #10-24 screw, is through the sheet metal channel and screwed halfway into the block item #15.
- 10) Locate item #3, the anti riser bracket and roller assembly and locate in position over ear so that the roller is restrained from falling away from the ears.
- 11) Install the channel assembly, items #14, #15, and #16 over the ears so that the large hole is towards the back of the header.
- 12) Insert item #13, the large head step bolt, from the back side of the carrier ear through the channel adjuster. Slant item #3, the anti riser bracket and roller assembly so that you may insert item #12 which is the anti riser pivot post through item #3 and thread onto item #13.

13) Swing item #3 (anti-riser bracket and roller assembly) into position so that it can be attached to the drive bar item #2 using items #8 and #9. Secure tightly.

14) Thread adjuster screw item #16 to bear against carrier bar ear item #1 to adjust roller item #5 to within 1/32" (.031") from bottom of track.

Note: Two thicknesses of matchbook cover is approximately .030. Do this on both ends maintaining drive bar parallel to header. Tighten pivot post item #12 to 15 ft. lbs. of torque.

At this time the following conditions must exist:

- A) Door must be fully closed (on singles).
Doors must be closed on center line of door opening (on bi-parts).
- B) Drive bar item #2 must be parallel with header.
- C) Anti-riser brackets and roller assembly item #3 must be of equal angle relative to drive bar.

If the above mentioned conditions don't exist perform the following steps:

- A) Single Slide
 - 1) Loosen belt tension

Note: Spring close operator; place a 1/8" pin into the lovejoy coupling per figure #51 before removing belt tension.

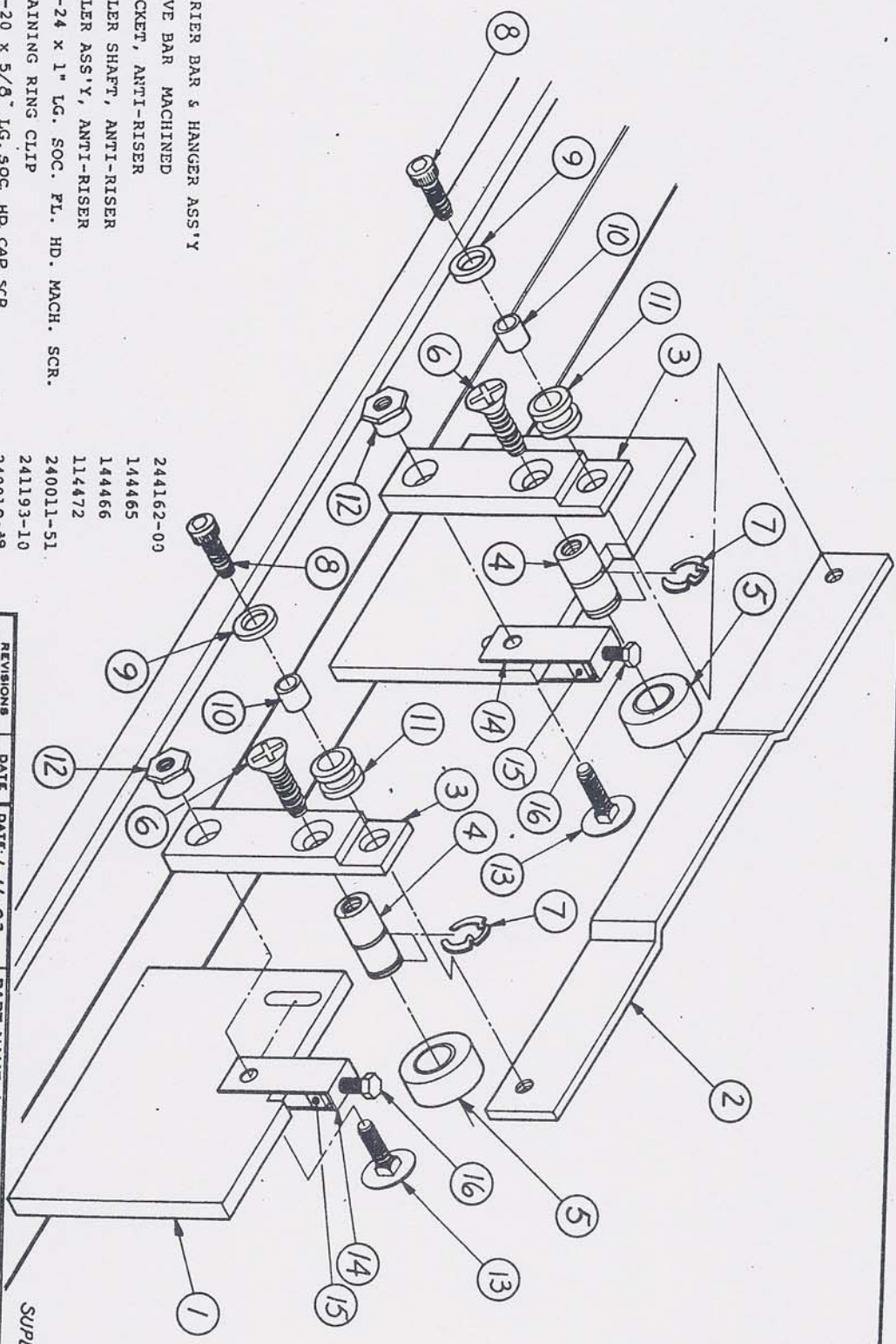
- 2) With door closed loosen item #12 and #16 (see drawing 414354). Reposition belt so that drive bar and carrier bar ears are centered relative to each other.
 - 3) Readjust per step 14
 - 4) Remove 1/8" pin
- B) Bi-Parting Slide
- 1) Remove drive bars from both doors and detach from belt clips.
 - 2) Locate belt clip that serves as END SPLICE (usually the lower clip). This is the independent door leaf.
 - 3) Close both doors so that they meet at the center line of the door opening and secure so that they don't shift.
 - 4) Check to make sure that the belt clip (splice end) is centered between the carrier bar ears. If not, loosen belt and reposition belt clip as close to center as possible.
- Note: Spring close operator, place a 1/8" pin into the lovejoy coupling per figure #51 before removing belt tension.
- 5) Reattach drive bar and realign anti-riser per step #14.
 - 6) Check the dependent belt clip so that it is centered between the carrier bar ears, if not, disassemble clip and move the clip to center.

Note: Exact center may not be obtained because adjustment increments are in 1/2" steps.

- 7) Reattach drive bar and adjust anti-riser per step #14
- 8) Remove 1/8" pin
- 15) With door in the closed position, adjust brush holder with a 7/16" socket so that brush just touches the floor.

Note: Excessive contact force may cause floor marring.

- 16) Check roller location in sidelite base rail. Panic door and tighten screws to secure bottom guide roller.
- 17) Cycle door for smooth and quiet operation.
- 18) Adjust door stop (Located in header by adding or removing washers) so that the doors open flush with the sidelite.



- 1.) CARRIER BAR & HANGER ASS'Y
- 2.) DRIVE BAR MACHINED
- 3.) BRACKET, ANTI-RISER
- 4.) ROLLER SHAFT, ANTI-RISER
- 5.) ROLLER ASS'Y, ANTI-RISER
- 6.) 3/8-24 x 1" LG. SOC. FL. HD. MACH. SCR.
- 7.) RETAINING RING CLIP
- 8.) 1/4-20 x 5/8" LG. SOC. HD. CAP SCR.
- 9.) 1/4" I.D. x 3/4" O.D. x 1/16" THK. STL. W/SHR 240017-33
- 10.) MOUNTING SPACER, ANTI-RISER
- 11.) MOUNTING GROMMET, ANTI-RISER
- 12.) PIVOT POST, ANTI-RISER
- 13.) 5/16-18 x 3/4" LG. STEP BOLT
- 14.) CHANNEL ADJUSTER, ANTI-RISER
- 15.) ADJUSTER BLOCK, ANTI-RISER
- 16.) #10-32 x 3/4" LG. HEX HD. MACH. SCR.

- 244162-09
- 144465
- 144466
- 114472
- 240011-51
- 241193-10
- 240010-39
- 144168
- 144169
- 144468
- 243235-05
- 144469
- 144470
- 240014-13

SUPERCEDES P/N 254301

REV #	DATE	DATE	SCALE	PART NAME
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246	5/9/83			

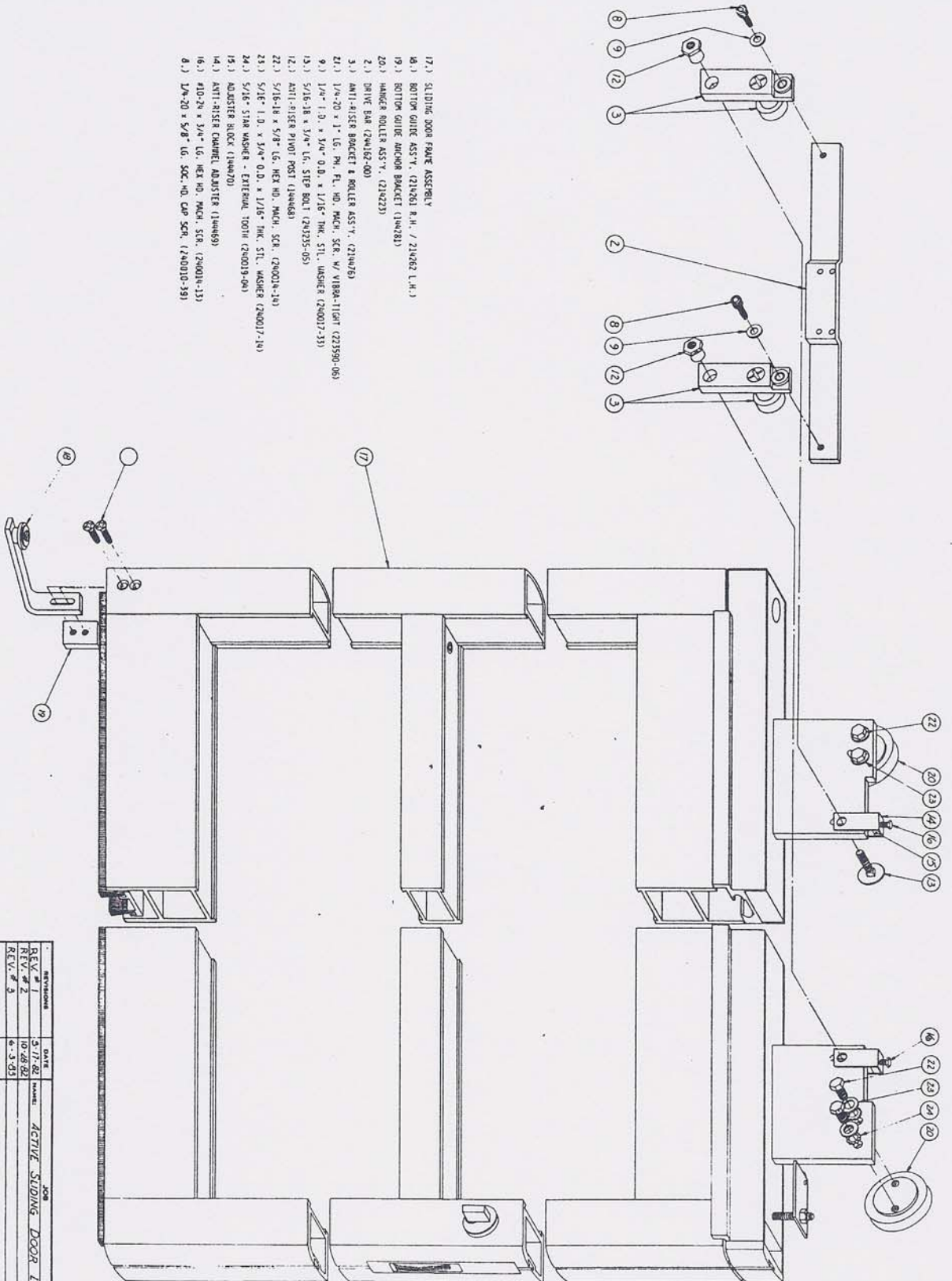
DRAWN BY: P.D.F. APPROVED BY:	MATERIAL: SPECIFICATIONS: SYS. 1100 SLIDERS
----------------------------------	------------------------------------------------

TOLERANCES (UNLESS NOTED) FRACTIONAL... ± 1/64 DEC... ± .010 ANGLES... ± 1°	DRAWING NO. 254464
-----------------------------------------------------------------------------------------	-----------------------



GYRO TECH Inc.

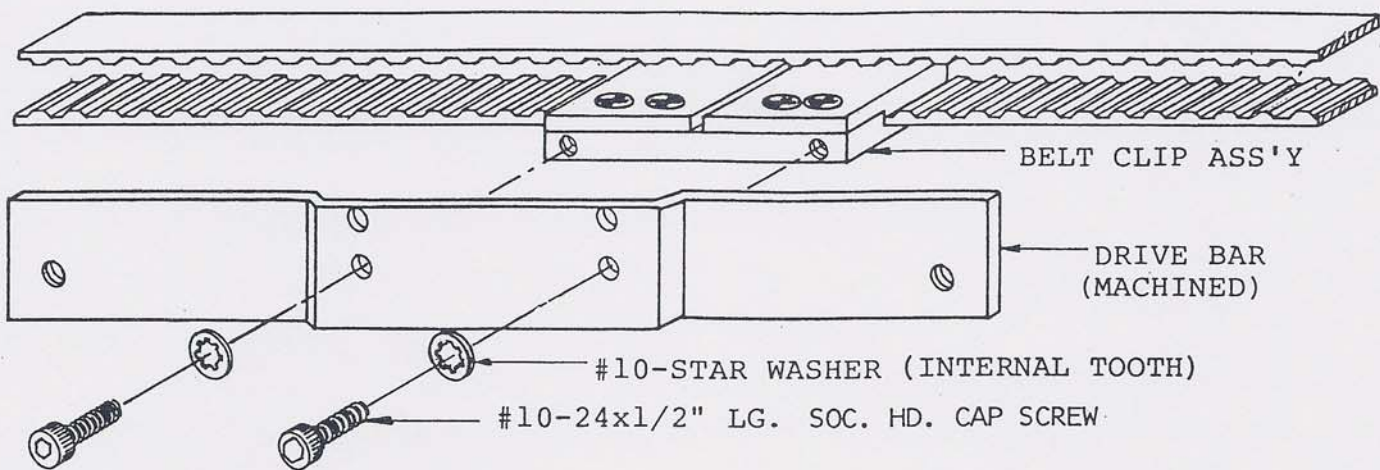
PART NO.
254464



- 17.) SLIDING DOOR FRAME ASSEMBLY
- 18.) BOTTOM GUIDE ASSY. (214261 R.H. / 214262 L.H.)
- 19.) BOTTOM GUIDE ANCHOR BRACKET (144283)
- 20.) HANGER ROLLER ASSY. (214223)
- 21.) DRIVE BUSH (244162-00)
- 22.) ANTI-RISER BRACKET & ROLLER ASSY. (214476)
- 23.) 1/4"-20 x 1" LG. PH. FL. HD. MACH. SCR. W/ Y18BA-T10HT (223590-06)
- 9.) 1/4" I.D. x 3/4" O.D. x 1/16" THK. STL. WASHER (240017-13)
- 13.) 5/16-18 x 3/4" LG. STEP BOLT (242325-05)
- 12.) ANTI-RISER PIVOT POST (144468)
- 22.) 5/16-18 x 5/8" LG. HEX HD. MACH. SCR. (240014-14)
- 23.) 5/16-1.0. x 3/4" O.D. x 1/16" THK. STL. WASHER (240017-14)
- 24.) 5/16" STAR WASHER - EXTERNAL TORQUE (240019-04)
- 15.) ADJUSTER BLOCK (144470)
- 14.) ANTI-RISER CHANNEL ADJUSTER (144469)
- 16.) #10-24 x 3/4" LG. HEX HD. MACH. SCR. (240014-13)
- 8.) 1/4"-20 x 5/8" LG. SOC. HD. CAP SCR. (240010-39)

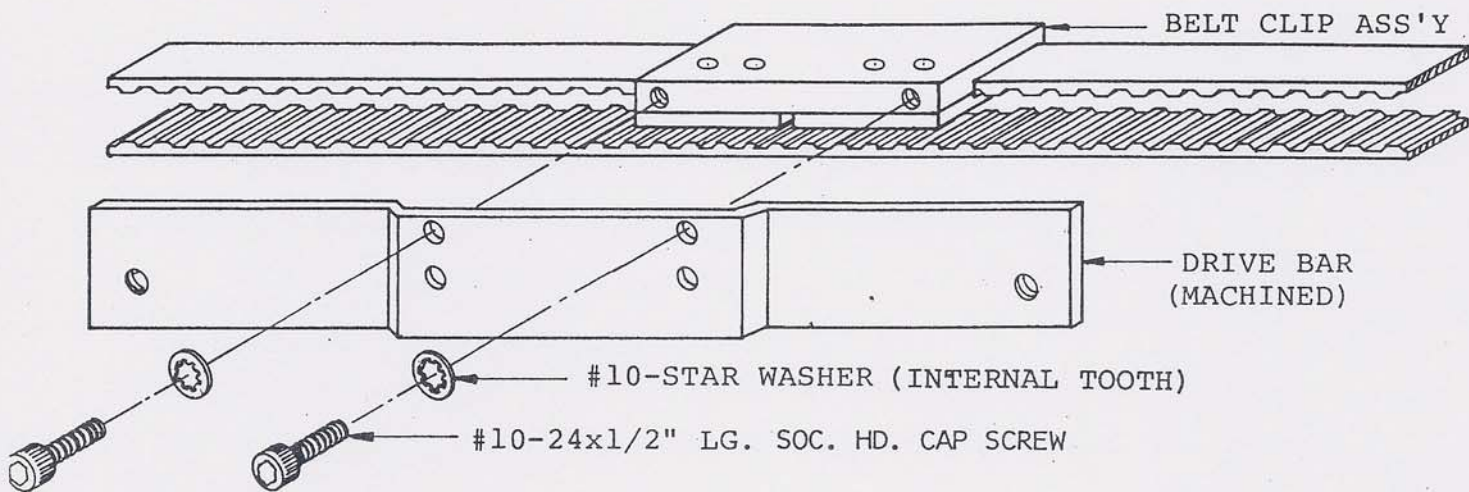
REVISION	DATE	BY	APP'D
REV. # 1	3-17-82		
REV. # 2	10-26-82		
REV. # 3	4-3-83		

JOB NAME: ACTIVE SLIDING DOOR LEAF ASSY - SYSTEM 1100	
DESIGNED BY: P. FENNIG	DRAWING NO: 414354
DATE: 1-1982	JOB NO:
GYRO TECH INC.	



BI-PART - LEFT HAND SLIDING DOOR DRIVE ATTACHMENT

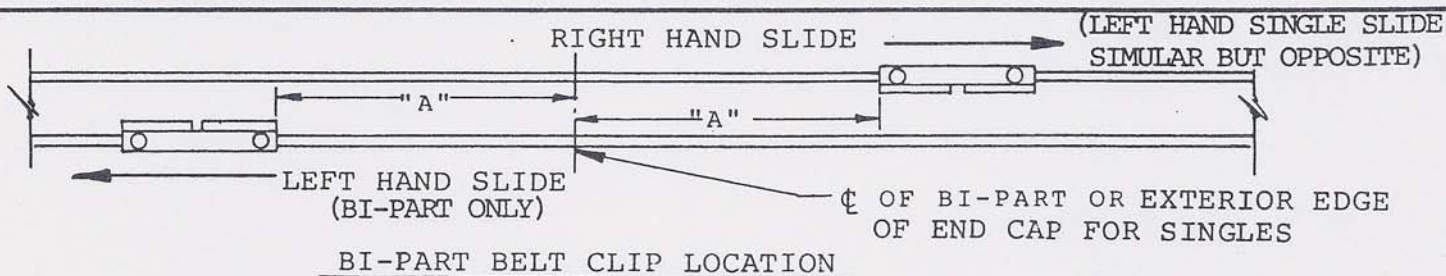
FIGURE #43



SINGLE - RIGHT HAND AND LEFT HAND SLIDING DOOR DRIVE ATTACHMENT

BI-PART - RIGHT HAND SLIDING DOOR DRIVE ATTACHMENT

FIGURE #44



BI-PART BELT CLIP LOCATION

FIGURE #45

D.O.W.		DIM. "A"
SINGLE	BI-PART	
	48"	12 3/16"
	60"	12 3/16"
36"	72"	15 3/16"
42"	84"	18 3/16"
48"	96"	21 3/16"

SPRING CLOSE OPERATOR (follow steps VA-F)

POWER CLOSE OPERATOR (follow steps VB-F)

V) Final Assembly Adjustments and Fine Tuning:

- A) Remove 1/8" pin from operator (see figure #51)
and allow spring pressure to close door.

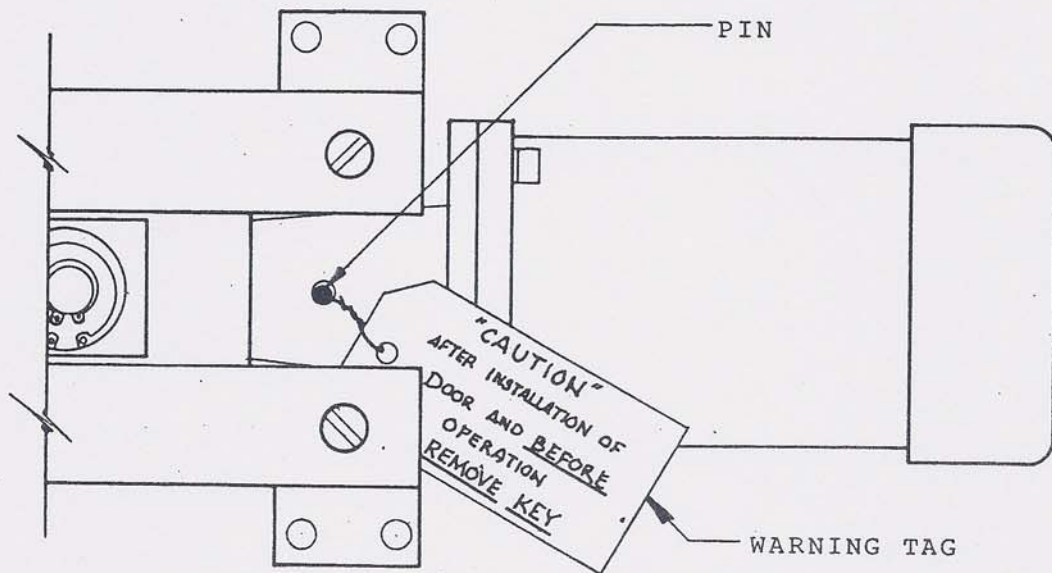


Fig. #51

Door should be opened manually and allowed to close under spring pressure several times to be assured that no obstructions, etc. exist. If a drag occurs on the closing cycle readjust the anti-rise assembly (see page 9 and ref. dwg #414354).

(B) Slide Door-Preload Adjustments (recommended after glazing the door) When and how to INCREASE the preload (refer to Figure #52). Panic the door, then reengage the door, if the door has to be lifted up to be reengaged, you must increase the preload. Loosen, (2) 1/4"-20 x 1 3/4" lg. hex hd. cap screws and the decrease preload nut and tighten the increase preload nut until desired result.

** Door is at proper preload when the door is panicked and re-engaged without pulling down or lifting up the door to re-engage it.

When and how to DECREASE the preload (refer to Figure #52). Panic the door, then reengage the door, if door has to be pulled down to be reengaged you must decrease the preload. Loosen, (2) 1/4"-20 x 1 3/4" lg. hex hd. cap screws and the increase preload nut and tighten the decrease preload nut until desired result.

** Door is at proper preload when the door is panicked and re-engaged without pulling down or lifting up the door to reengage it.

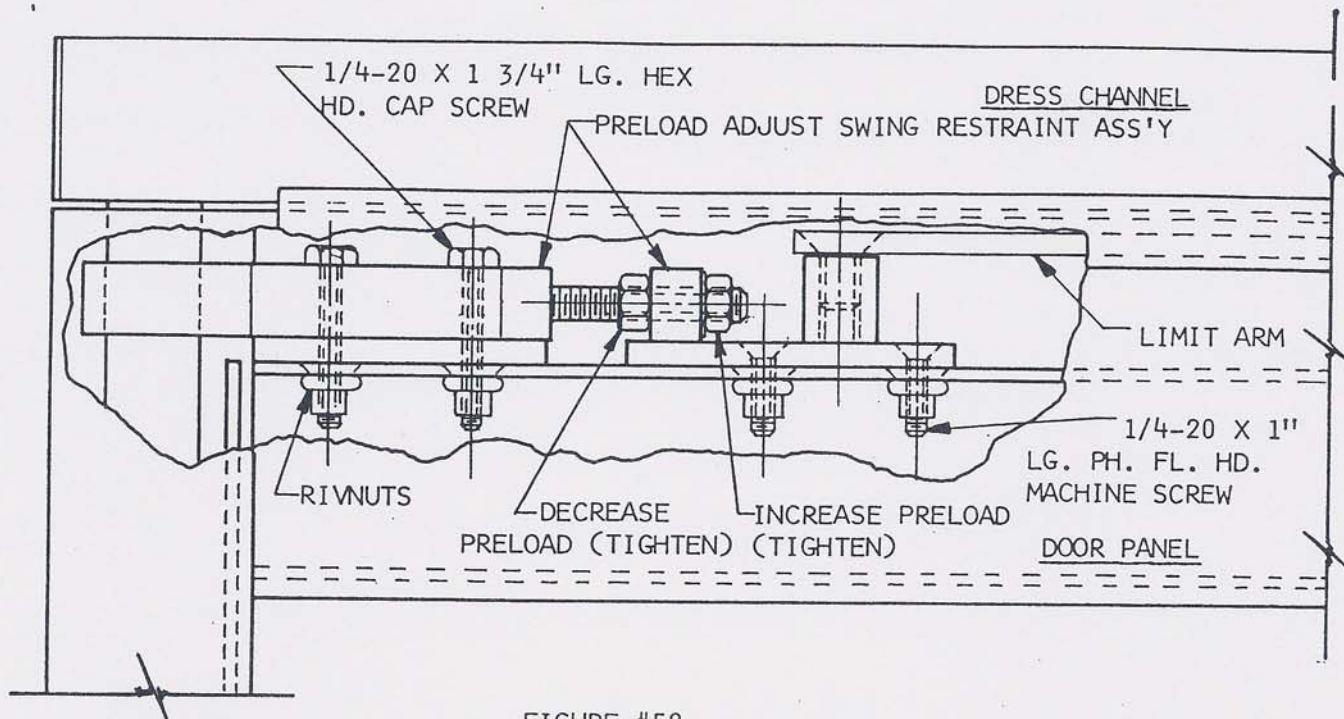


FIGURE #52

POWER DOWN ASSY ADJUSTMENT PROCEDURE

- C) Rotate the (2) hex head nuts item #1 to adjust item #2 so that the roller that contacts the tape switch doesn't rub on the lip of the header extrusion and that it is centered over the tape switch. Manually, cycle the door to check for interference with the lip on the header extrusion. Tighten the hex nuts securely.

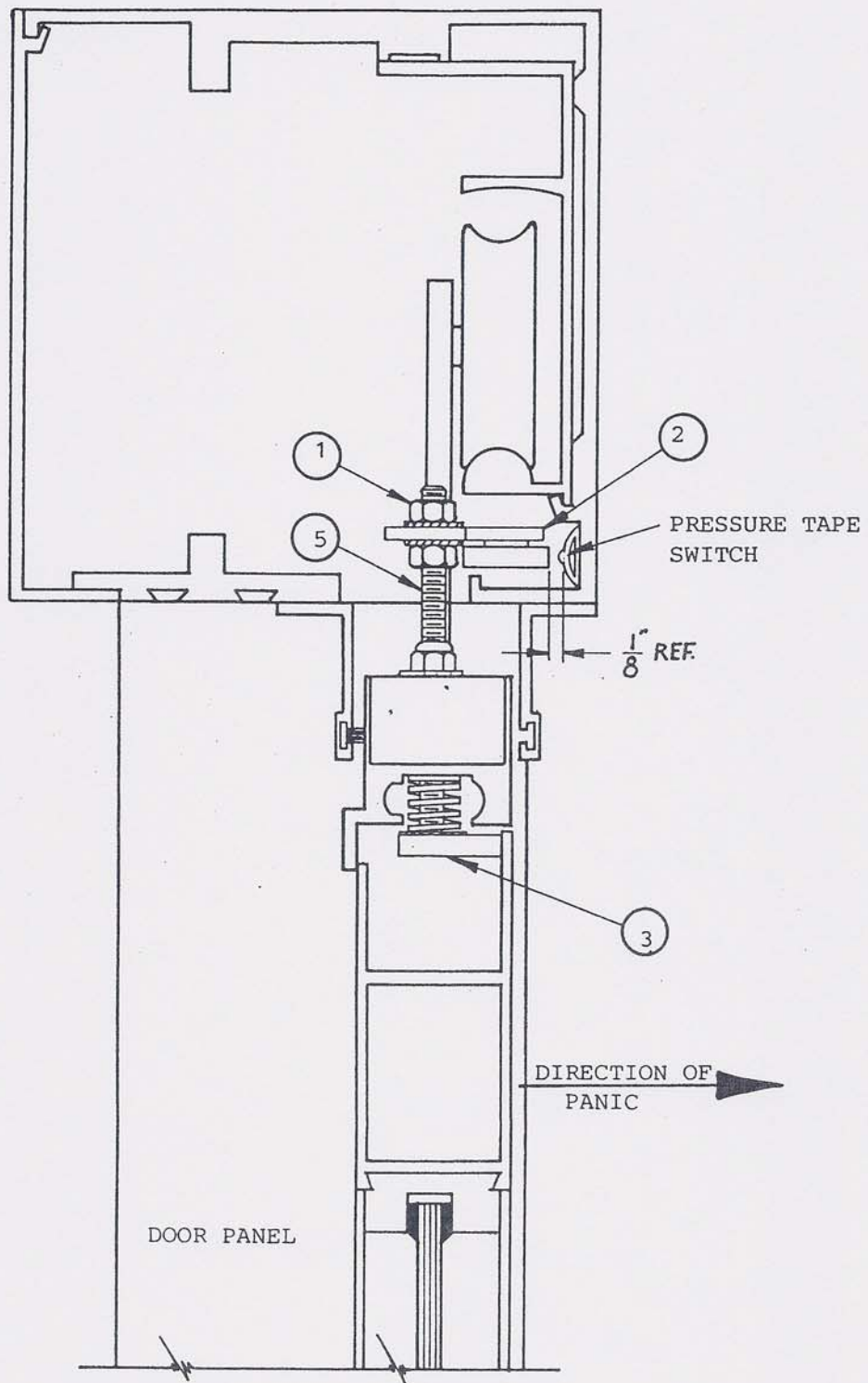


FIGURE #53

(D) Fasten internal and external header weathering as per Figure #54.

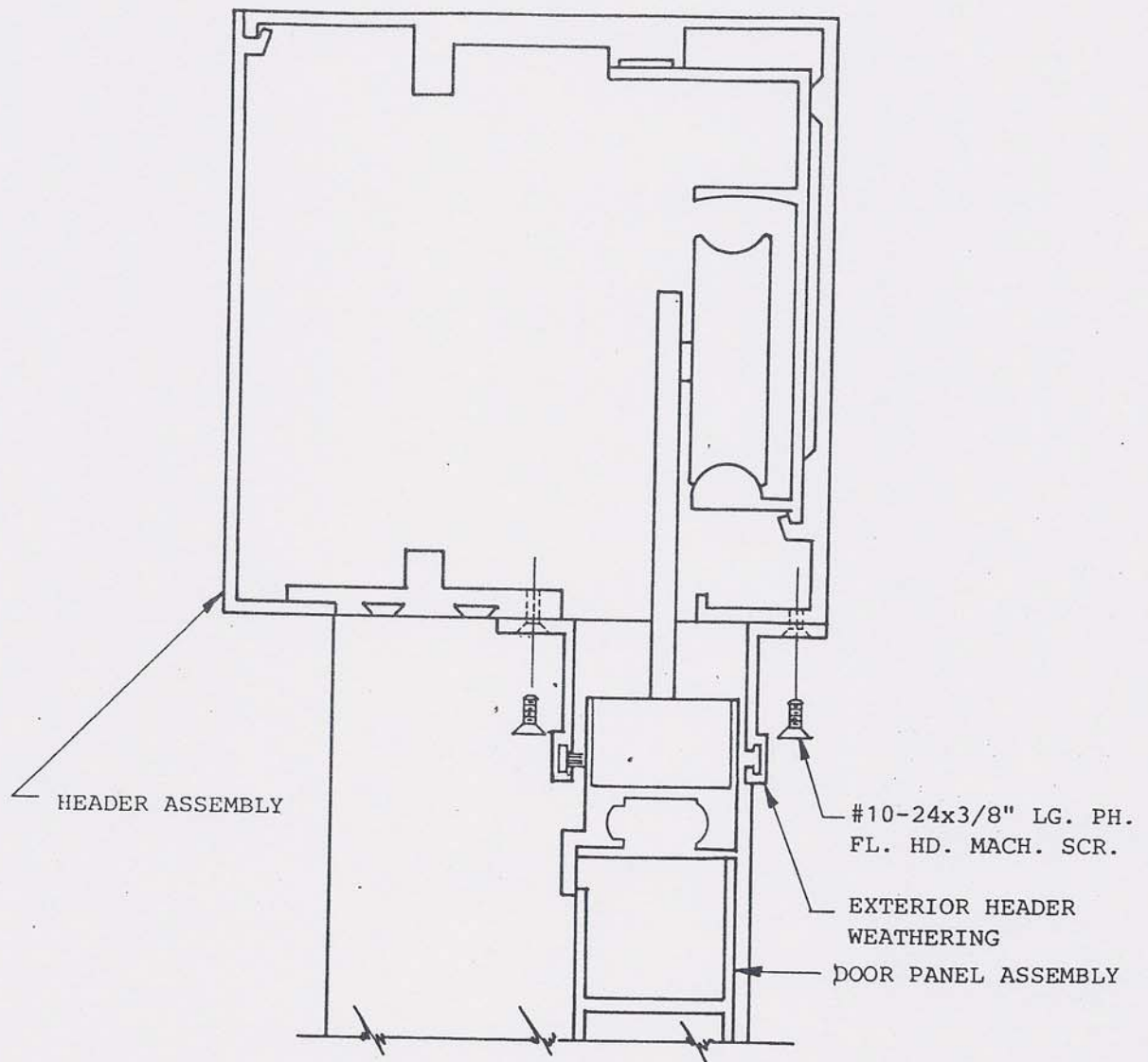
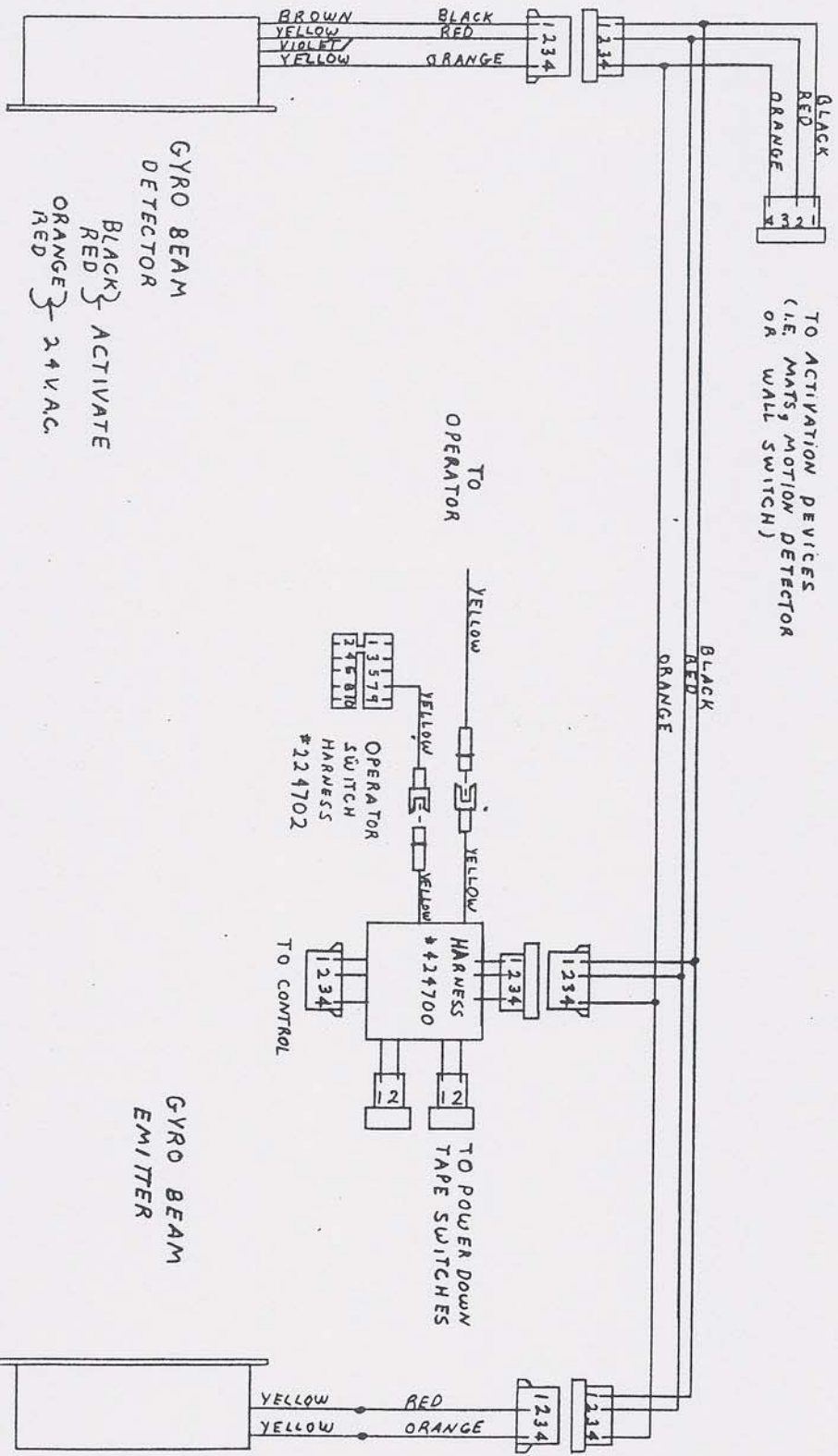


FIGURE #54

(E) Connect 120 volts AC 60 cycles power source to power harness that is installed in header (see Figure #55). Touch the two mat wires together and the door(s) should open. If door(s) bounce upon recycling, the anti-riser roller should be raised slightly-refer back to page 9 and drawing #254464 for instructions.



GYRO BEAM
 DETECTOR
 BLACK } ACTIVATE
 RED }
 ORANGE } 24 VAC.
 RED }

GYRO BEAM
 EMITTER

TO ACTIVATION DEVICES
 (I.E. MATS, MOTION DETECTOR
 OR WALL SWITCH)

TO OPERATOR

TO POWER DOWN
 TAPE SWITCHES

TO CONTROL

BROWN
 YELLOW
 VIOLET
 YELLOW

BLACK
 RED
 ORANGE

1 2 3 4
 1 2 3 4
 1 2 3 4
 1 2 3 4
 1 2 3 4
 1 2 3 4

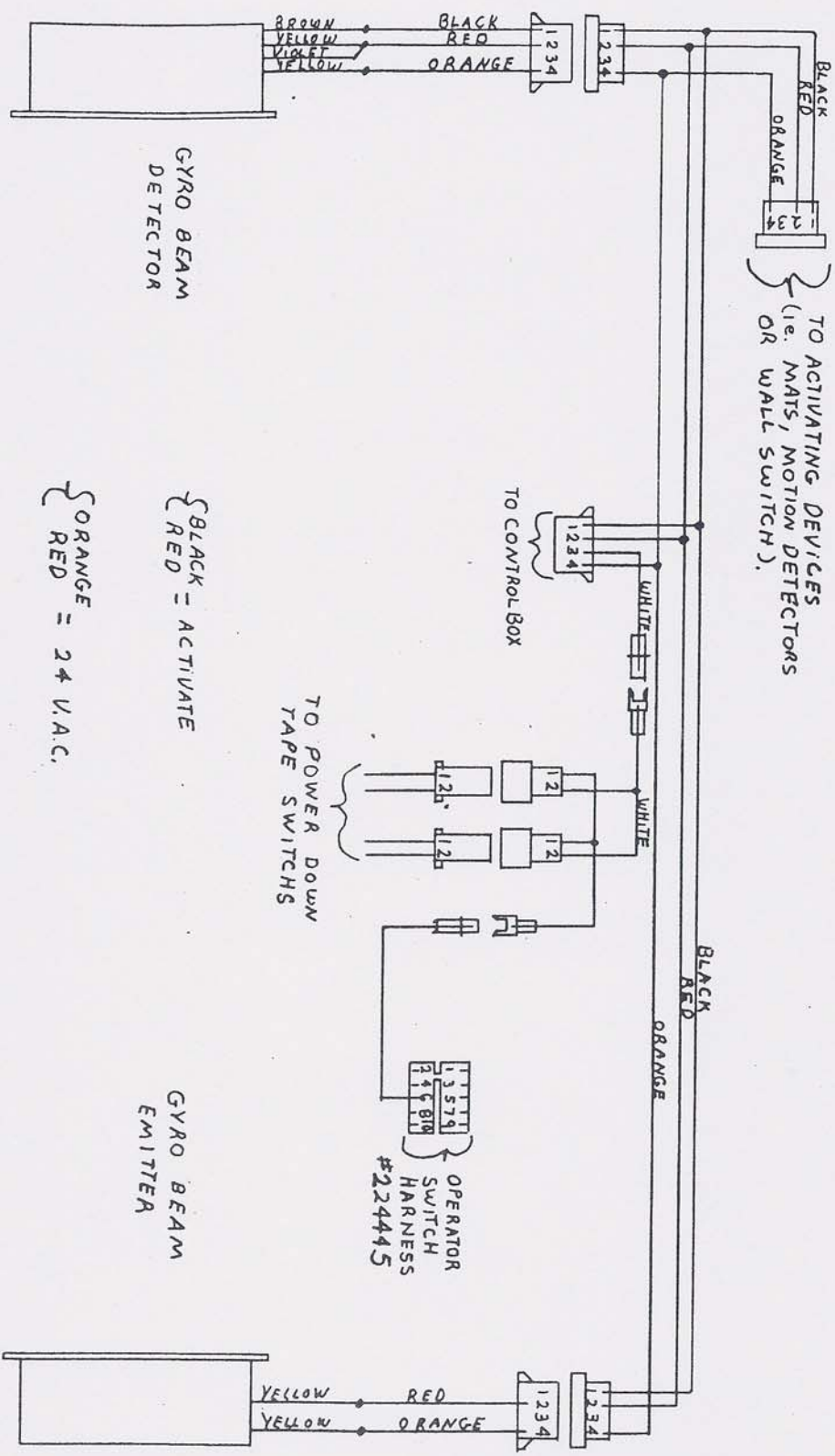
OPERATOR
 SWITCH
 HARNESS
 #224702

HARNESS
 #424700

POWER OPEN / SPRING CLOSE OPERATOR

HEADER WIRING HARNESS - SINGLE PART # 214446
 - BI PART PART # 214447
 SIDE LITE SAFETY BEAM WIRE HARNESS PART # 214448

REVISIONS	DATE	DATE: 8/8/83	PART NAME: P.O.S.C. HEADER WIRING - COMPLETE
REL 271	8/15/83	SCALE: NONE	MATERIAL:
		DRAWN BY: CN	SPECIFICATIONS: SYS 1100 SINGLES & BI-PARTS
		APPROVED BY:	
TOLERANCES (UNLESS NOTED) FRACTIONAL... ± 1/64 .XX... ± .010 .XXX... ± .005 ANGLES... ± 1/2°		W/ELECTRIC LOCK SEE 234740	
		GYRO TECH Inc.	
		DRAWING NO.	
		PART NO. 234703	



{ BLACK = ACTIVATE
 { RED = ACTIVATE
 { ORANGE = 24 V.A.C.

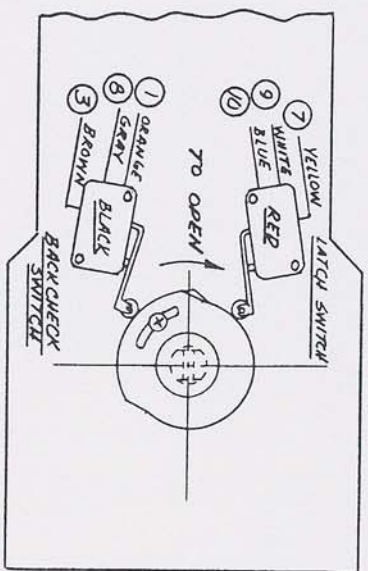
HEADER WIRING HARNESS - SINGLE PART # 21444G
 BI-PART PART # 214447
 SIDELIGHT SAFETY BEAM WIRE HARNESS PART # 214448

REVISIONS	DATE	DATE: 1/22/82	PART NAME: P.O.P.C. HEADER WIRING
		SCALE: NONE	MATERIAL:
		DRAWN BY: GN	SPECIFICATIONS: SYS. 1100 SINGLE + BI-PART
		APPROVED BY:	
		TOLERANCES (UNLESS NOTED) FRACTIONAL... ± 1/64 XX... ± .010 XXX... ± .005 ANGLES... ± .4°	
		IF SOLDER HAS ELECTRICAL LOCK SEE # 234450	
		DRAWING NO.	
		PART NO. 234444	

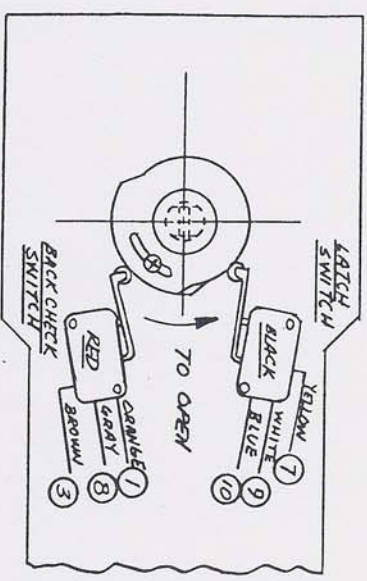


GYRO TECH Inc.

OPERATOR FOR R.H. & B1-PART SLIDERS



OPERATOR FOR L.H. SLIDERS



MOTOR LEADS MUST BE REVERSED FOR L.H. SLIDERS (MISMATCHED)

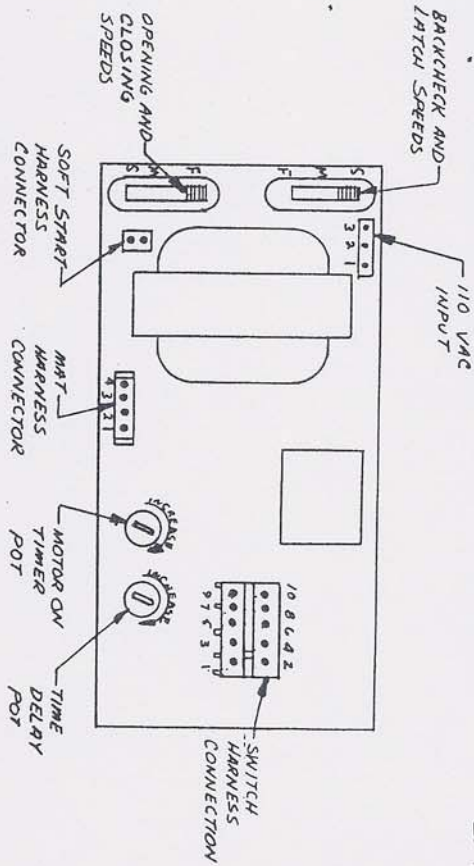
NOTES:

- ① THE P.O.P.C. SWITCH HARNESS WIRE COLORS DIFFER FROM THOSE OF THE SPRING CLOSE SWITCH HARNESS.
- ② ALL SINGLE SLIDERS (L.H. & R.H.) SHOULD HAVE THE BELT CLIP LOCATED ON THE UPPER PORTION OF BELT.

Instructions for Power Open/Power Closed control box. P/N 413800
 With doors closed, slot in cam shaft should be in line with the horizontal axis of the operator, as with a spring closed operator.
 Upper cam is adjusted to locate backcheck point.
 Opening and closing speeds are controlled by a slide switch in control box.
 Backcheck and latch speeds are controlled by the other slide switch.

NOTES:
 A swinger soft start (30 mf) must be used with this control box.
 Kit# 113799

On the P.O.P.C. use a double pole single throw switch to cut the power to the control box and break one of the motor leads. Use a switch rated at 5 amps. This will make the door easier to slide open manually and eliminate the possibility of jumping time.



MOTOR ON TIMER POT: ADJUSTS TIME THAT MOTOR STAYS ON DURING OPENING AND CLOSING PARTS OF CYCLE.
 TIME DELAY POT: ADJUSTS TIME THAT DOOR STAYS OPEN

REVISIONS	DATE	DATE: 10-7-82	SCALE: NONE	PART NAME: P.O.P.C. CONTROL & CAM INSTRUCTIONS.
ECN 1721	5-31-85			
ECN 1802	4-10-91			

APPROVED BY: P.D.F.
 TOLERANCES (UNLESS NOTED):
 FRACTIONAL... ± 1/64
 DECIMAL... ± .010
 ANGLES... ± 1°

GYRO TECH Inc. logo and name.

MODEL # 2600-2 P/N 413800

DRAWING NO. 253817

NOTE:

- 1) Before proceeding any further, tighten every screw, bolt, etc. possible to ensure trouble free running.
 - 2) When placing slide unit into opening you should allow a minimum of 1/4" around entire unit. This unit will support itself and any glass which must be installed, but is not meant as a structural member of the building. If roof deflection is in excess of 1/4" the excess should be added to the 1/4" clearance allowance.
- F) Finally, replace header cover with 10-24 x 1/2" flat head machine screw.

SECTION VI

SWITCH MAT INSTALLATION

1. Surface where mat is to be installed must be clean, flat and free of foreign material. This surface must be level or slightly pitched away from threshold. Do not lay mat over expansion joint without proper filling.
2. Position mat in door opening using loose threshold as guide. CAUTION: Do not bend mat.
3. Remove loose threshold and panic door to check for adequate clearance between door and mat.
4. Notch lower end of vertical mullion in area covered by threshold to allow entry of mat leads. Feed mat lead wires up through vertical mullion and into header for connection to mat harness. Use care when pulling wire through vertical mullion to prevent damage to insulation. Reinforce insulation at possible chafing points with tape. NOTE: Never make connections at floor line.
5. Layout screw hole location of threshold using threshold as template. Using carbide tipped masonry drill, drill holes into concrete to accommodate anchors. Remove debris and insert anchors. Place threshold in position, mark the threshold to accommodate the overall width of mat, notch out threshold at the die mark to accept mat. Thus allowing threshold to lie flat. Then fasten in place with No. 14 X 1½" lg. screws supplied. CAUTION: Do not damage lead wires.
6. Lay trim around perimeter of mat and use the various trim pieces as a template to layout hole location. Drill holes for anchors. Remove debris and insert anchors. Secure trim using supplied screws in anchors. See Figure #61 for recommended sequence to tighten screws.

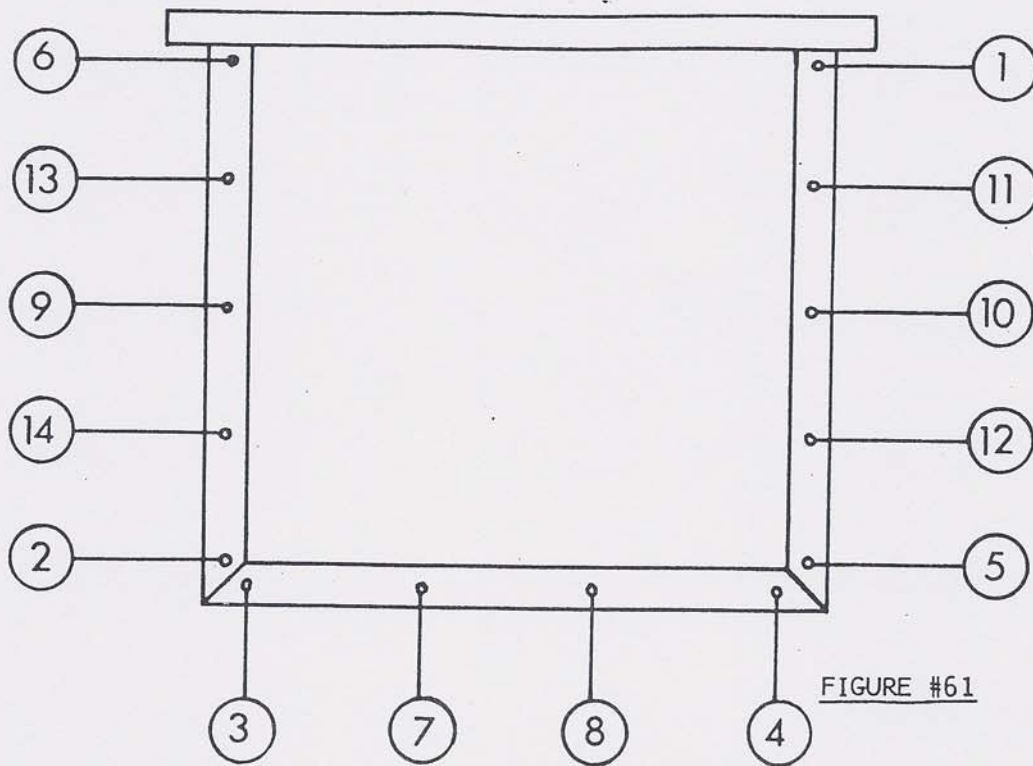


FIGURE #61

7. Make electrical connection per Figure #62. Plug into control and turn on power.

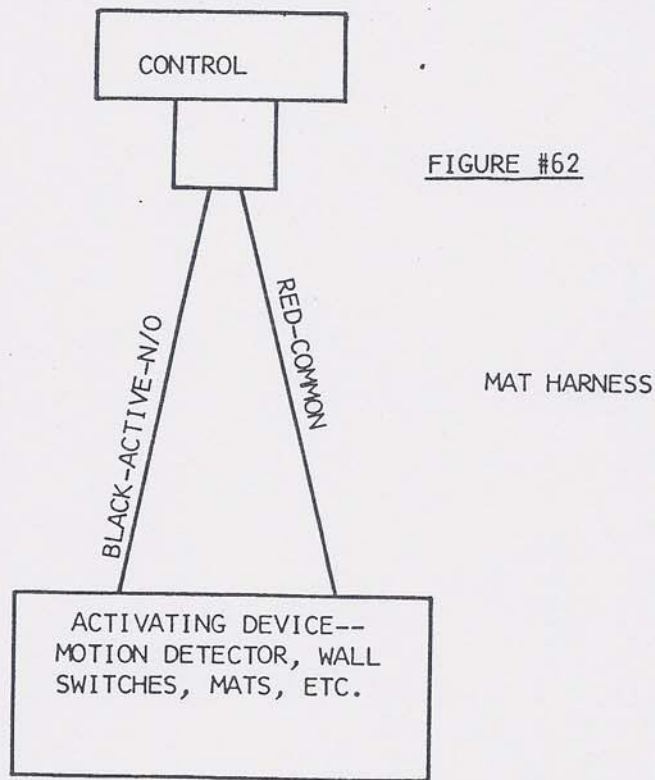


FIGURE #62

NOTE: MOTION DETECTORS REQUIRE A SEPARATE 24 VAC TRANSFORMER

8. To install adjoining mats (butted) remove solid vinyl lip and first rib as shown in Figure #63. Use sharp knife CAREFULLY to avoid exposing switch plates.

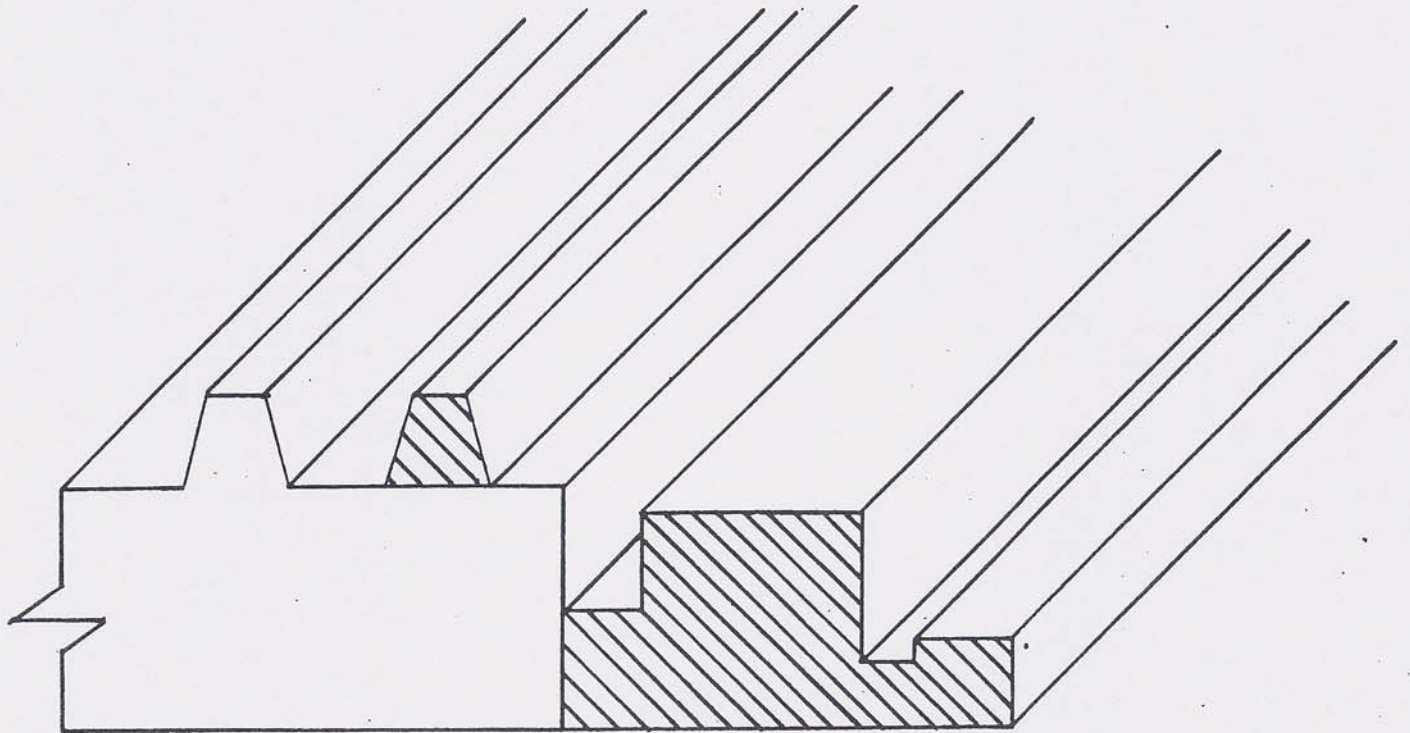


FIGURE #63

9. Slip uniting strip onto edge of one mat and place into position. Carefully insert second mat edge into other side of uniting strip and adjust mat into position. Refer to Figure #65.
10. Off-On-Switch--Should be added in mat circuit (24v) to turn unit off prior to locking door.

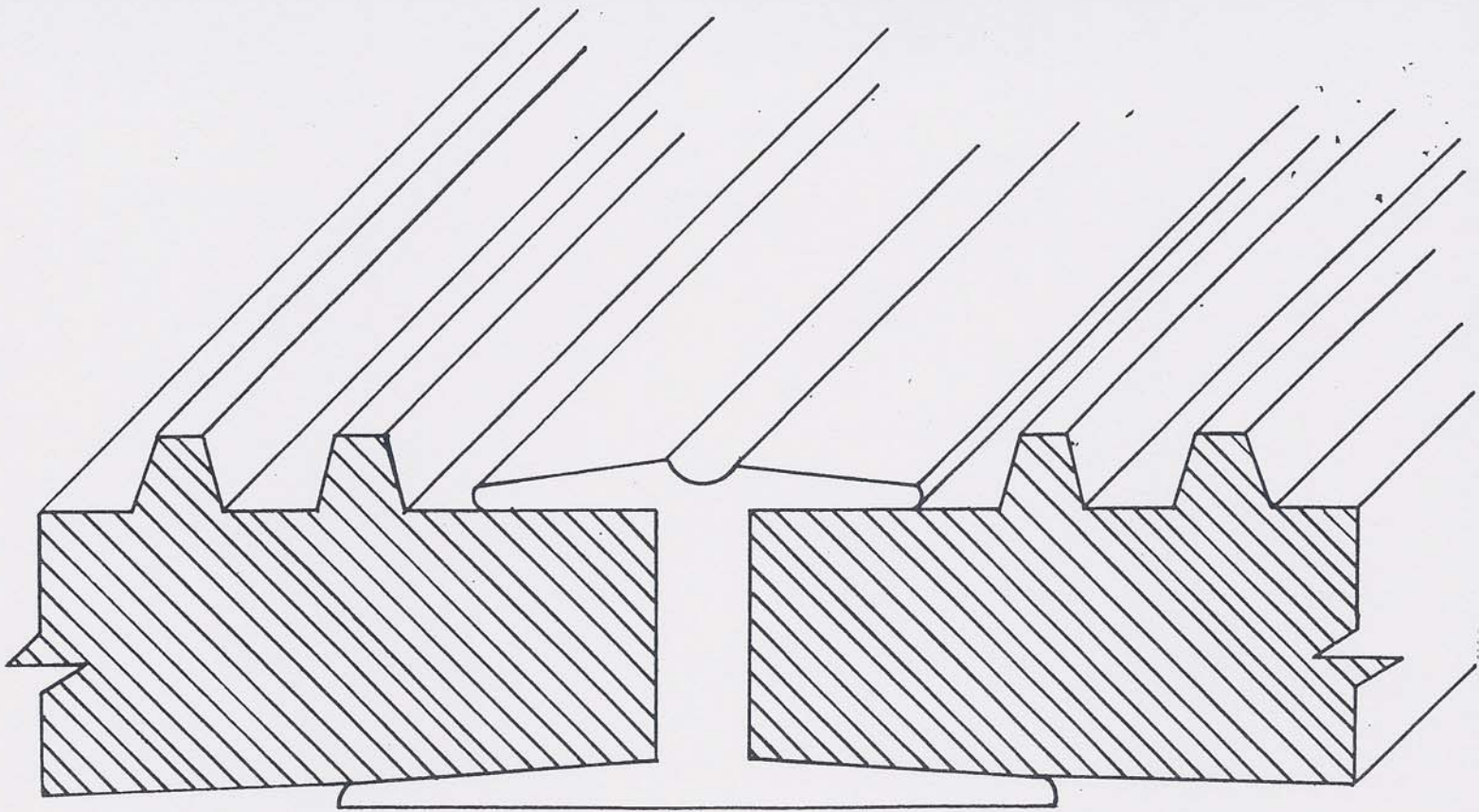


FIGURE #65

FOR BEST RESULTS: Grind concrete smooth and fill before step #1. Apply latex to concrete before securing and installing trim.

MAT MAINTENANCE AND TROUBLE SHOOTING PROCEDURE

1. Surface must be kept clean and free of sharp objects. Daily cleaning is recommended if needed.
2. Avoid pressure from very heavy objects. Do not roll heavy objects over the mats without protecting with 1/2" plywood minimum. (Not to exceed 1000 lb. per square inch)
3. If door does not open automatically:
 - A. Be sure power is turned on.
 - B. Check for burned out fuses.
 - C. Inspect wiring harness for shorts or scraped wires.
 - D. Connect ohm meter to the two mat lead wires. When mat is free of any object which would activate it the ohm meter should read infinite ohms, if a 0 to 100 ohm reading is obtained the mat is shorted. When the mat is activated or pressure is applied to the mat surface the ohm meter should read 0 to 100 ohms.

VII) Repair and Service

A) Operator Exchange - Spring Close

- Power Close (same except do no place 1/8" pin into Lovejoy coupling)

1) A. Place a 1/8" pin into the Lovejoy coupling per figure #51, with door(s) in a closed position. Remove belt tension by loosening 5/16-18 nut (figure #71) as far as possible with a 1/2" open end wrench.

B. Remove operator

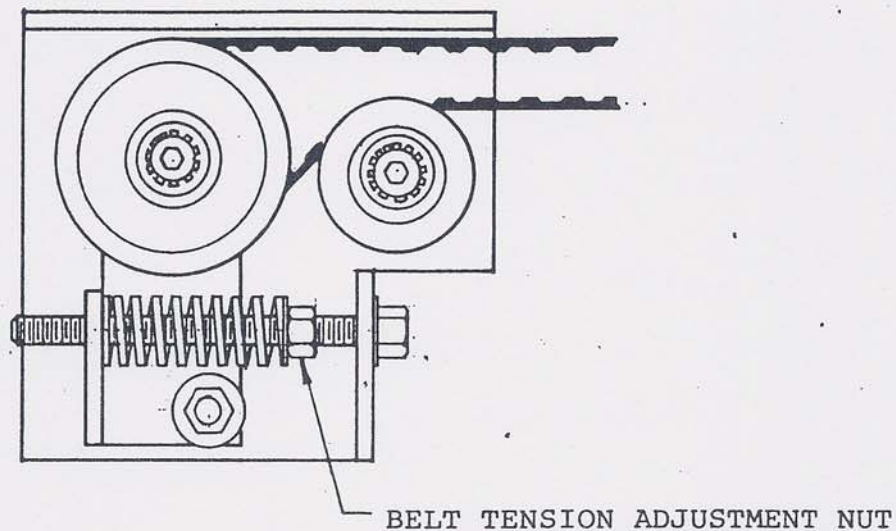


FIGURE #71

2. New Replacement Operator:

Remove switch cover from rear of operator to expose cams and micro switches. Remove cams and cam hold down. A slotted shaft will come into view. Turn the sprocked on the underside of the operator until the slot in the shaft is in line with the axis of the operator. Take the 1/8" pin out of the first operator and place it in the love-joy coupling per Figure #51. When correct, the slot will appear like #72. (Spring close and power close)

WIRING ARRANGEMENT

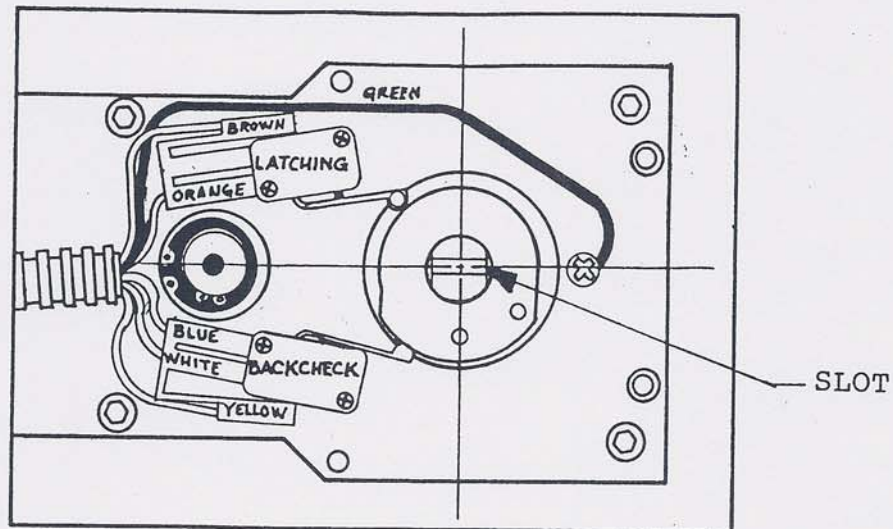


FIGURE #72

- 3) Make sure the doors are in the center of the header and locked in the case of a bi-part or in the fully closed position and locked in the case of a single. Place operator into header making sure that the belt is around operator drive sprocket. Secure in place with the (6) 1/4-20 x 3/4" socket head cap screws that were removed previously. With the assurance that the door(s) are in their fully closed position and locked, tighten the 5/16-18 nut until desired belt tension (Figure #71). Finally, remove 1/8" pin from operator love-joy and unlock door(s).
- B) Control Box Exchange:
- 1) Turn off power supply.
 - 2) Remove all harness plugs from control box.
 - 3) With 3/8" wrench remove (2) 10-24 hex nuts which secure the control box to the control box mounting bracket.

NOTE: To install a new control box reverse above procedure.

C) Idler Sprocket Exchange

- 1) Lock door(s) and place 1/8" pin into love-joy coupling in spring close operator, per Figure #51.
- 2) Remove belt tension by turning 5/16-18 nut in (Figure #71) as far as possible with a 1/2" open end wrench.
- 3) Remove (2) 1/4-20 x 1/2" lg. ph. fl. hd. machine screws using a #3 phillips screw driver.
- 4) Secure new sprocket assembly in the same manner that the old one was; making sure that the belt is around the sprocket.
- 5) With the assurance that the door(s) are in their fully closed position and locked, tighten the 5/16-18 nut (Figure #71) until desired belt tension. Finally, remove the pin from spring close operator love-joy coupling and unlock door.

D) Belt Exchange

- 1) Close door(s) and lock them
- 2) Place 1/8" pin in operator love-joy coupling making sure that the slot of the rear most shaft on the operator is in line with the axis of operator (Figure #72). With the slot in the cam shaft in its proper location, remove the tension from the belt per chapter 7, Section A (1). Remove belt from system by removing screws and washers in figure 43 and 44, Chapter 4.

The removal of these screws and washers on each hanger will permit easy removal of belt assembly.

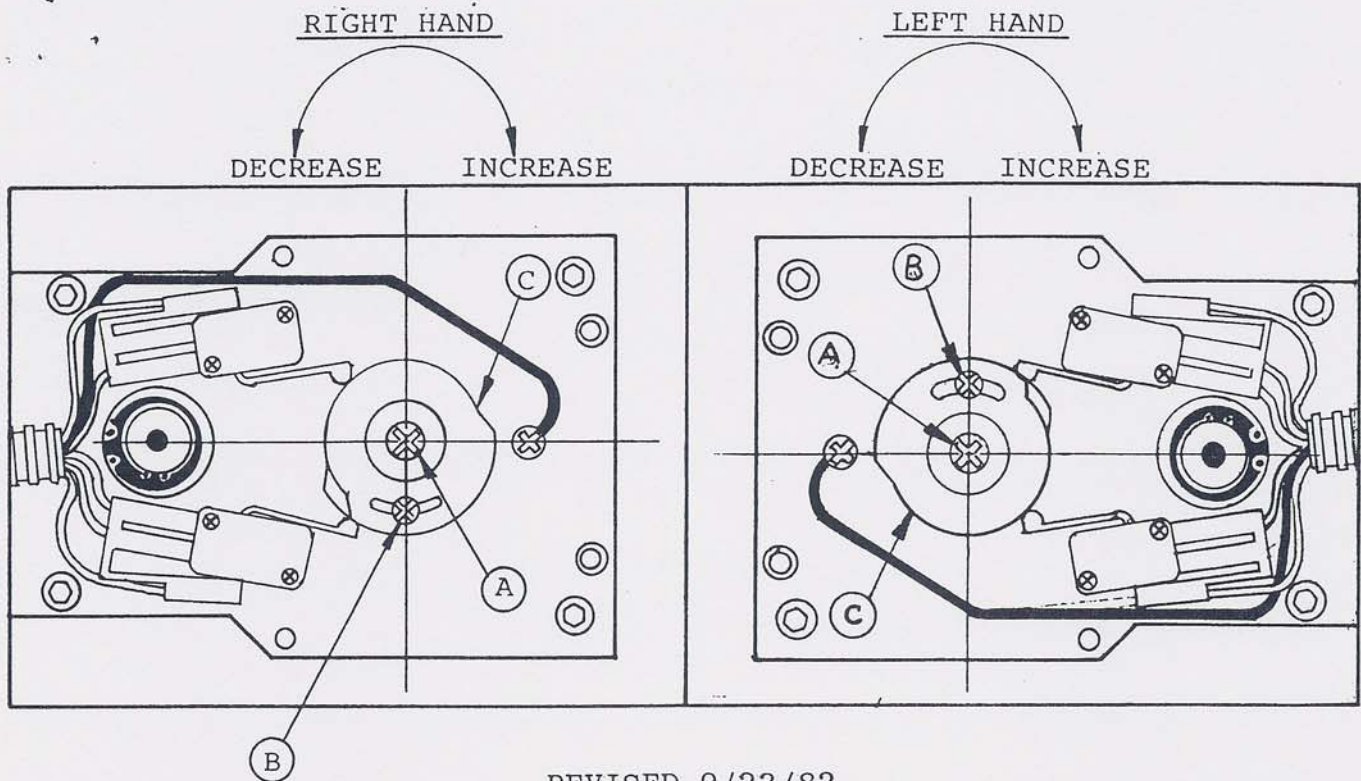
- 3) Making sure door(s) are centered and locked complete Chapter VII, Section #5. (Refer to Figure #45 for proper belt clip location.)

E) Roller Exchange:

- 1) Follow door mounting procedure, paying special attention to Chapter IV, and Figure #41.

F) Cam Adjustment:

- 1) A left hand and a right hand cam assembly is pictured in Figure #73. The cams are shown in their preliminary position before preloading. After preload, the left hand and right hand cam will move about 10° clockwise. To increase or decrease the length of time the doors will be under full opening power, move to Section F-2, except in the case of a 4' bi-part. If you need to shorten the opening on a 4' bi-part, move to Section F-3.
- 2) Loosen screws ("A" & "B" 10-24 x 1" flat head machine screw) slightly and rotate cams per the rotation guide in Figure #73. When the required adjustment has been obtained, retighten screws "A" and "B".
- 3) If the doors on a 4' bi-part slam open, the cams should be adjusted for maximum back check in the opening cycle. The control box should be switched to slow opening and slow back check. In emergency cases, the cam shall be ground back on the sides marked "C" in Figure #73.



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FIGURE #73

CAUTION!

DO NOT ALLOW CHILDREN TO PLAY WITH OR RIDE ON ANY AUTOMATIC DOOR AT ANY TIME.

TROUBLE SHOOTING

(VIII)

Item:

A) Door will not open.

- 1) Check power line switch to make sure it is ON and line power is entering control box, Figure #55.
- 2) Check activating circuit, low voltage switch, make sure it is in the ON position.

- 3) Check fuse in control box to make sure it is good.
- 4) Check all plug-in relays and plug-in harnesses to be sure of good electrical contact.
- 5) Remove mat harness plug from control box and insert a dummy mat lead test harness. (This harness will allow you to test the slider unit in lieu of a mat or other activating devices.)
- 6) Check anti-riser assembly making sure that it is not binding.

Note 1: If unit operates properly when energized with test harness, activating problem will be found in activating device or harness between activating device and control box.

Note 2: If unit does not operate when energized with the test harness, then check:

- a. Control box
- b. Operator harness wires
- c. Possible micro switch contact problem under switch cover.
- d. D.C. Motor

Item:

- B) Door stays open with no power to spring close operator.
 - 1) Check to see that door(s) are free of debris etc.
 - 2) See if door can be closed by applying a small amount of hand pressure.
 - 3) Check bottom guide to insure it is not binding.

Note 1: If door can be closed by applying a small amount of hand pressure, assume that you have an internal problem with the operator. Replace it.

Note 2: If door does not close with a small amount of hand pressure:

- a. Check for bent, warped, or bound conditions wherever rolling surfaces are present. If roller adjustment is necessary see Chapter IV with special attention to Figure #41.
- b. If no problem source can be found, remove operator and/or idler sprocket assembly and check each to see if it works freely.

Item:

- C) Door(s) bounce upon recycling or carrier rubbing bottom of header or rubbing floor guide.
 - 1) This is a roller adjustment problem; see Chapter IV, paying special attention to Figure #41.

Item:

- D) Doors open and close out of sync-high and low speeds intermittent.
 - 1) The operator and/or cams are not in their correct preload position--for operator preload see special section on operator exchange, Chapter VII, Section A, and cam adjustment Section F.

Item:

- E) Persistent belt slippage.
 - 1) Call factory for special assistance.

Item:

- F) Motor runs but operator will not open door.
 - 1) Check allen screws on motor coupling for tightness. If set screws are tight, replace operator.

Item:

- G) Motor exceptionally noisy.
- 1) Replace brushes - if motor noise persists, replace it.

Item:

- H) Squeaky belt.
- 1) Spray the belt with chain and cable lubricant for motorcycles. Recommended J. C. Whitney #15-7258P, Gyro Tech's part number 143611.

Item:

- I) Door(s) do not open or close fully when activated, but cycle back and forth instead without completing either opening or closing cycle.
- 1) Brushes in motor are worn - replace
 - a) if brush replacement occurs frequently, call factory for special assistance. When replacing brushes, make sure brush holders are tight.
 - 2) Panic system is malfunctioning or cycling. Refer to Chapter V, Section C and Figure #53.

ITEMS REQUIRING SPECIAL ATTENTION:

- 1) Brush retainer caps can work loose in shipment or during installation - must be tight.
- 2) Operator harness; all harness connectors must be secured tightly to micro switches.
- 3) All control box relays should be checked to see that all pins make contact - make sure they are not broken off or pushed up in relay housing.

Special Note:

While Gyro Tech does not recommend any specific maintenance work on a regular basis, it is our suggestion that a tour of each job site be made twice a year and a check made of the following areas:

- 1) Actual operation of doors - any jumping should be corrected. Do the door(s) travel through back check smoothly, and close through latching equally as smoothly? If not, adjustment of cams, belt and/or rollers should be initiated. Check to see that all roller track areas are free of dirt, debris, etc.
- 2) Entire panic system should be checked for reliable operation throughout the entire travel of the doors.
- 3) Unit should be checked for any loose or worn parts which should be repaired or replaced.
- 4) Make sure that the panic power disconnect is in full working order. A faulty, inoperative or removed panic system can be the source of a seemingly endless string of breakdowns, service calls, etc.

SPRING CLOSE

RESISTOR SIZE PER DOOR WEIGHT (SIZE) SPECIFICATIONS

The following maximum door weights (total of glass weight plus door and carrier) are permissible with the corresponding maximum resistor size in order to limit closing kinetic energy to 2.5 ft. lb. (each control box will contain the resistor size to corresponding door size).

<u>DOOR LEAF SIZE</u>	<u>MAXIMUM DOOR WEIGHT</u>	<u>RESISTOR SIZE</u>
26 1/4"	76 lbs.	150 ohms
32 1/4"	93 lbs.	150 ohms
38 1/4"	110 lbs.	125 ohms
44 1/4"	136 lbs.	100 ohms
50 1/4"	154 lbs.	100 ohms

OPERATORS AND CONTROLS FOR STANDARD SLIDERS

The following is a guide for number of controls and operators to standard bi-part sliders:

4'0"	One operator - two 26 1/4" doors one control
5'0"	One operator - two 32 1/4" doors one control
6'0"	One or two operators - two 38 1/4" doors one or two controls
7'0"	Two operators - two 44 1/4" doors two controls
8'0"	Two operators - two 50 1/4" doors two controls

GLAZING MATERIAL

The glazing material in both fixed and sliding panels of all sliding doors and in all unframed swinging doors shall comply with the requirements in the American National Standard Performance Specifications and Methods of Test for Transparent Safety Glazing Material Used in Buildings, Z97.1-1972. Glazing material for other pedestrian doors shall also comply with Z97.1-1972, except that single strength (or heavier) glass may be used for those portions of doors involving a glazed area of less than one square foot and having no dimension greater than 18 inches. (UL 325, Paragraph 27.11)

MUNTIN BARS

All doors and sidelites to contain horizontal muntin bars in compliance with UL 305 Specifications.

SPRING CLOSE

Slide door system or operator with unit energized exerts

a slide open pressure of:	120 lbs at 6"
	110 lbs at 12"
	100 lbs at 18"
	100 lbs at 24"
	95 lbs at 30"
	94 lbs at 36"
	15 lbs at 42"
	0 lbs at 48"

BACKCHECK POSITION

NOTE: Tolerance on the above pressures to be ± 5 lbs.

Slide door system or operator with unit de-energized exerts

a manual slide open pressure of:	20 lbs at 6"
	21 lbs at 12"
	23 lbs at 18"
	25 lbs at 24"
	25 lbs at 30"
	25 lbs at 36"
	26 lbs at 42"
	28 lbs at 48"

NOTE: Tolerance on the above pressure to be + 5 lbs.

