GYRO TECH inc

INSTRUCTION MANUAL

FOR

OVERHEAD CONCEALED UNIT

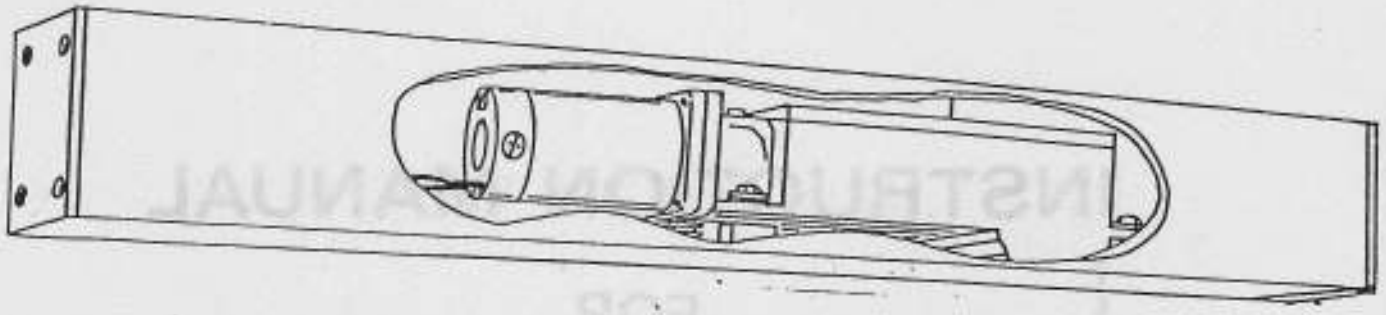
SURFACE APPLIED CONVERSION UNIT

GYRO·TECH MATS

"GYRO-SWING" Door Operators

10/82

INSTALLATION INSTRUCTIONS
FOR
OVERHEAD CONCEALED UNIT



"GYRO-SWING" Door Operator

GYRO TECH inc • 6750 INDUSTRIAL LOOP • GREENDALE, WISC. 53129
PHONE (414) 421-9400

OHC
OVERHEAD CONCEALED SWING DOOR OPERATOR
BILL OF MATERIAL

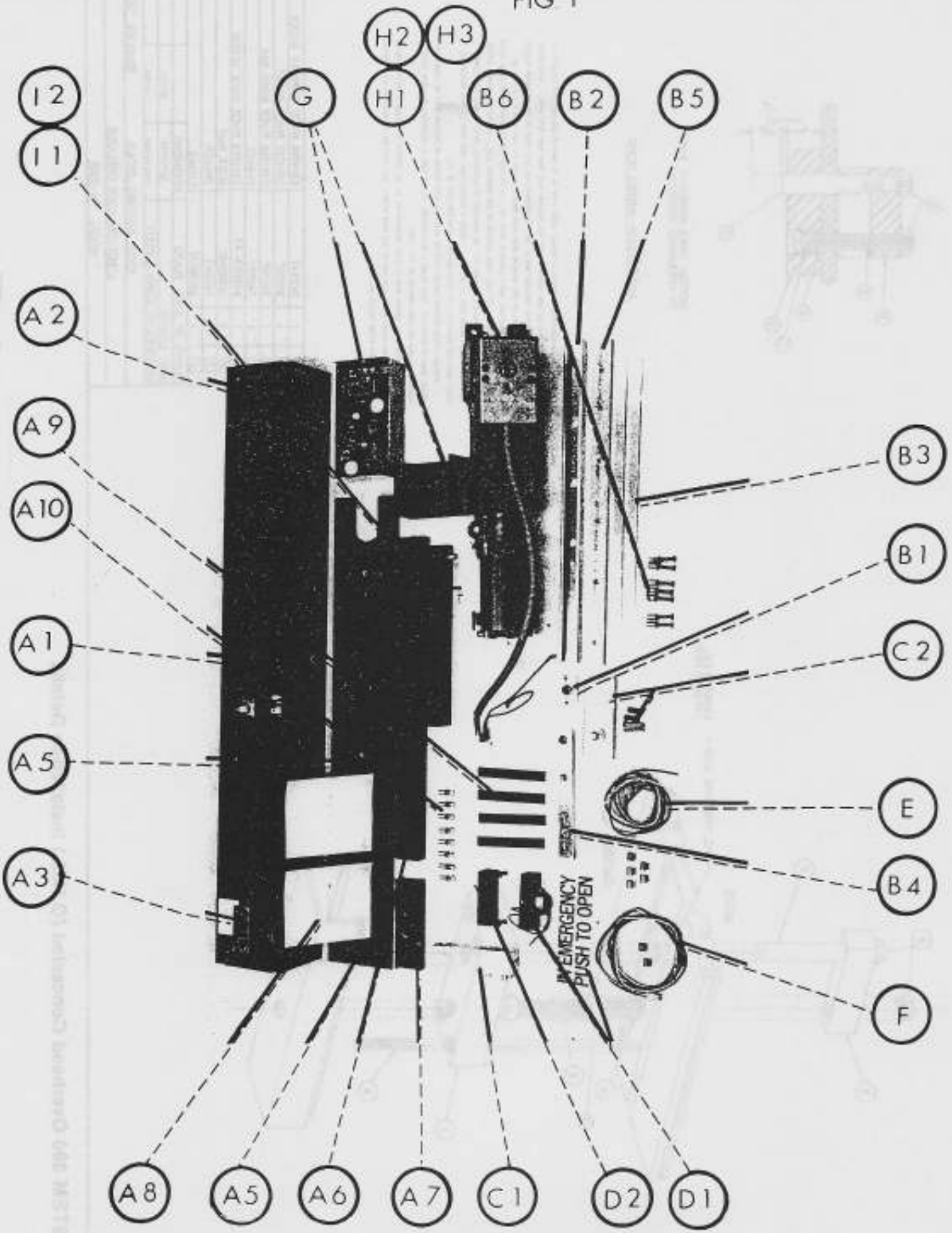
ITEM	DESCRIPTION	PACKAGING
A	O.H.C. Header Housing Assembly (1) Header Housing W/End Caps (2) Strike Base (Stop End) (3) Pivot Base (Pivot End) (4) Dress Plate Lock Clip's W/Screws (Not Shown) (5) Dress Plate (6) Filler Channel Strike Style (7) Filler Channel Hinge Style (8) Adhesive Backed Drilling Template (2) (9) End Cap Cover Piece (Tape) (4) (10) Screw Bag For Attaching O.H.C. Housing to Jamb Tubes. (8) 1/4-20 Hex. HD. Mach. Screws, (8) Star Washers, (8) Rivnuts, (8) Nutserts. (11) O.H.C. Header, Pivot & Wiring Instruction Template No. 00-1010. (Not Shown) Refer to Page 5 in Manual. (12) Pivot Base Assy. Template No. 00-1040 (Not Shown) Refer to Page 8 In Manual. (13) Adhesive Backed Instruction Label For Harness Installation. Already Positioned Inside Header For Your Convenience. (Not Shown)	Carton #1
B	Door Assy. (1) Slide Block (2) Door Track (3) Side Spacers (2) (4) Top Pivot Of Door Portion (5) Spacer Block (3/8" Thick) (6) Screw Bag For Door Track & Top Pivot Installation. (8) 1/4-20 x 1 1/2" LG. FL. HD. PH. Mach Scr., (8) 1/4-20 Rivnuts, (8) 1/4-20 Nutserts.	Carton #2
C	Bottom Pivot Assy. (1) Bottom Door Pivot Assy. W/Screws & Rivnuts Or Nutserts (2) Floor Pivot W/Cover, (2) 1/4 x 1 1/2" LG. FL. HD. Self Tapping Screws, (2) Plastic Anchors & (6) Shims. (3) Door Leaf Preparation Template 00-1020 (Not Shown) Refer to Page 6 in Manual. (4) Track & Pivot Installation Detail Template No. 00-1030 (Not Shown) Refer to Page 7 in Manual.	
D	Door Latching (1) Panic Latch W/Screws & Warning Decal. Panic Latch is used on Inswing Doors.	

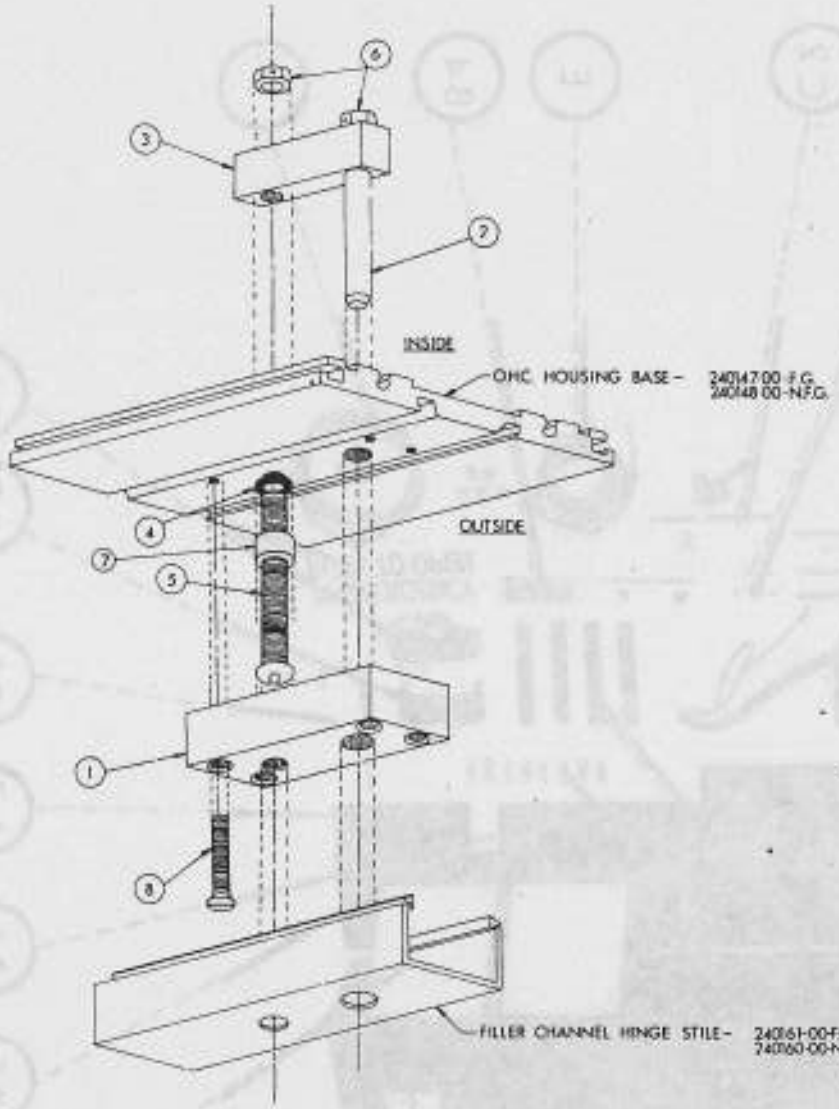
ITEM	DESCRIPTION	PACKAGING
D (Con't)	(2) Door Stop W/Screws Door Stop is Used for Outswing Doors.	
E	Power Harness W/Wire Retaining Clips	
F	Mat Harness W/Wire Retaining Clips	
G	Control Box & Mounting Clip	
H	O.H.C. Operator Assy. (1) Motor (2) Operator (Gear Box) (3) Switch Harness	
I	O.H.C. Arm Assy. (1) Arm W/Shoulder Bolt, Set Screw, 1/2-20x1 1/2" LG. FL. HD. Soc. Mach. Screw (Pivot Screw). (2) Spacers	
J	International Symbol Decals for "IN" or "OUT" & "DO NOT ENTER" (Not Shown).	

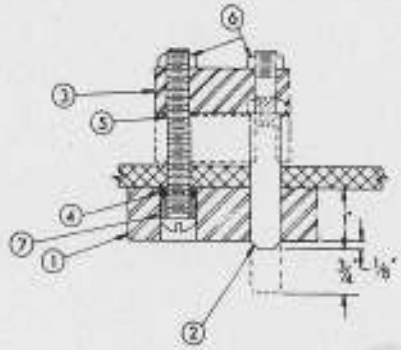
NOTE: Any electrical device other than mat switches must be of the momentary contact type as opposed to maintained contact type and must be mounted within eyesight of the door.

For Location of all items see Figure 1.

FIG 1


I2
I1
G
H2
H3
H1
B6
B2
B5
A2
A9
A10
A1
A5
A3
B3
B1
C2
E
B4
F
EMERGENCY
PUSH TO OPEN
A8
A5
A6
A7
C1
D2
D1





DOTTED LINES REPRESENT PIVOT IN OPERATING POSITION

INSTALLATION INSTRUCTIONS

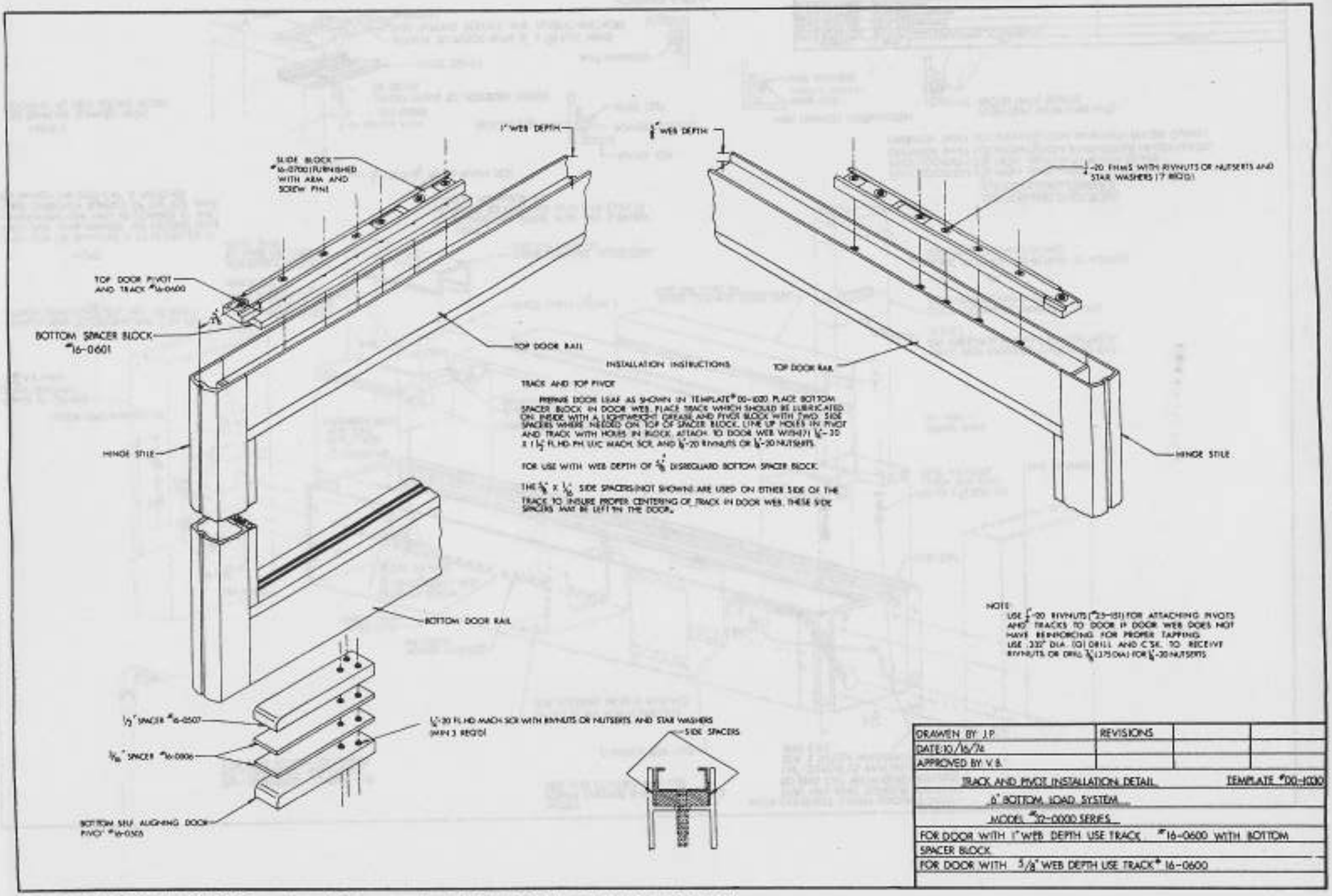
TO INSTALL THE PIVOT ASSEMBLY AS SHOWN, APPLY PART #4 TO PART #5 AND FIT INTO HOUSING #1. (NOTE: THERE SHOULD BE SOME GREASE INSIDE THE HOUSING THAT THIS PART FITS INTO). WITH THESE PARTS INSTALLED, FIT THE THREADED END OF PART #5 THROUGH THE 3/4" HOLE IN THE OPERATOR HOUSING BASE AND ATTACH PART #3 TO THE HOUSING BASE WITH FOUR (-) PART #1, 1/4 – 20 F.H.M.S. (-) AS SHOWN. NEXT, LOCATE PIVOT SHAFT ASSEMBLY (PART #2, 2 & 6) WITH THE THREADED END OF PIVOT SHAFT DOWN THROUGH THE ENDING 1/2" DIA. HOLE LOCATED IN THE HOUSING BASE. AT THE SAME TIME, ROTATE PART #3 SO THAT IT SCREWS ONTO PART #2. BY ROTATING #3 CLOCKWISE, PART #2 WILL LOWER UNTIL IT PROJECTS 1/4" BELOW PART #1 AS SHOWN. USING A SCREWDRIVER, HOLD PART #2 FROM BOTTOM AND APPLY LOCK NUT (#6) UNTIL IT MAKES CONTACT WITH TOP PART OF #2.

INSTALL FILLER CHANNEL HINGE STILE BY SNAPPING INTO BOTTOM OF HOUSING BASE #1 (SHOWN) AND LOCATE DOOR IN POSITION. THEN USING A SCREWDRIVER, ROTATE PART #3 CLOCKWISE TO LOWER PIVOT SHAFT (#2) INTO THE DOOR PORTION OF THE STILE.

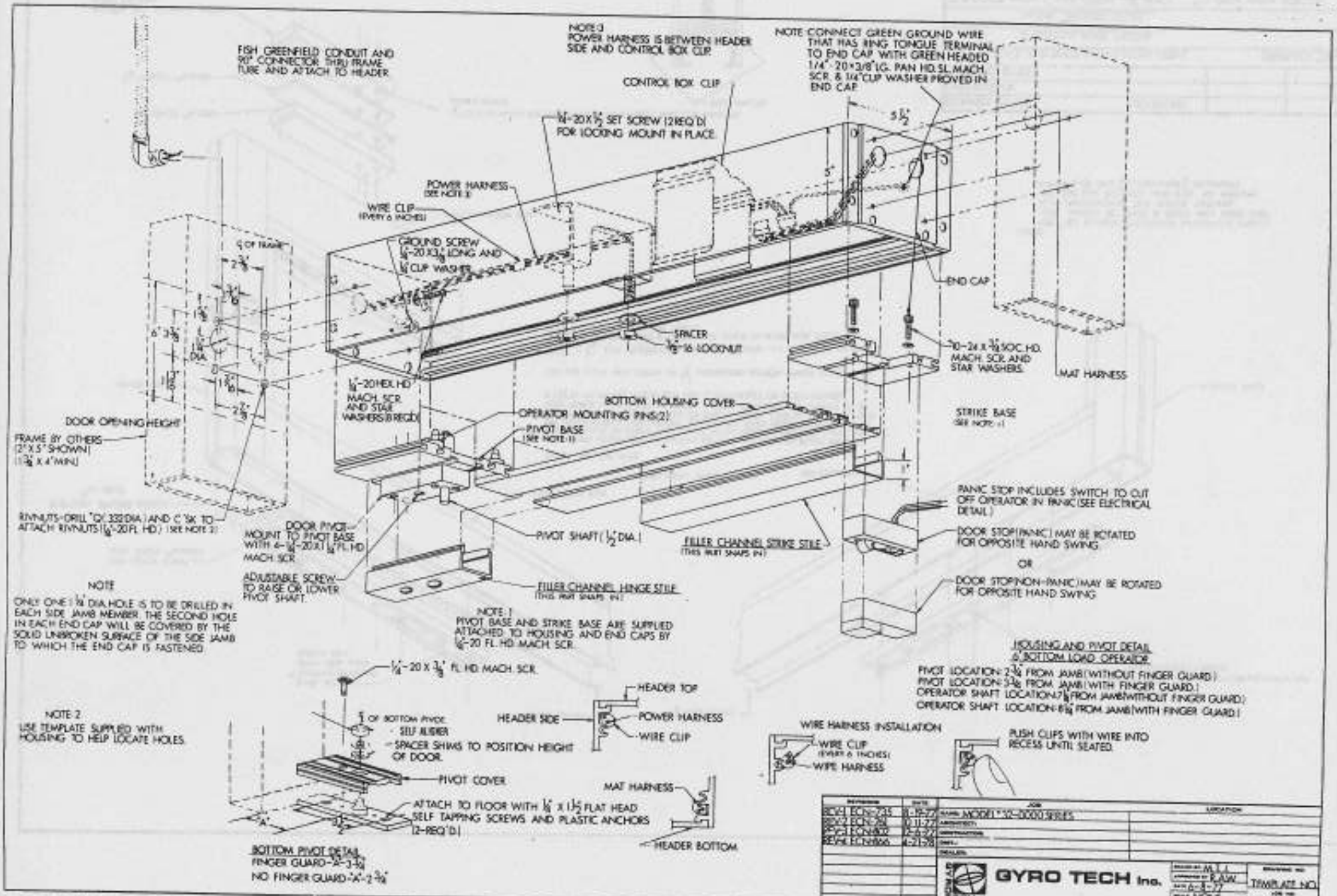
TO REMOVE DOOR, ROTATE PART #3 WITH SCREWDRIVER IN THE COUNTER-CLOCKWISE DIRECTION WHICH WILL THEN RAISE PIVOT SHAFT (#2) OUT OF THE DOOR STILE. THE LOCK NUT #6 (PART #2 WILL PREVENT THE PIVOT SHAFT FROM BEING RAISED TOO FAR.

(1)	1	243541	CENTER PIVOT SUPPORT BLOCK	
(2)	1	240517	CENTER PIVOT SHAFT	
(3)	1	240707	CENTER PIVOT RISER BAR	
(4)	1	240797	O-RING	
(5)	1	240015-44	CENTER PIVOT RISER SCREW	
(6)	2	240021-01	LOCK NUT	
(7)	1	143543	SPACER	
(8)	4	240001-71	F.H.M.S.	
DRAWN BY JERRY PLATO		REVISIONS		
DATE 4/12/74		ECN #738	8-19-77	
APPROVED BY JOHN CATLETT		ECN #500	1-A-82	
PIVOT ASSEMBLY DETAIL			TEMPLATE #00-1040	
8' BOTTOM LOAD OPERATOR				
MODEL #16-0501				

GT SYSTEM 300 Overhead Concealed (O.H.C.) Installation Details



GT SYSTEM 300 Overhead Concealed (O.H.C.) Installation Detail



GT SYSTEM 300 Overhead Concealed (O.H.C.) Installation Detail

PHYSICAL INSTALLATION OF O.H.C. HEADER

1. Determine which tube is the hinged side of the header and which tube is the strike side (see definitions below).

2. Affix templates (Part #a-8) to jamb tubes. Locate the bottom of the template on the inside of the tube at the top of the door opening Frame height (Refer to Figure #2).

3. Drill installation holes according to the back of the drilling template (Part #A-8). Drill (4) holes marked "A" in each jamb tube. For rivnuts drill #Q (.332 Dia.) hole and countersink .531 Dia. x 100° for nutserts drill #3/8 (.375 Dia.) hole. Drill one 1⅛" Dia. Hole marked "B" in each jamb for electrical service (refer to figure #2 and #3).

4. Notch bottom of strike jamb 1 3/4" wide by 1/4" to 3/8" high at threshold line for feeding mat wires up strike jamb to header.

5. Install panic latch at lock jamb end if its a inswing door or a fixed door stop for a outswing door. (Note direction of arrow on panic latch).

6. Frame may be installed in building. Be sure frame is plumb and square and that the opening width for the door is equal top and bottom.

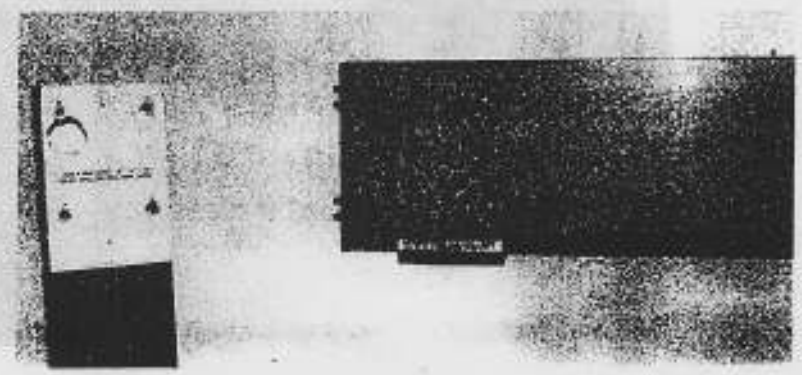
7. Install the O.H.C. header. Attach the O.H.C. housing to the strike and hinged jamb tubes with the (8) 1/4-20 x 3/4" LG. Hex. HD. Mach. Screws. Star washers provided. (Refer to figure #3 and #4)

8. Install bottom pivot (see template #00-1010). If the frame has no fingerguard, dimension of center of bottom pivot post to hinge jamb is 2 3/4". If frame has a fingerguard, dimension from the center of bottom pivot post to hinge jamb is 3 3/4". Install with 1/4" x 1 1/2" FL. HD. Sheet metal screws, and plastic anchors provided. Install pivot cover to bottom pivot base with 1/4"-20 x 3/8" LG. FL. HD. Mach. Screw provided.

DEFINITIONS:
Hinged Side: Side from which door pivots;
Strike Side: Side from which door locks;

Figure 2

Figure 3



1. All door hardware is packed in one carton together with:
   A. Door preparation template #00-1020.
   B. Track & Pivot installation template #00-1030 and fastening accessories.

2. Drill seven (7) holes in the top rail as indicated on template #00-1020, for nutserts drill 3/8" (.375) dia. hole, for rivnuts drill #Q (.332) dia. hole and countersink .531 dia. x 100°.

3. Drill three (3) holes in bottom rail as indicated on template #00-1020, for nutserts drill 3/8" (.375) dia. hole, for rivnuts drill #Q (.332) dia. hole and countersink .531 dia. x 100°.

4. Mill out wall of door stile where it abuts the rail(s) as indicated on template #00-1020.

TRACK AND PIVOT AND DOOR INSTALLATION
(Refer to Templates #00-1030 and #00-1040)

1. Insert 1/4-20 rivnuts or nutserts provided in top and bottom rails with rivnut setter.

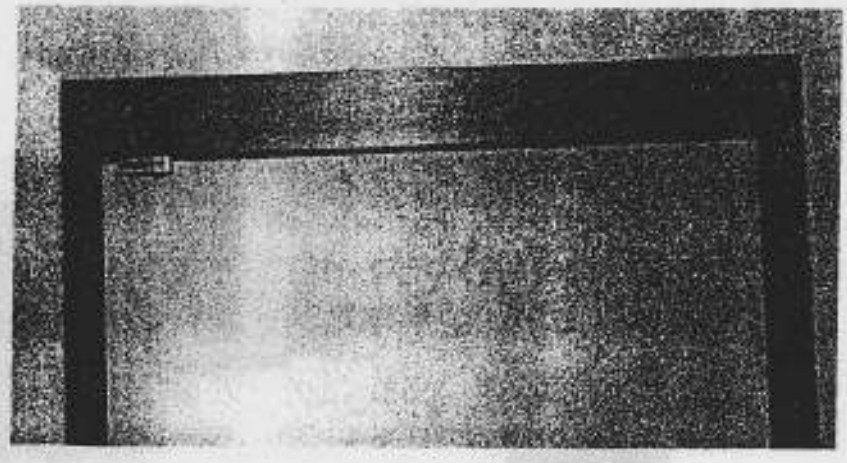
2. Install door portion of bottom pivot (part #C-1) use shim spacers so that the pivot block is just short of rail edge of bottom rail.

3. Install track (with slide block in place) and door portion of top pivot in top rail - shim sides and shim up (with shims provided) so that the track and door portion of top pivot are just below (1/16" to 1/8") of leg edges of top rail of door.

4. Check alignment of top pivot and bottom pivot with a plumb bob.

5. Door may now be hung.
   A. Run top pivot up into the pivot shaft.
   B. Set door on floor portion of bottom pivot, aligning door portion of bottom pivot with floor portion pivot post. Use spacer shims on floor portion of bottom pivot to adjust door for proper clearance - top (1/8" ± 1/16") and bottom (3/16" ± 1/16") above carpet surface.
   C. Completely tighten center pivot riser screw (part #5 from template #00-1040) until center pivot shaft is secure in center pivot support block.

Figure 4



INSTALLATION OF MAT HARNESS AND POWER HARNESS

1. MAT HARNESS

   A. Three colored wires (black, red and white)
   B. Red wire has a connector (pin housing) and (socket housing) for panic latch.
   C. The panic latch (figure #5) has a pin housing connector and a socket housing connector for an easy hook up with the red wire of the mat harness.
   D. Connect panic latch wires to matching clips of red wire from mat harness (figure #5).
   E. If non-panic door stop is used, do not disconnect red wire pin and socket connectors.

2. POWER HARNESS

   A. Three colored wires (black, white and green).
   B. Connect these wires to a standard power source of 120 VAC at 60 HZ.
   C. A ground screw is threaded in the end cap for grounding the power harness.

NOTE: On-off switch should be added in common mat lead circuit (24V), to turn off prior to locking door.

CAUTION! DO NOT ALLOW CHILDREN TO PLAY WITH OR RIDE ON ANY AUTOMATIC DOOR AT ANYTIME.

MUNTIN BARS

All doors and sidelights to contain horizontal muntin bars in compliance with U.L. 305 specifications.

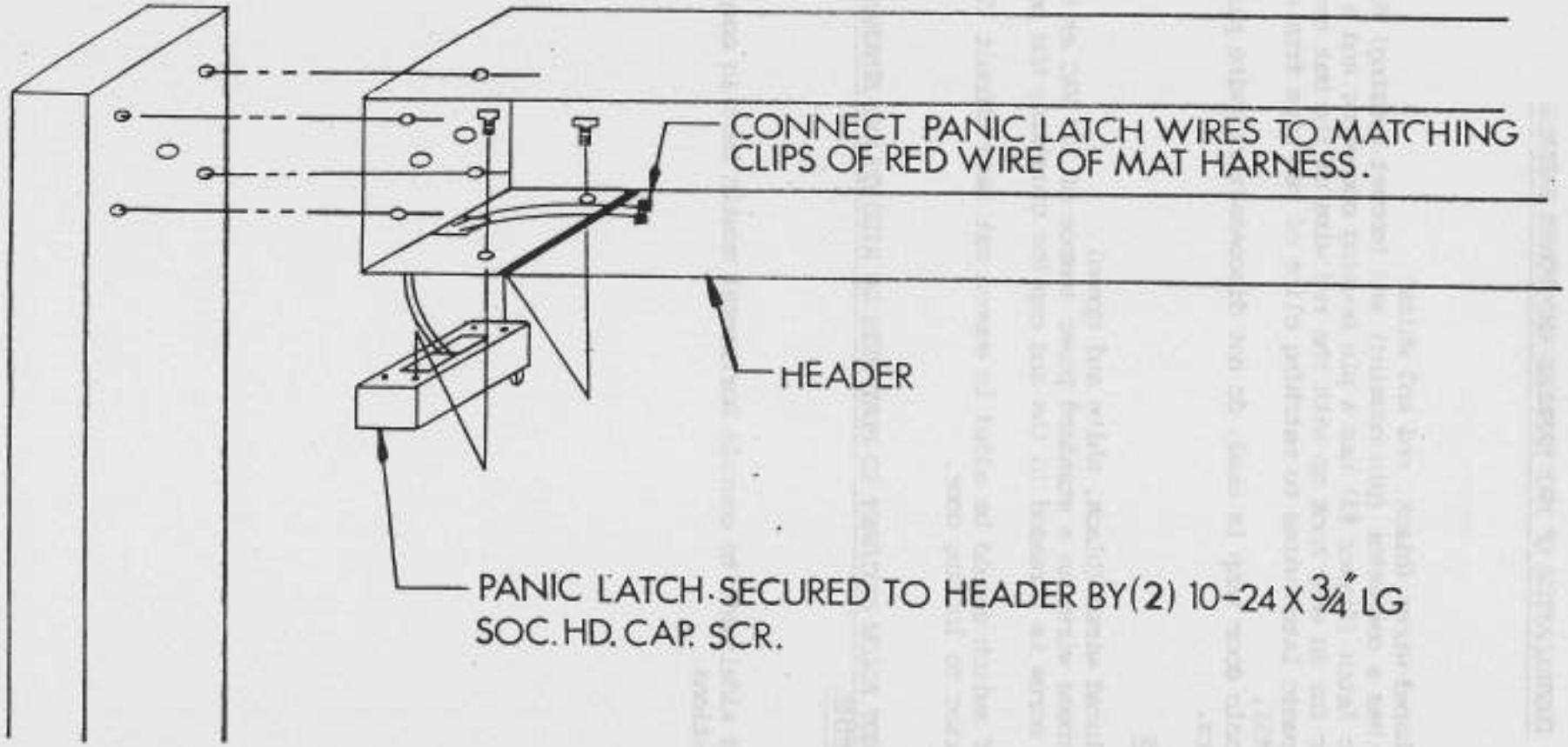

CONNECT PANIC LATCH WIRES TO MATCHING CLIPS OF RED WIRE OF MAT HARNESS.
HEADER
PANIC LATCH SECURED TO HEADER BY (2) 10-24 X 3/4" LG SOC. HD. CAP. SCR.

FIG. 5

HARNESS INSTALLATION INSTRUCTIONS

1. Install the control box mounting clip by squeezing the two legs together pushing up, with legs down until "V" projections at top will fit into top channel recess of header sides. Mounting clip should be mounted approximately 4" to 5" in front of operator/motor assembly. This must be installed prior to installing header wiring of power harness.

2. Power and mat harnesses must be in place before operator assembly or control box are installed. See instructions inside of header and template #00-1010, page #5.

3. Install power harness in one top corner of header. (Line voltage connections at pivot end of header (with wire retaining clips, packed with power harness every six (6) inches. Route wires around control box mounting clip, fasten green (ground) wire ring terminal to ground screw located inside if header, threaded into end cap.

4. Install mat harness in bottom corner of header diagonally from power harness, mat wires are fed from lock jamb end, with wire retaining clips, packed with mat harness.

NOTE: See Page #14 for wiring details of high voltage harness.

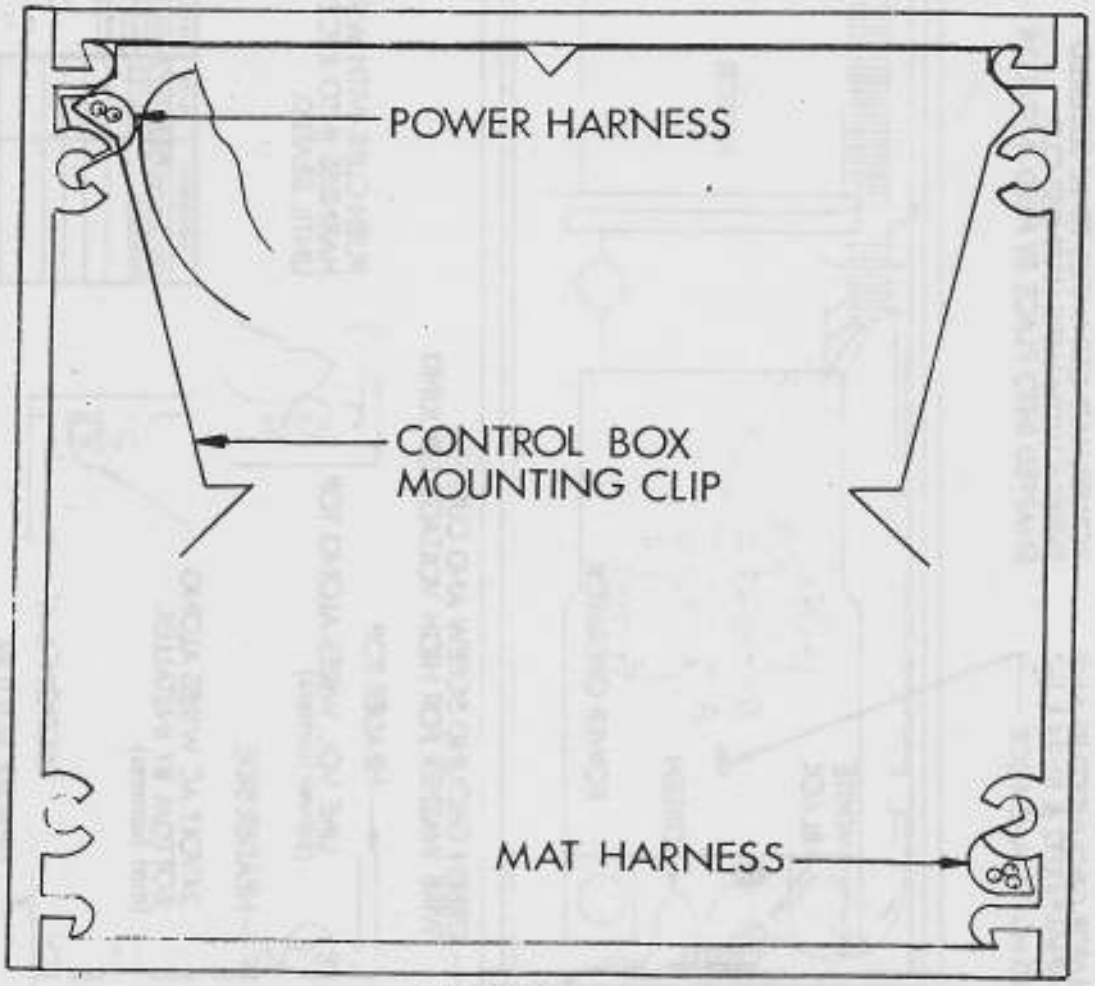
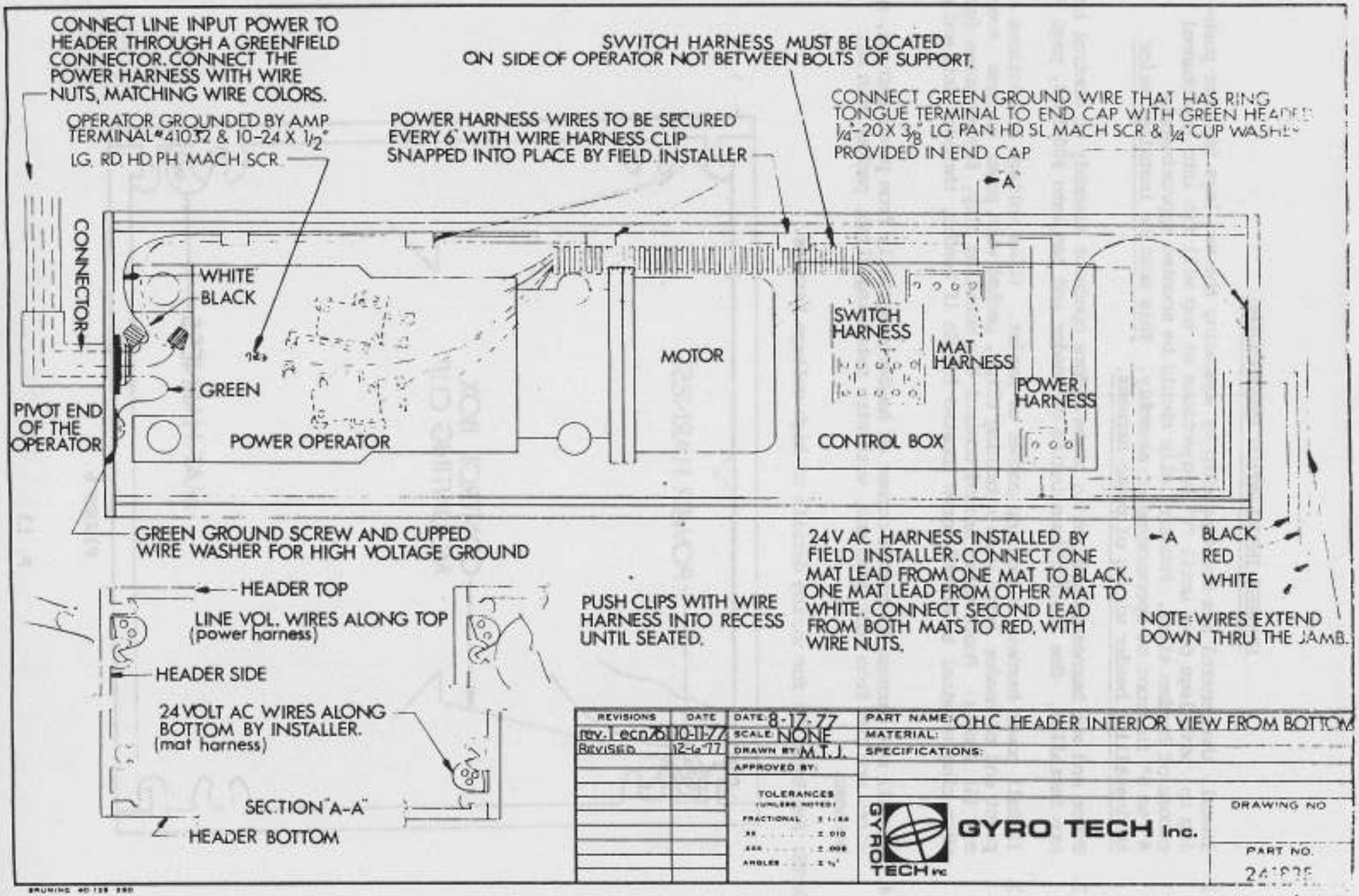


FIGURE 6



REVISIONS	DATE
REV. PER ECN 2610	10-11-77
REVISED	12-16-77

DATE: 8-17-77
SCALE: NONE
DRAWN BY: M.T.J.
APPROVED BY:

TOLERANCES (UNLESS NOTED)
FRACTIONAL ± 1/64
.XX ± .010
.XXX ± .005
ANGLES ± 1/2°

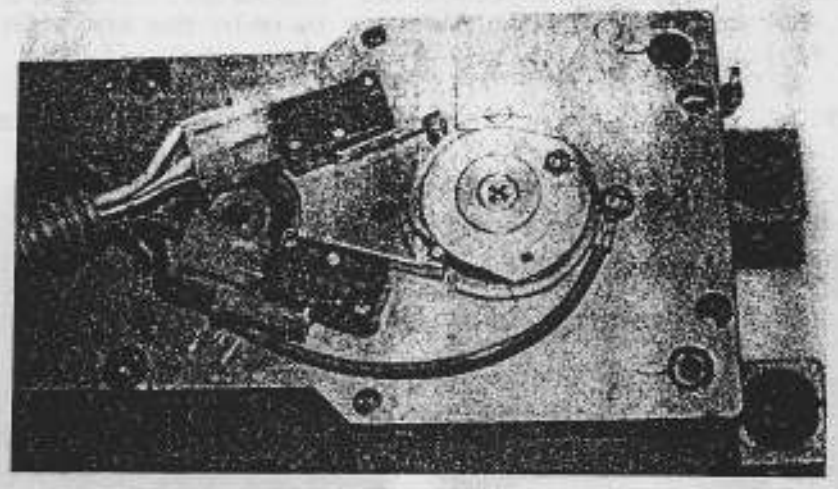
PART NAME: O.H.C. HEADER INTERIOR VIEW FROM BOTTOM
MATERIAL:
SPECIFICATIONS:

GYRO TECH Inc.

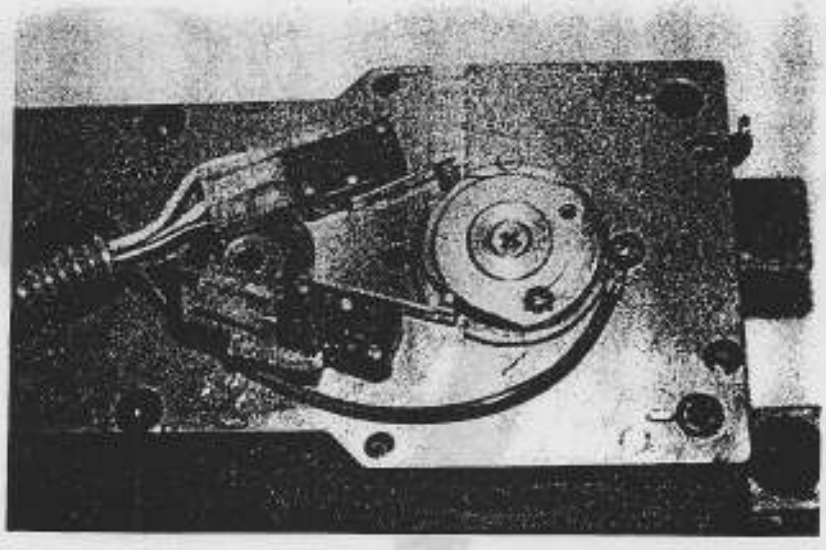
DRAWING NO.
PART NO. 241835

Before placing operator in header, remove switch cover plate from top of operator. Cams should be in the fixed position as shown in figure #7. The proper backcheck point may be obtained by removing the screw from the fixed position (Figure #7) to the adjustable position shown in figure #8. You now may adjust for the best point of backcheck. When you have completed this, tighten the screw in figure #8. Verify that the ground (green wire with ring terminal) of switch harness is grounded to the operator case. REPLACE SWITCH COVER Be careful that the switch harness flexible conduit end is locked in place with switch cover plate.

#7 Operator in Fixed Position



#8 Operator Adjustable



PREPARATION OF AN O.H.C. OPERATOR FOR INSTALLATION

1. Ascertain that you have properly handed the operator for your job (right hand or left hand). If you are uncertain about the hand of the operator look at the serial number on the swinger operator. The first digit will tell you "L" for left hand "R" for right hand. If uncertain about a P.A.C. operator the first three digits should read ACL for left hand, and ACR for right hand.

2. Place the operator upside down with the shaft facing up. A center line is scribed on the shaft (Figure #9).

3. Place the O.H.C. arm on the shaft, aligning the scribed center line and the center line of the arm (Figure #9).

4. Right hand O.H.C. operator; preset arm 210° counter-clockwise. Insert a 5/16-18 x 1 3/4" LG. SOC HD. cap screw in the operator to hold the arm with the correct preload.

5. Left hand O.H.C. operator; preset 210° clockwise. Insert a 5/16-18 x 1 3/4" LG. SOC. HD. cap screw in the operator to hold the arm with the correct preload. (Figure #11).

Figure 9

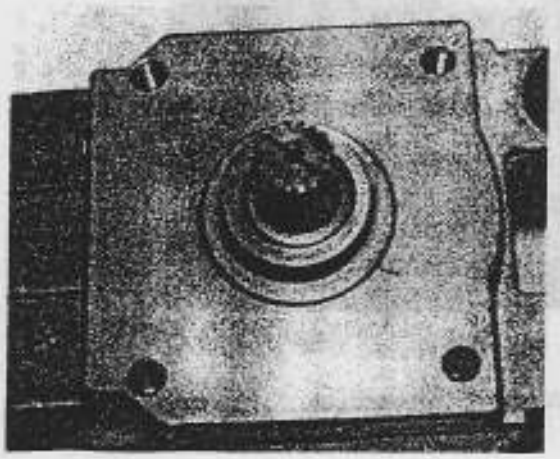


Figure 10

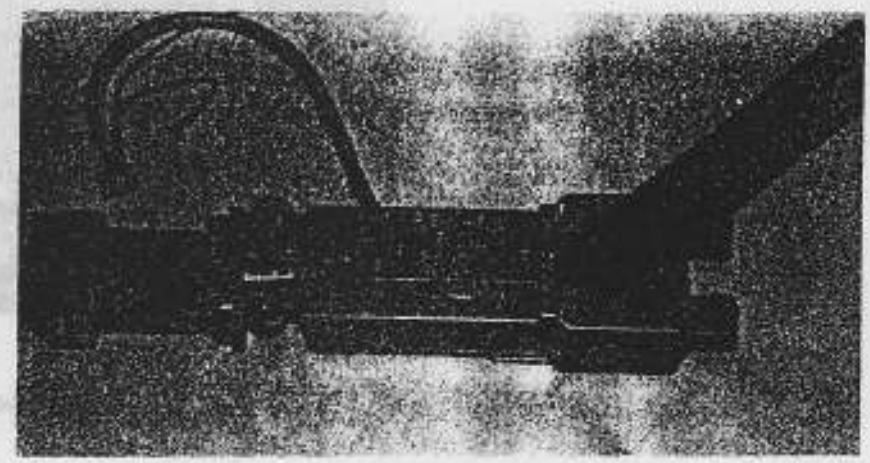


Figure 11

INSTALLATION OF ANY O.H.C. OPERATOR (RIGHT HAND & LEFT HAND)

1. Connect operator motor wires from the switch harness on to the base of motor. (Right hand - match colors, left hand - mismatch colors). Refer to circular instruction sticker on each motor.

2. Elevate operator into O.H.C. header housing angling above the pivot base (Figure #12). Secure rear operator feet over pivot base operator pins (Figure #13) and front operator feet on operator frame mount - motor end.

3. Attach (1) special washer and 3/8-16 hex jam nut on each of (2) frame mount posts - motor end. Tighten hex jam nuts until they are snug.

4. CAUTION: Do NOT allow switch harness to be installed between operator feet. The switch harness must be beside operator.

Figure 12

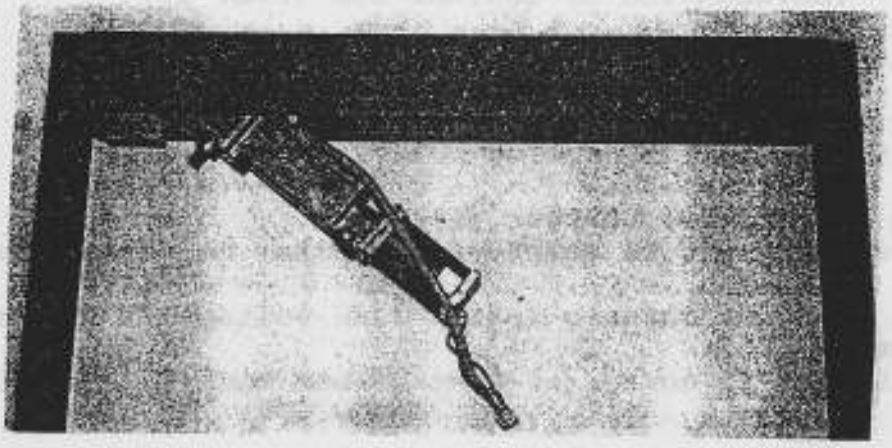
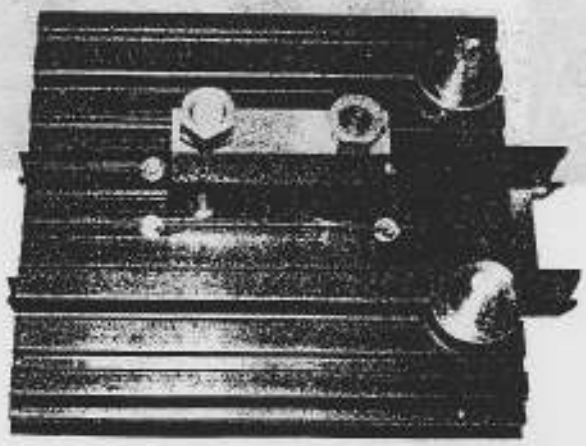


Figure 13



ATTACHMENT OF OPERATOR ARM TO DOOR

1. Take the slack out of the slide block by tightening the two set screws, on each end of the slide block (Fig. 14).

2. Align door so that hole in arm is in alignment with the bushing in slide block.

3. Install spacer washers (3 for 3/16" clearance door, 2 for 1/8" clearance door, 1 for 1/16" clearance door) over smooth end of pivot screw.

4. Thread (Arm to Slide) pivot screw into arm with smooth end of screw fitting into the busing of slide block.

INSTALLATION OF CONTROL BOX (FIG. 15)

1. Push control box into mount.

2. Plug in switch harness to ten (10)
   Pin socket next to active relay.

3. Plug mat harness to four (4)
   Pin socket next to safety relay after mat wires are hooked up.

4. Plug in power harness (after line voltage is connected) into three (3)
   Pin Socket in corner of control box marked "120 volt 60 HZ".

Figure 14

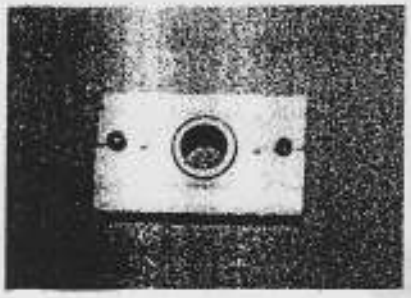
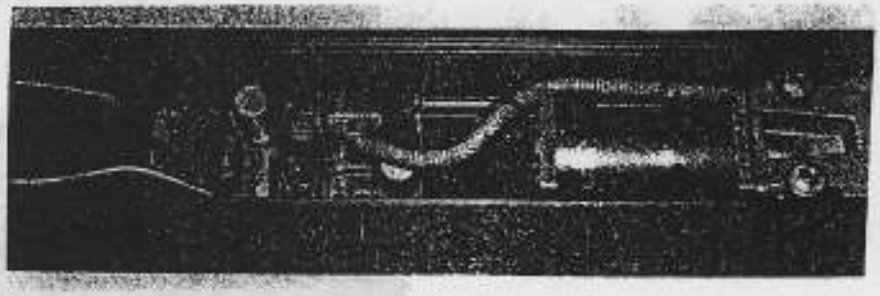


Figure 15



TROUBLE SHOOTING PROCEDURE - GYRO TECH SWING DOOR OPERATOR, SPRING CLOSED

ITEM:

1. Door will not open.

CHECK ITEMS:

1.1 Check power line switch to make sure it is ON and line power is entering operator Control box.

1.2 Check activating Circuit, low voltage switch in common mat lead (24V. Circuit) to make sure it is in the ON position.

1.3 Check fuse in Control box to make sure it is good.

NOTE:

If check items 1.1, 1.2 and 1.3 are OK, then start trouble shooting procedure.

1.4 Check to see that all plug-in relays and plug-in harness connections are making contact.

1.5 Remove mat harness plug from Control box and insert a mat lead test harness. (available from Gyro Tech. Enables service man to activate operator at Control box and bypass all other activating devices)

1.6 If unit operates properly when energized with test harness, then check activating leads or activating devices themselves for open circuit. Also check panic breakaway.

1.7 If unit doesn't operate when energized with test harness, then check and/or change the following:

1.7.1 Control Box
1.7.2 Operator harness wires
1.7.3 Not making contact in control box and/or micro switches.
1.7.4 Motor

ITEM:

2. Door stays open with no power to motor.

CHECK ITEM:
2.1 Check to see that door is free of debris, binding in opening or bad and loose hinges.

NOTE:
If check item 2 is OK, then start trouble shooting procedure.
2.2. See if door can be closed by applying a reasonable amount of hand pressure.
2.3 If door can be closed by a small amount of hand pressure you may assume the following:
- 2.3.1 Snap rings missing on gear shafts - This will allow the shafts to move up and down and bind gear train. Snap ring may be replaced in field.
- 2.4.2 Broken or jambed gear train internally - replace operator.
- 2.4.3 Check slide block adjustment in door.
- 2.4.4 Possible bad motor replace.

ITEM:

3. Door stays open with power on motor.

CHECK ITEMS:
3.1 Check all activating devices to see that they are free of objects which might cause them to maintain contact.

NOTE:
If check item 3.1 is OK then start trouble shooting procedure:
3.2 Remove mat or other activating leads from Control Box.
3.3 If operator times out and shuts off, check activating leads or activating devices themselves for short circuit.
3.4 If operator continues to run with activating circuit disconnected, check the following:
- 3.4.1 Relays points stuck closed - replace relays.
- 3.4.2 Shorted circuit in Control circuit board - Change control box.

ITEM

4. Door opens slow - bounces at open position, closes more rapidly.

CHECK ITEM:

4.1 Make sure all harnesses and relays are plugged in tightly.
4.2 Replace all micro switches and check operation.
4.3 Replace Control Box, and check all switches as described previously.

ITEM

5. Door Slams when closing.

CHECK ITEM:

5.1 Faulty Resistors: There are two (2) resistors in the control box that control the speed of the door during closing and latching. The smaller resistor is 20 OHMS and is standard for all size doors for latching.

The following maximum door weights (total of glass weight plus door and carrier) are permissable 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).

DOOR LEAF SIZE	MAXIMUM DOOR WEIGHT	RESISTOR SIZE
30"	86 LBS.	175 OHMS
36"	103 LBS.	150 OHMS
42"	131 LBS.	125 OHMS
48"	148 LBS.	125 OHMS

ITEM

6. Door starts open and stops halfway.

CHECK ITEM:

6.1 Check switch harness for shorts and check switches (refer to 3.4, page 20).

ITEMS TO CHECK ON NEW INSTALLATIONS

1. Brush Retainer Caps tight on Motor.
   1.1 Retianer Caps may work loose in shipment or during installation.

2. Operator Harness - Make sure operator harness connectors are secured tightly on micro switches.
   2.1 Harness connectors may be disconnected from micro switches during shipment or during installation.

3. Control Box Relays - Check relay plug-in contacts - make sure they are not broken off or pushed up in relay housing.
   3.1 These relays may jar loose in shipment and plug in contacts become loose or damaged.

4. Motor runs operator will not open door - Check screws on motor coupling for tightness.
   4.1 Vibration during shipment may cause these to loosen. Coupling will spin on shaft when installed or shortly after a few cycles.

ITEMS REQUIRING SPECIAL ATTENTION ON OHC INSTALLATIONS

While Gyro Tech units require very little specific maintenance work on a regular basis, it is recommended that a check of the installation be made at least once every six months. This will assure the units are performing at top efficiency. Jobs should be checked for the following:

1. Loose Top Pivot
   (A) Check all screws to be sure they have not loosened up.
   (B) Check that walking beam pivot is all the way down and tight.

2. Lubricate Track
   (A) Check lubrication in slide track - if necessary lubricate with light grease or vaseline.

3. Loose or Noisy Slide Block
   (A) Adjust set screws for smooth operation.

4. Loose Bottom Pivot
   (A) Check mounting screws to assure none have loosened up.
   (B) Check floor portion of pivot to make sure the mounting screws have not loosened up.

5. Loose Operator
   (A) Remove operator and replace rubber pressure pads on cam cover.

6. Check for proper back check and latching. If adjustment is required, remove operator and adjust cams. Also refer to Paragraph 5.1.

7. Tighten all visable screws and set screws including the set screw in the arm. Care should be taken to make sure everything is tight and operating smoothly.

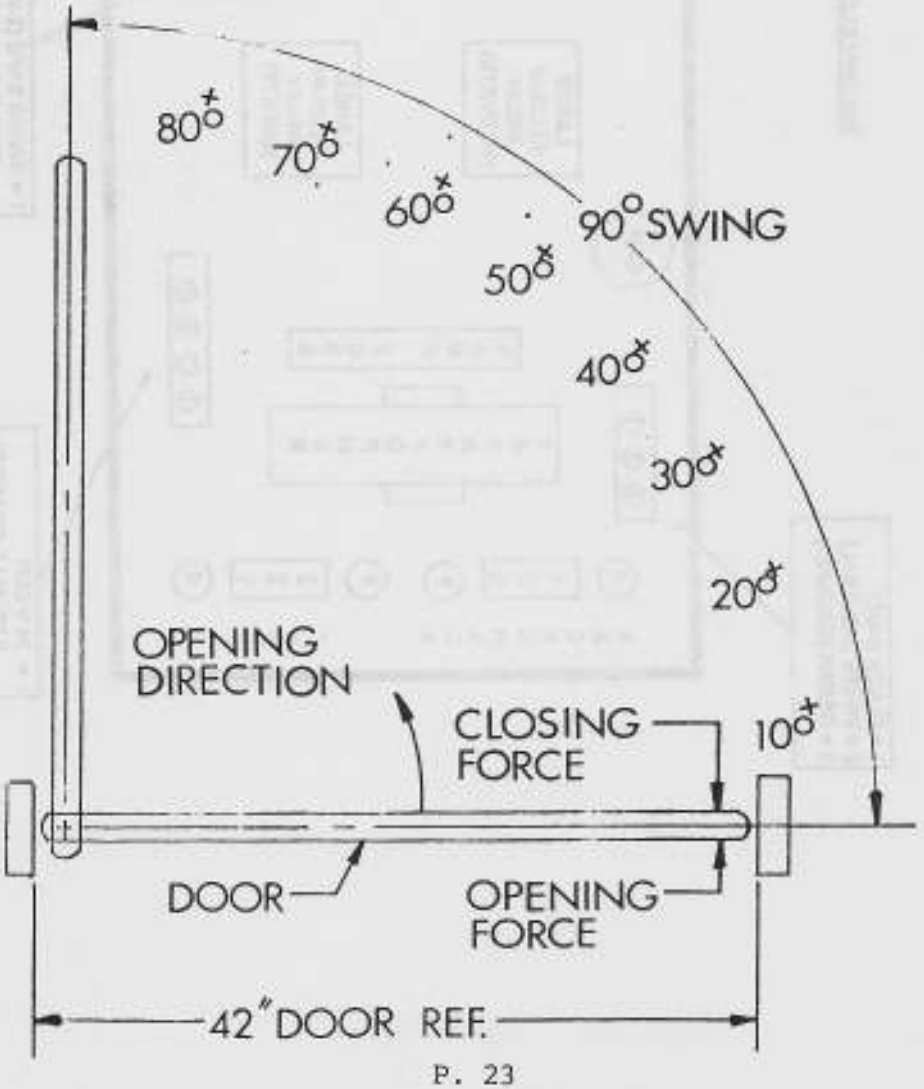
OPENING AND CLOSING PRESSURE TEST RESULTS

We have tested a 42" "Gyro Swing" door with operator energized (OHC and CU units) to determine the force required to stop the door from opening and closing in the following positions:

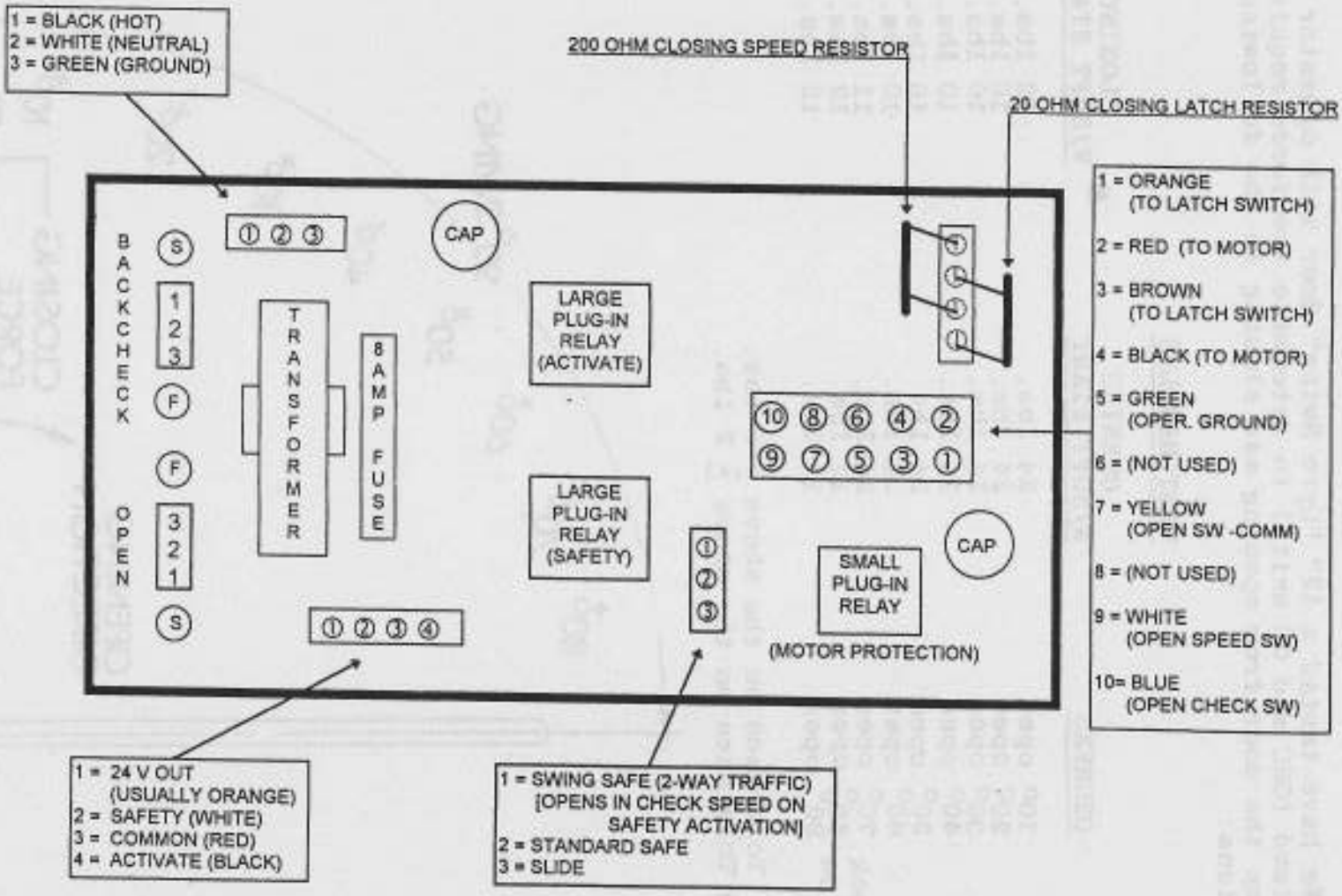
TEST RESULTS

	DEGREES	OPENING W/SOFT START	● CLOSING W/SOFT START
	10° open	24 lbs.	10 lbs.
	20° open	24 lbs.	10 lbs.
	30° open	24 lbs.	10 lbs.
	40° open	24 lbs.	10 lbs.
	50° open	24 lbs.	10 lbs.
	60° open	24 lbs.	10 lbs.
Backcheck	70° open	24 lbs.	11 lbs.
position	80° open	12 lbs.	12 lbs.
	90° open	12 lbs.	12 lbs.

Note: Tolerance on the above ± 5 lbs.
● Tolerance on the above ± 2 lbs.

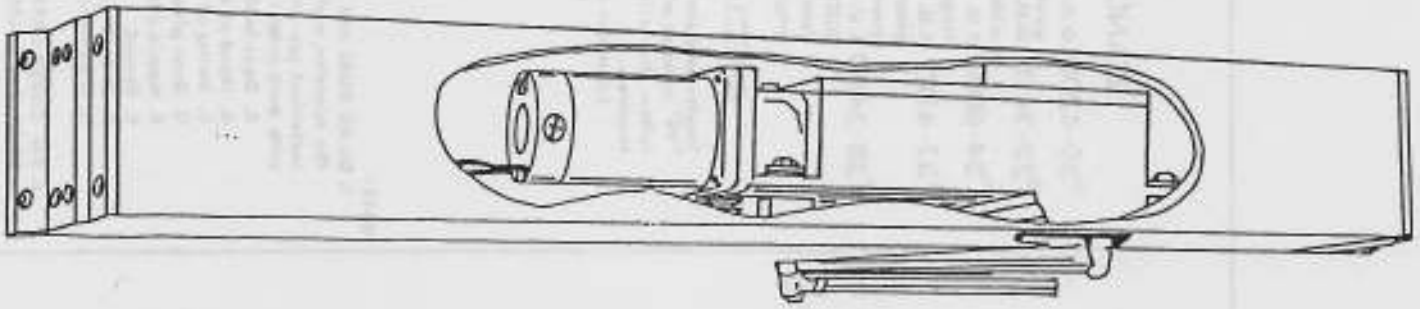


GYRO-TECH P.O.S.C. SWING / SLIDE CONTROL



NOTE: MICRO-SWITCHES ARE "DROPPED-OUT" FOR CHECK AND "MADE" FOR SPEED.

INSTALLATION INSTRUCTIONS
FOR
SURFACE APPLIED CONVERSION UNIT



"GYRO-SWING" Door Operator

GYRO TECH inc • 6750 INDUSTRIAL LOOP • GREENDALE, WISC. 53129
PHONE (414) 421-9400

Operator Housings / Swinging Doors

TYPE

'2' - O.H.C./Single & Sim. Pr./6" Frame System
'3' - O.H.C./Dual/6" Frame System
'4' - C.U./Single & Sim. Pr. Out
'5' - C.U./Single & Sim. Pr. In
'6' - C.U./Dual Out
'7' - C.U./Dual In
'8' - C.U./Dual In & Out

OPERATOR HOUSING
Swing Type

HOUSING LENGTH: SINGLES & SIMULTANEOUS PAIRS

MODEL # 30-0000

DOOR OPENING (DUAL)
'3' - 36" DOOR LEAF
'4' - 42" DOOR LEAF

PIVOT LOCATION (DUAL)
'0' - Door Pivot at Jamb
'1' - Door Pivot at Center Post
'2' - Door Pivot at Jamb & Center Post
'3' - Door Pivots In at Jamb, Out at Center Post (C.U. Only)
'4' - Door Pivots Out at Jamb, In at Center Post (C.U. Only)

FINGER GUARD
'0' No Finger Guard
'1' Finger Guard

PANIC LATCH
'0' No Panic Latch
'1' Panic Latch

Examples:

STANDARD DOOR SIZES:

#30-4200 O.H.C. / single leaf door / 5" frame system / 42 "door / no finger guard / no panic

#32-7411 O.H.C. / simultaneous pair door / 6" frame system / 36" doors / with finger guard / with panic

#34-6000 C.U. / simultaneous pair OUTSWINGING doors - 30 doors / no finger guard / no panic

#37-4110 C.U. / dual; INSWINGING both doors / 42" doors / both doors pivot or hinge at CENTER POST / both doors with finger guard / both doors without panic

#38-3400 C.U. / dual; INSWINGING and OUTSWINGING / 36" doors / OUTSWINGING door pivots or hinges at JAMB, INSWINGING door pivots or hinges at CENTER POST / both doors without finger guard / both doors without panic

SPECIAL DOOR SIZES:

1. Singles and simultaneous pairs (non-standard door leaves). Substitute "99" in place of first two digits that represent housing length, and follow the entire six digit model number with actual housing length required.

   Example: O.H.C. / single leaf door / 5" frame system / no finger guard / no panic / 40½" door width:
   MODEL #30-9900-40½"

NOTE:

1. On All DUAL and C.U. applications, the length of the housing, the hand of the operator, and the length and type of arm are determined by the individual job requirements. The following information MUST be supplied with each order:
   - A. Door leaf size.
   - B. Hand of door (right or left).
   - C. Swing of door; in or out).
   - D. Door pivot or hinge location (jamb or center post).
   - E. How is door hung i.e. center pivots, butt hinges, offset pivots.
   - F. Reveal.
   - G. Overall jamb and (or) mullion size.
   - H. If panic is required on INSWINGING door(s).

2. AN "ORDER DATA SHEET" MUST BE SUPPLIED WITH EACH ORDER FOR BOTH O.H.C. AND C.U. EQUIPMENT.

CONVERSION UNIT SWING DOOR OPERATOR

ITEM DESCRIPTION — PACKAGING

A. C.U. Header Housing Assy. — Carton #1
   (1) Header Housing W/End Caps And Mounting Brackets
   (2) Strike Base (Stop End)
   (3) Pivot Base (Hinge End)
   (4) Dress Plate W/Screws
   (5) Lock Clips
   (6) End Cap & Mounting Bracket Cover Piece (Tape) (8)
   (7) Screw Bag for Mounting Header to Jambs
       1/4"-20 x 1" LG. FL. HD. PH. Mach. Scr. (6)
       Rivnuts (6) Nutserts (6)

B. C.U. Operator Assy. — Carton #2
   (1) Motor
   (2) Operator (Gear Box)
   (3) Switch Harness

C. Arm Assy. (Depending on the hand and direction the door swings)
   (1) C.U. Arm Assembly - Out/Non-Handed
   (2) C.U. Arm Assembly - In/Non-Handed
   (3) C.U. Arm Assembly - In Left hand/Panic or Non-Panic
   (4) C.U. Arm Assembly - In Right Hand/Panic or Non-Panic
   (5) Arm Template (Not Shown)

D. Track
   (1) Panic W/Sex Bolts
   (2) Non-Panic W/Sex Bolts

E. Mat Harness W/Clips

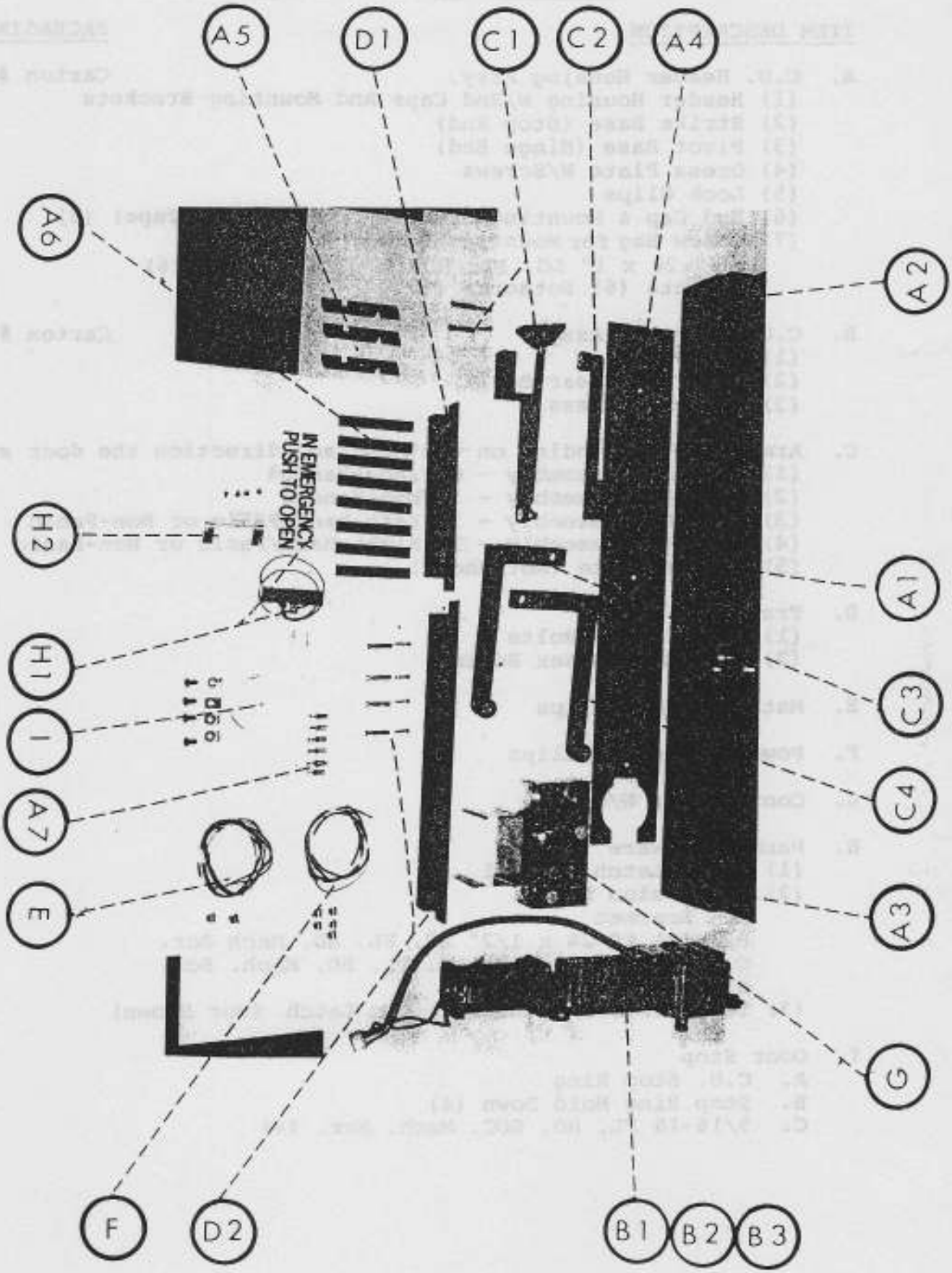
F. Power Harness W/Clips

G. Control Box W/Clip

H. Panic Hardware
   (1) Panic Latch W/Decal
   (2) Conversion Kit
       A. Bracket
       B. (2) 10-24 x 1/2" LG. FL. HD. Mach Scr.
       C. (2) 10-24 x 1¼" LG. FL. HD. Mach. Scr.
       D. (4) Fiber Washers
   (3) Template for mounting Panic Latch (Not Shown)

I. Door Stop
   A. C.U. Stop Ring
   B. Stop Ring Hold Down (4)
   C. 5/16-18 FL. HD. SOC. Mach. Scr. (4)

FIG. 1


A5
D1
C1
C2
A4
A6
A2
IN EMERGENCY
PUSH TO OPEN
H2
A1
H1
C3
I
C4
A7
E
A3
G
F
D2
B1
B2
B3

PHSYICAL INSTALLATION OF A C.U. HEADER

1. Remove header from carton.

2. Using header (mounting brackets) as a template, locate the mounting holes on the jamb tubes. (Refer to figure 2).

3. Drill #Q (.332 DIA.) Hole into jamb tubes and countersink .531 Dia. x 100° for rivnuts for nutserts drill #3/8 (.375 Dia.) hole (6) holes total.

4. Now install rivnuts or nutserts with rivnut setter.

5. Attach the header to jamb tubes with (6) 1/4-20 x 1" FL.HD. PH. Mach. Screws. (3 on each side) (Refer to figure 3).

6. Affix the (8) pieces of tape, on the end caps and mounting brackets to cover up the mounting screws and end cap screws.

Figure 2

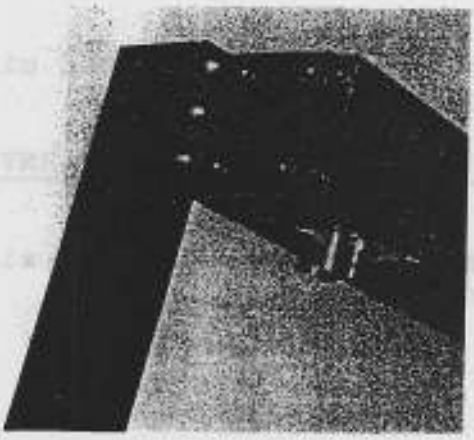
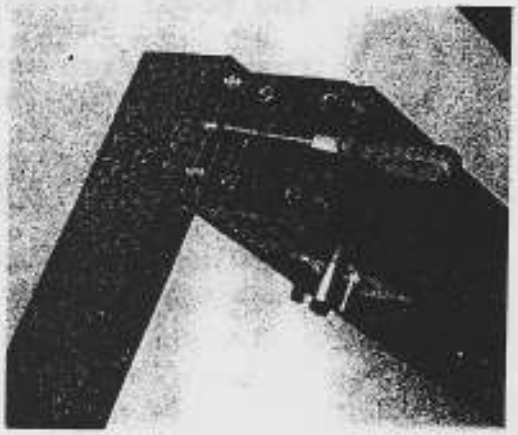


Figure 3



INSTALLATION OF MAT HARNESS AND POWER HARNESS

1. MAT HARNESS

   A. Three colored wires (black, red and white)

   B. Red wire has a connector (pin housing) and (socket housing) for a panic latch, (only used on inswing doors).

   C. The panic latch has a pin housing connector and a socket housing connector for an easy hook up with the red wire of the mat harness.

   D. Connect panic latch wires to matching clips of red wire from mat harness.

   E. Refer to page 6 for field application for a C.U. - panic latch and conversion kit.

2. POWER HARNESS

   A. Three colored wires (black, white and green)

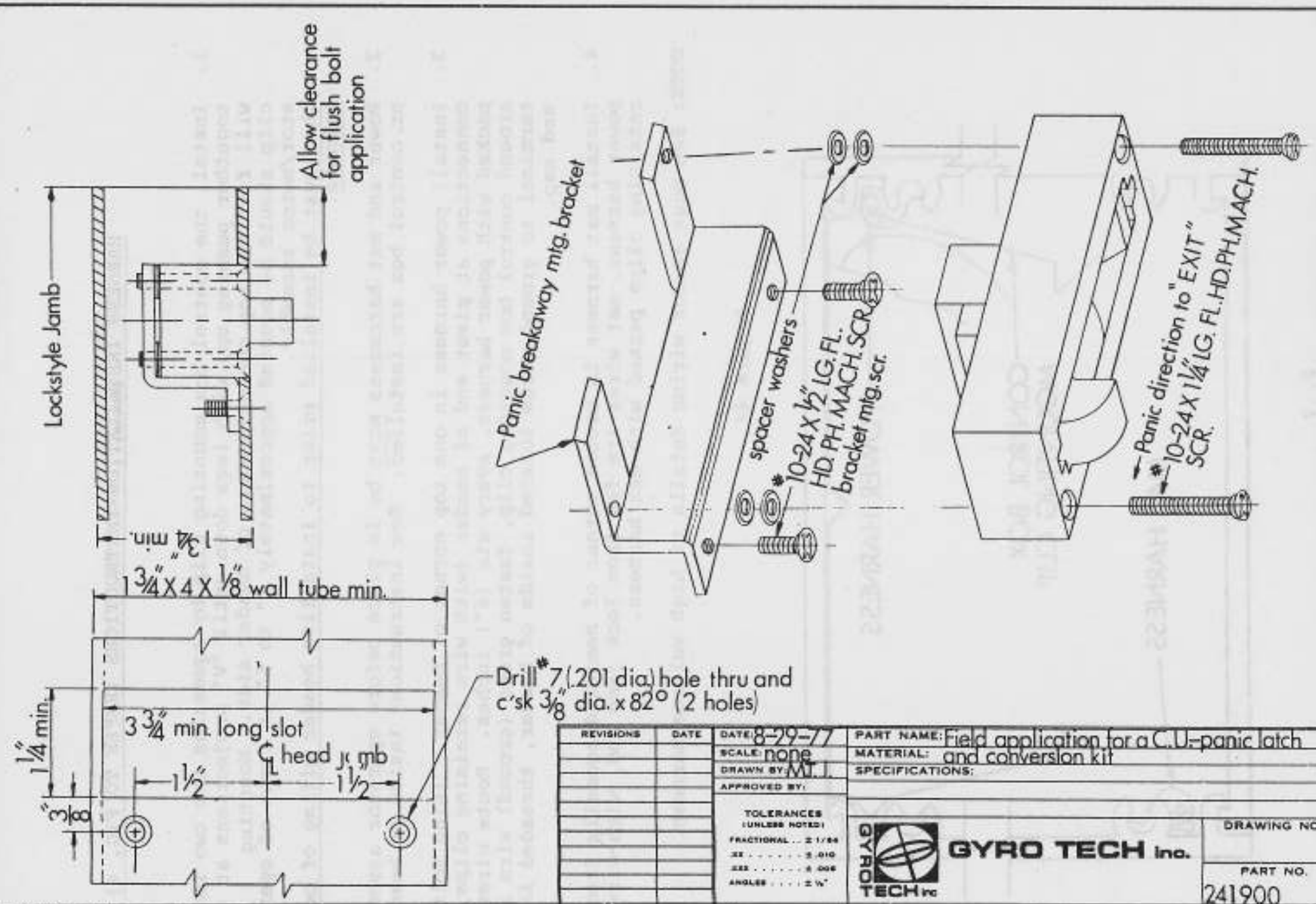
   B. Connect these wires to a standard power source of 120 VAC at 60 HZ.

   C. A ground screw is threaded in the end cap for grounding the power harness.

NOTE On-off switch should be added in common mat lead circuit (24V), to turn off prior to locking door.

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

NOTE U.L. specification 305 states that all doors and sidelights must contain horizontal muntin bars.



REVISIONS	DATE

DATE: 8-29-77
SCALE: none
DRAWN BY: M.T.
APPROVED BY:

TOLERANCES (UNLESS NOTED)
FRACTIONAL ... ± 1/64
.XX ... ± .010
.XXX ... ± .005
ANGLES ... ± ½°

PART NAME: Field application for a C.U.-panic latch and conversion kit
MATERIAL:
SPECIFICATIONS:

GYRO TECH inc.

DRAWING NO.

PART NO. 241900

BRUNING 40-138 280

HARNESS INSTALLATION INSTRUCTIONS (REFER TO FIG. 4)

1. Install the control box mounting clip by squeezing the two legs together pushing up, with legs down until "V" projections at top will fit into top channel recess of header side. Mounting clip should be mounted approximately 4" to 5" in front of operator/motor assembly.
   This must be installed prior to installing header wiring of power harness.

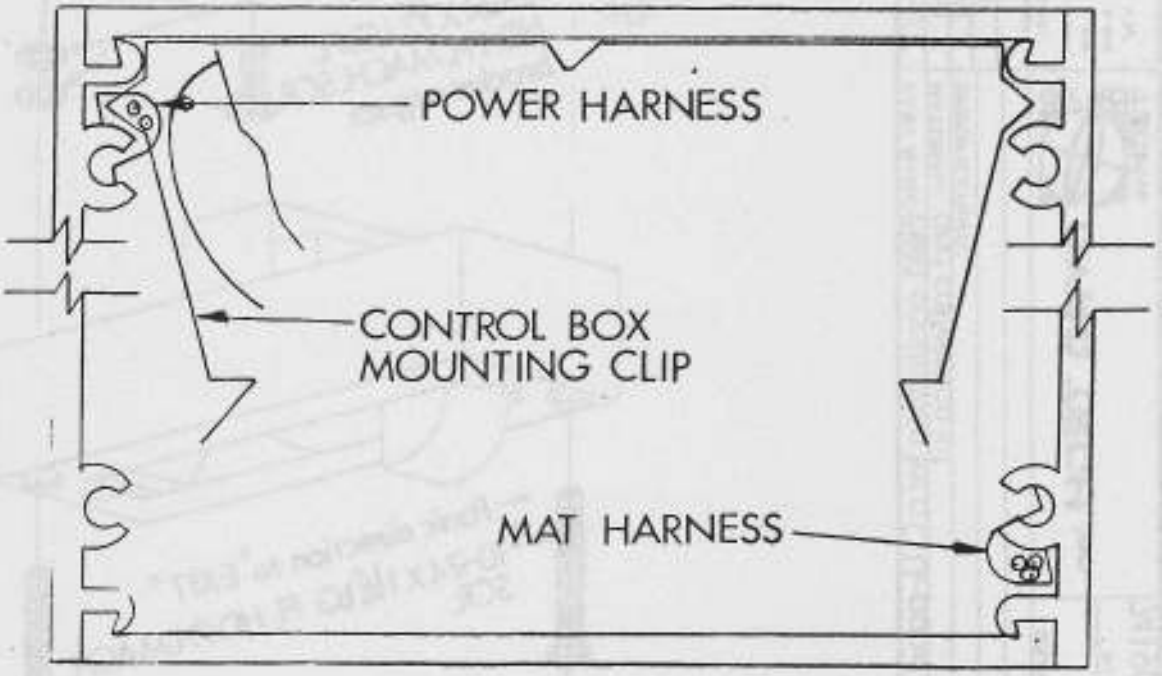
2. Power and mat harnesses must be in place before operator assembly or control box are installed. See instructions inside of header.

3. Install power harness in one top corner of header. (Line voltage connections at pivot end of header (with wire retaining clips, packed with power harness, every six (6") inches. Route wires around control box mounting clip, fasten green (ground) wire ring terminal to ground screw located inside of header, threaded into end cap.

4. Install mat harness in bottom corner of header diagonally from power harness, mat wires are fed from lock jamb end, with wire retaining clips packed with mat harness.

NOTE: See page #8 for wiring details of high voltage harness.

Figure #4



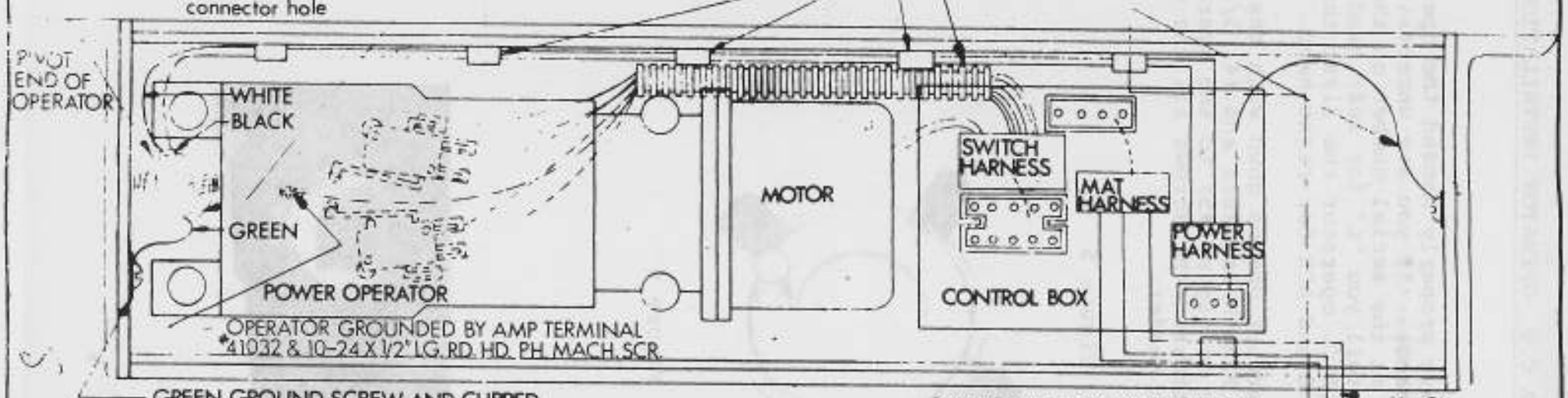
CONNECT LINE INPUT POWER TO HEADER THROUGH A GREENFIELD CONNECTOR. CONNECT THE POWER HARNESS WITH WIRE NUTS, MATCHING WIRE COLORS.

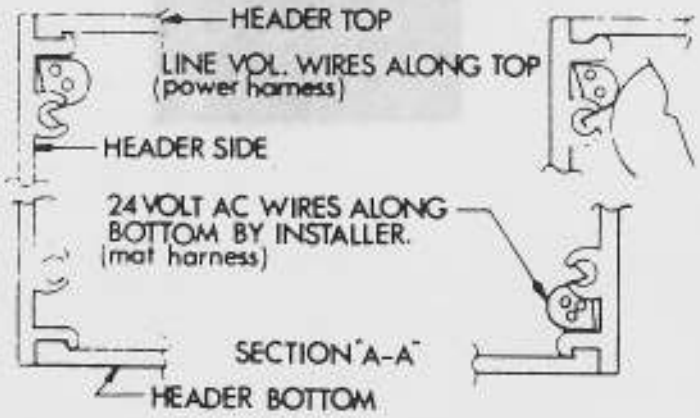
SWITCH HARNESS MUST BE LOCATED ON SIDE OF OPERATOR NOT BETWEEN BOLTS OF SUPPORT.

CONNECT GREEN GROUND WIRE THAT HAS RING TONGUE TERMINAL TO END CAP WITH GREEN HEADED 1/4"-20 X 3/8" LG. PAN HD SL. MACH. SCR. & 1/4 CUP WASHER PROVIDED IN END CAP

POWER HARNESS WIRES TO BE SECURED EVERY 6" WITH WIRE HARNESS CLIP SNAPPED INTO PLACE BY FIELD INSTALLER

Line voltage ℄ conduit connector hole





PUSH CLIPS WITH WIRE HARNESS INTO RECESS UNTIL SEATED.

24 V AC HARNESS INSTALLED BY FIELD INSTALLER. CONNECT ONE MAT LEAD FROM ONE MAT TO BLACK, ONE MAT LEAD FROM OTHER MAT TO WHITE. CONNECT SECOND LEAD FROM BOTH MATS TO RED, WITH WIRE NUTS.

REVISIONS	DATE
revised	6-3-77
rev 2 ecn 761	10-11-77
REVISED	12-6-77

DATE: 8-17-77
SCALE: NONE
DRAWN BY: M.T.J.
APPROVED BY:

TOLERANCES (UNLESS NOTED)
FRACTIONAL ± 1/64
.XX ± .010
.XXX ± .005
ANGLES ± 1/2°

PART NAME: C U HEADER INTERIOR VIEW FROM BOTTOM
MATERIAL:
SPECIFICATIONS:

GYRO TECH Inc.

DRAWING NO.

PART NO. 241823

1. Ascertain that you have properly handed the operator for your job (right hand or left hand). If you are uncertain about the hand of the operator look at the serial number on the swinger operator. The first digit will tell you "L" for left hand "R" for right hand If uncertain about P.A.C. operator the first three digits should read ACL for left hand and ACR for right hand.

2. Place the swinger operator upside down with the shaft facing up. Add the C.U. Stop Ring W/Brackets and (4) 5/16-18 FL. HD. Soc. Mach. Screws (Refer to figure #5) to the operator (Refer to figure #6). Do not tighten the screws all the way until the operator is placed in the header.

Figure 5

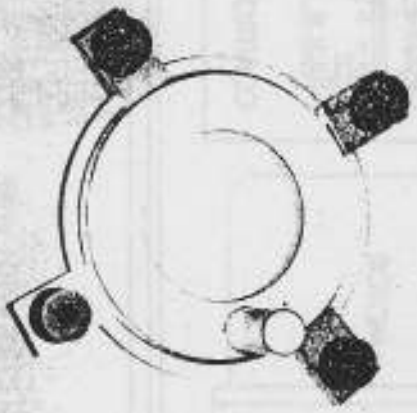
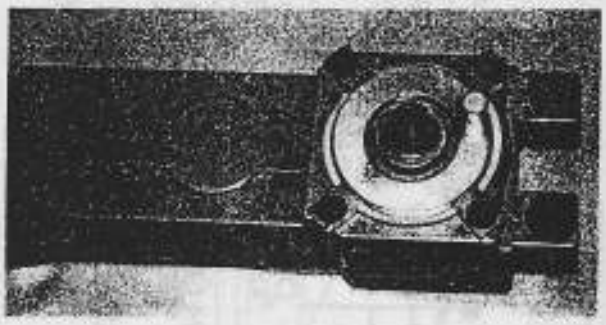


Figure 6



Before placing operator in header, remove switch cover plate from top of operator. Cams should be in the fixed position as shown in figure #7. The proper backcheck point may be obtained by removing the screw from the fixed position (Figure #7) to the adjustable position shown in figure #8. You now adjust for the best point of backcheck. When you have completed this, tighten the screw in figure #8. Verify that the ground (green wire with ring terminal) of switch harness is grounded to the operator case.

REPLACE SWITCH COVER Be careful that the switch harness flexible conduit end is locked in place with switch cover plate.

Figure 7 Operator in fixed position

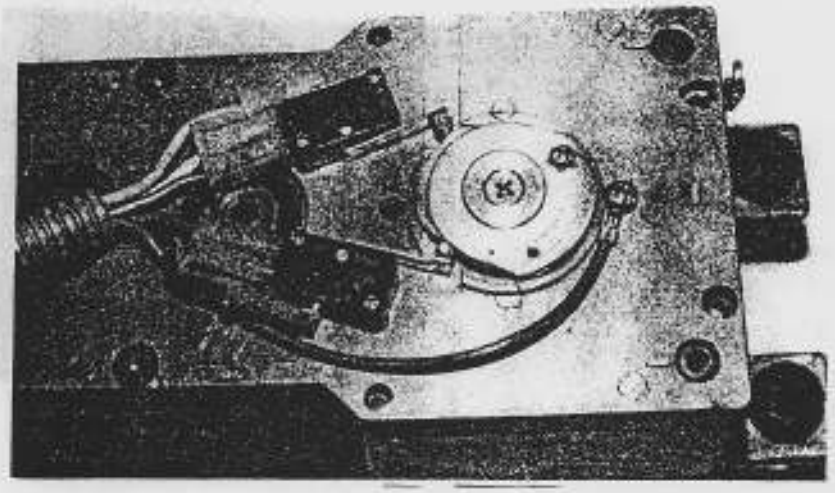
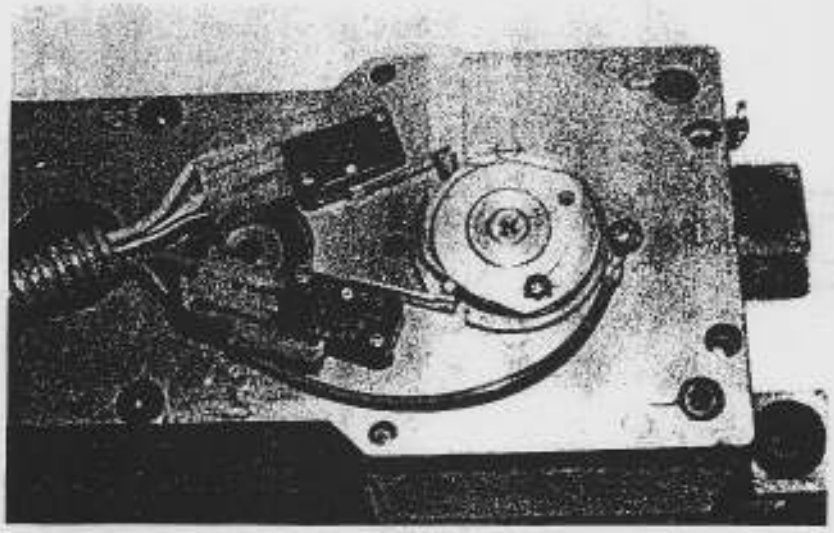


Figure 8 Operator Adjustable



INSTALLATION OF C.U. OPERATOR (RIGHT HAND AND LEFT HAND)

1. Connect operator motor wires from the switch harness onto the base of the motor, (right hand) match colors, left hand - mismatch colors). Refer to circular instruction sticker on each motor.

2. Elevate operator into C.U. header housing angling above the pivot base (refer to figure 9). Secure rear operator feet over pivot base operator pins (refer to figure 10) and front operator feet on operator frame mount - motor end.

3. Attach (1) special washer and 3/8-16 hex jam nut on each of (2) frame mount posts - motor end. Tighten hex jam nuts until they are snug.

4. CAUTION! Do not Allow switch harness to be installed between operator feet. The switch harness must be beside operator.

Figure 9

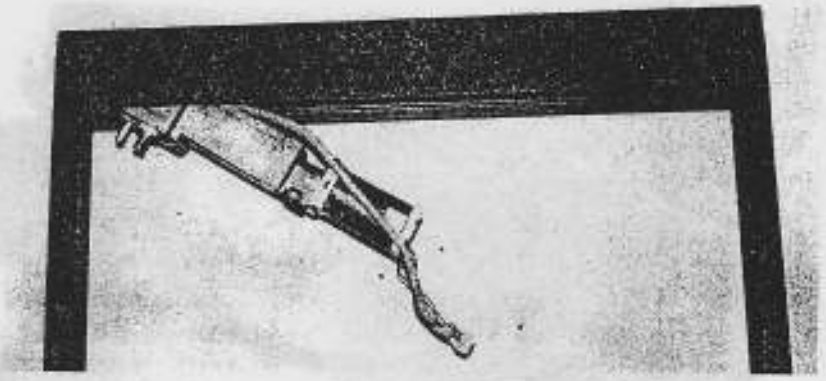
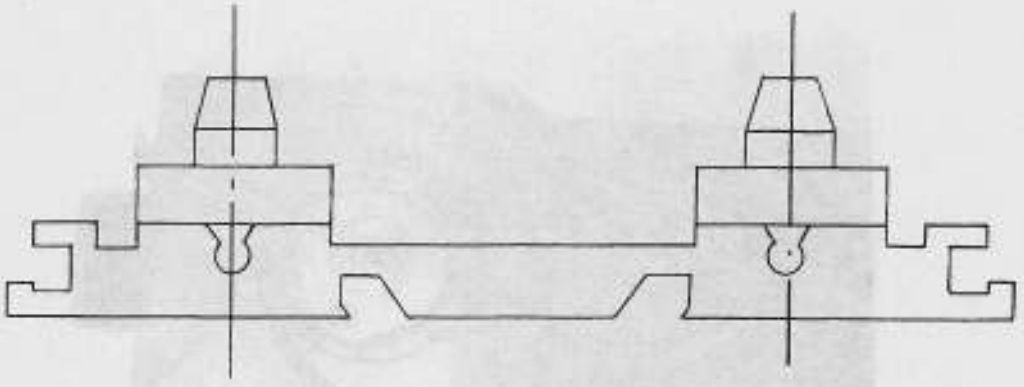


Figure 10



INSTALLATION OF INSWING ARM AND TRACKS

1. On inswing applications using an inswing arm and track refer to templates on pages 22, 23, 26, 27, 28,29 for proper model. Inswing arms have different tracks depending on whether they are panic or non-panic applications. Refer to templates for proper positioning of the arm. Templates also show position of arm on operator shaft before connecting to door for proper preload on operator.

2. Mount track to door using dimensions shown on template and attach using (2) 1/4-20 x 1" LG. FL HD. Mach. Screw. (Use rivnuts or nutserts or reinforce frame).

3. Take one screw out of the track and swing the track downwards toward the floor.

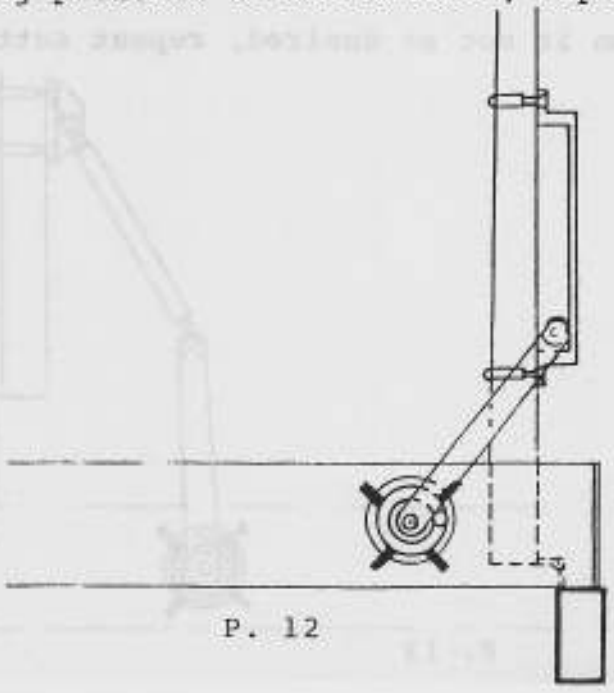
4. Place arm on operator shaft before its connected to the door (shown on template)

5. Preload the arm so that the roller will fit in the track. Stick a 1/8" pin in a hole located on the bottom of operator at the motor end. Now slide the track back up and fasten the track and then remove the pin.

6. Operator is now installed in header and arm and track should be securely tightened. Open door manually 90° or to desired open position not exceeding 120° maximum opening. Adjust movable stop ring so that it will stop arm at desired position. (Refer to Figure #11) Mating teeth of circular stop ring and clamps must engage fully throughout. Hold stop ring in position and securely tighten all clamps.

7. Carefully operate door by hand to verify proper setting of stop ring.

8. If stop ring position is not desired, repeat setting procedure.



INSTALLATION OF OUTSWING ARMS

1. After the operator is in place, refer to the proper template on pages 20, 21, 24, & 25 for the arm used in your outswing installation. On outswing installations, templates show the proper positioning of the arm and also show the position of the arm on the operator shaft before connecting to the door for proper preload on operator.

2. Attach bracket to door with (2) 1/4-20 x 1" LG. FL. HD. Mach. Screw. (use rivnuts or nutserts or reinforce frame). Dimensions for location of bracket are shown on template.

3. Adjust drive linkage to proper "D" length according to dimensions for frame width as explained on template.

4. Place arm on the operator shaft before its connected to the door (shown on template).

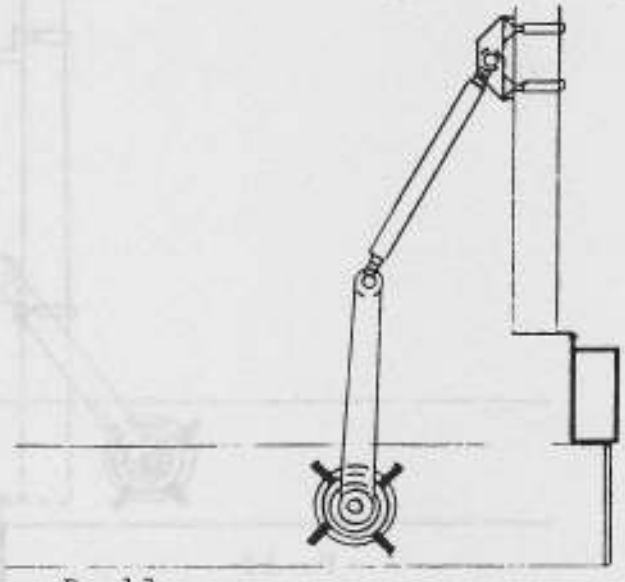
5. Preload the arm $130^{o}+5^{o}$ and stick 1/8" pin in a hole located on the bottom of operator at the motor end.

6. Attach linkage to bracket and remove pin.

7. Operator is now installed in header and arm should be securely tightened. Open door manually 90^{o} or to desired open position not exceeding 120^{o} maximum opening.. Adjust movable stop ring so that it will stop arm at desired position. (Refer to figure #12) mating teeth of circular stop ring and clamps must engage fully throughout. Hold stop ring in position and securely tighten all clamps.

8. Carefully operate door by hand to verify proper setting of stop ring.

9. If stop ring position is not as desired, repeat setting procedure.



INSTALLATION OF CONTROL BOX

1. Push control box into mount.
2. Plug in switch harness to ten (10) pin socket.
   NEXT TO ACTIVE RELAY
3. Plug in mat harness to four (4) pin socket next to safety relay after mat wires are hooked up.
4. Plug in power harness (after line voltage is connected) into three (3) pin socket in corner of control box marked "120 Volt 60 HZ".

DRESS PLATE INSTALLATION

1. When the operator control box and harnesses are installed you are ready to install the dress plate which will complete your header. (Refer to Figure #13).

2. Dress plate must be snapped in, and the holes in the snap-in dress plate lined up with the brackets in the bottom of the header. Dress plate is screwed down to the brackets to avoid coming off during operation (Refer to Figure #14).

Figure 13

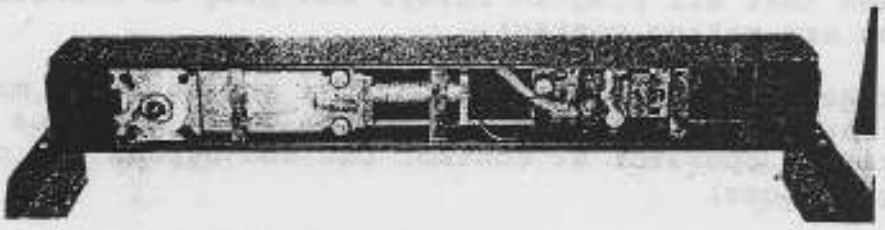
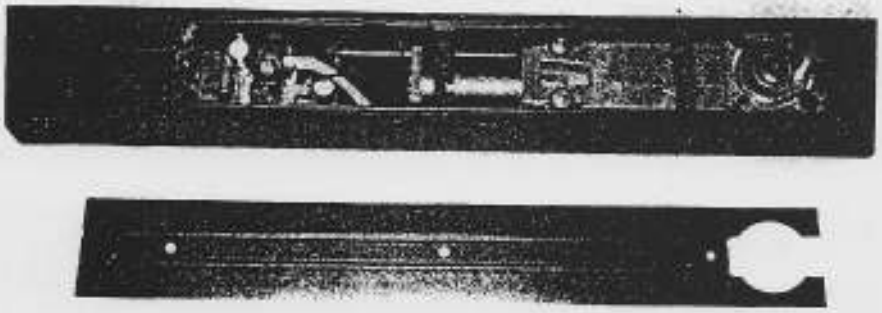


Figure 14



TROUBLE SHOOTING PROCEDURE - GYRO TECH SWING DOOR OPERATOR,

SPRING ENCLOSED

ITEM:

1. Door will not open.

CHECK ITEMS:

1.1 Check power line switch to make sure it is ON and line power is entering operator control box.

1.2 Check activating circuit, low voltage switch, to make sure it is in the ON position.

1.3 Check fuse in control box to make sure it is good.

NOTE:

If check items 1.1, 1.2, and 1.3 are OK, then start trouble shooting procedure.

1.4 Check to see that all plug-in relays and plug-in harness connections are making contact.

1.5 Remove mat harness plug from control box and insert a mat lead test harness. (Available from Gyro Tech. Enables service man to activate operator at control box and bypass all other activating devices)

1.6 If unit operates properly when energized with test harness, then check activating leads or activating devices themselves for open circuit. Also check panic breakaway.

1.7 If unit doesn't operate when energized with test harness, then check and/or change the following:

- 1.7.1 Control Box
- 1.7.2 Operator Harness Wires
- 1.7.3 Not Making Contact in Control Box and/or Micro Switches.
- 1.7.4 Motor

ITEM

2. Door stays open with no power to motor.

CHECK ITEM

2.1 Check to see that door is free of debris, binding in opening or bad and loose hinges.

NOTE

If check item 2 is OK, then start trouble shooting procedure.

2.2 See if door can be closed by applying a reasonable amount of hand pressure.

2.3 If door can be closed by a small amount of hand pressure you may assume the following:

2.3.1 Snap rings missing on gear shafts - This will allow the shafts to move up and down and bind gear train. Snap ring may be replaced in field.

2.4 Broken or jambed gear train internally - replace operator.

ITEM

3. Door stays open with power on motor..

CHECK ITEMS

3.1 Check all activating devices to see that they are free of objects which might cause them to maintain contact.

NOTE

If check item 3.1 is OK then start trouble shooting procedure:

3.2 Remove mat or other activating leads from control box.

3.3 If operator times out and shuts off, check activating leads or activating devices themselves for short circuit.

3.4 If operator continues to run with activating circuit disconnected, Check the following:

3.4.1 Relays points stuck closed - replace relays.

3.4.2 Shorted circuit in control circuit board - change control box.

ITEM

4. Door opens slow - bounces at open position, closes more rapidly.

CHECK ITEM

4.1 Make sure all harnesses and relays are plugged in tightly.

4.2 Replace all micro switches and check operation.

4.3 Replace control box, and check all switches as described previously.

ITEM

5. Door slams when closing.

CHECK ITEM

5.1 Faulty Resistors: There are two (2) resistors in the control box that control the speed of the door during closing and latching. The smaller resistor is 20 OHMS and is standard for all size doors for latching. The larger is for closing speed and should be sized (rated) to door size thus:

The following maximum door weights (total of glass weight plus door and carrier) are permissable 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).

DOOR LEAF SIZE	MAXIMUM DOOR WEIGHT	RESISTOR SIZE
30"	86 LBS.	175 OHMS
36"	103 LBS.	150 OHMS
42"	131 LBS.	125 OHMS
48"	148 LBS.	125 OHMS

ITEM

6. Door starts open and stops halfway.

CHECK ITEM

6.1 Check switch harness for shorts and check switches (refer to 3.4, page 13).

ITEMS TO CHECK ON NEW INSTALLATIONS

1. Brush Retainer Caps tight on motor.
   1.1 Retainer caps may work loose in shipment or during installation.

2. Operator Harness - Make sure operator harness connectors are secured tightly on micro switches.
   2.1 Harness connectors may be disconnected from micro switches during shipment or during installation.

3. Control Box Relays - Check relay plug-in contacts - make sure they are not broken off or pushed up in relay housing.
   3.1 These relays may jar loose in shipment and plug in contacts become loose or damaged.

4. Motor Runs Operator Will Not Open Door - Check screws on motor coupling for tightness.
   4.1 Vibration during shipment may cause these to loosen. Coupling will spin on shaft when installed or shortly after a few cycles.

ITEMS REQUIRING SPECIAL ATTENTION ON CU INSTALLATIONS

While Gyro Tech units require very little specific maintenance work on a regular basis, it is recommended that a check of the installation be made at least once evey six months. This will assure the units are performing at top efficiency. Jobs should be checked for the following:

1. Check arm linkage of outswing units for proper adjustment.

2. Loose operator-
   (A) Remove operator and replace rubber pressure pads on cam cover.

3. Check for proper back check. If adjustment is required, remove operator and adjust cams.

4. Tighten all visable screws and set screws including the set screw in the arm. Care should be taken to make sure everything is tight and operating smoothly.

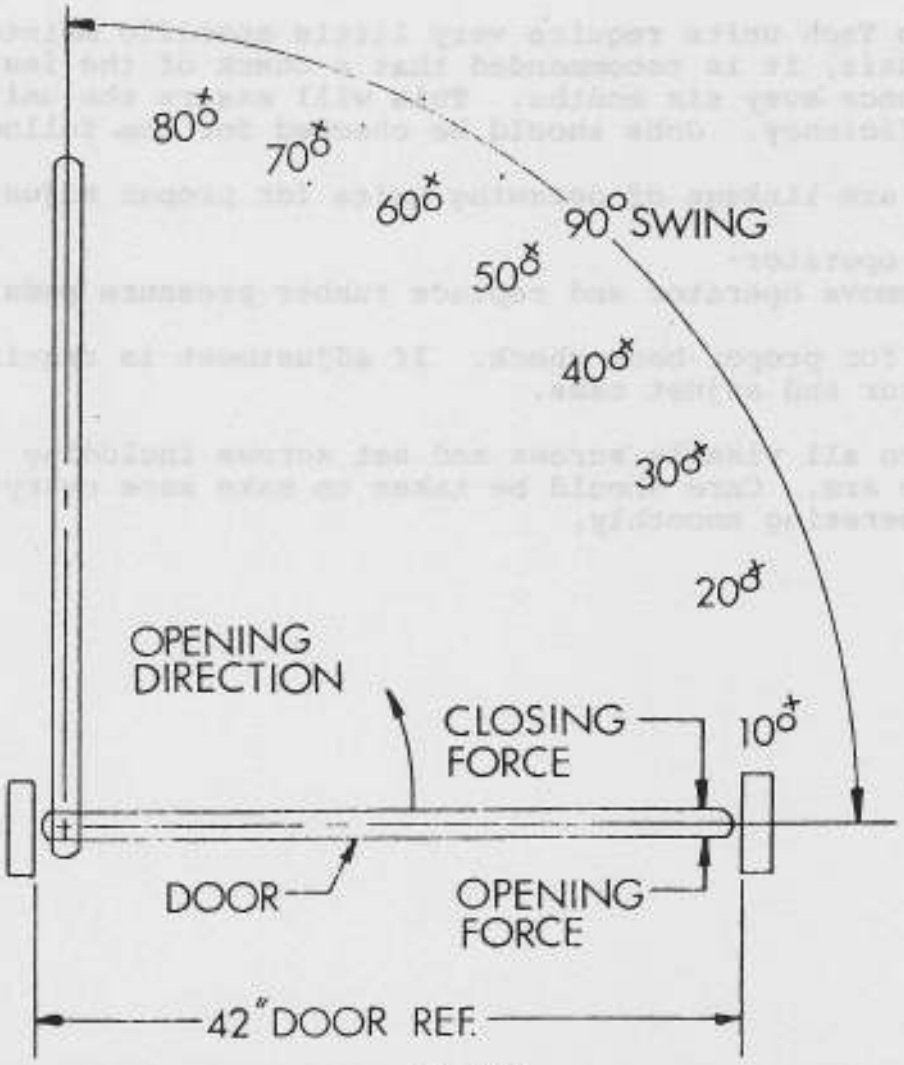
OPENING AND CLOSING PRESSURE TEST RESULTS

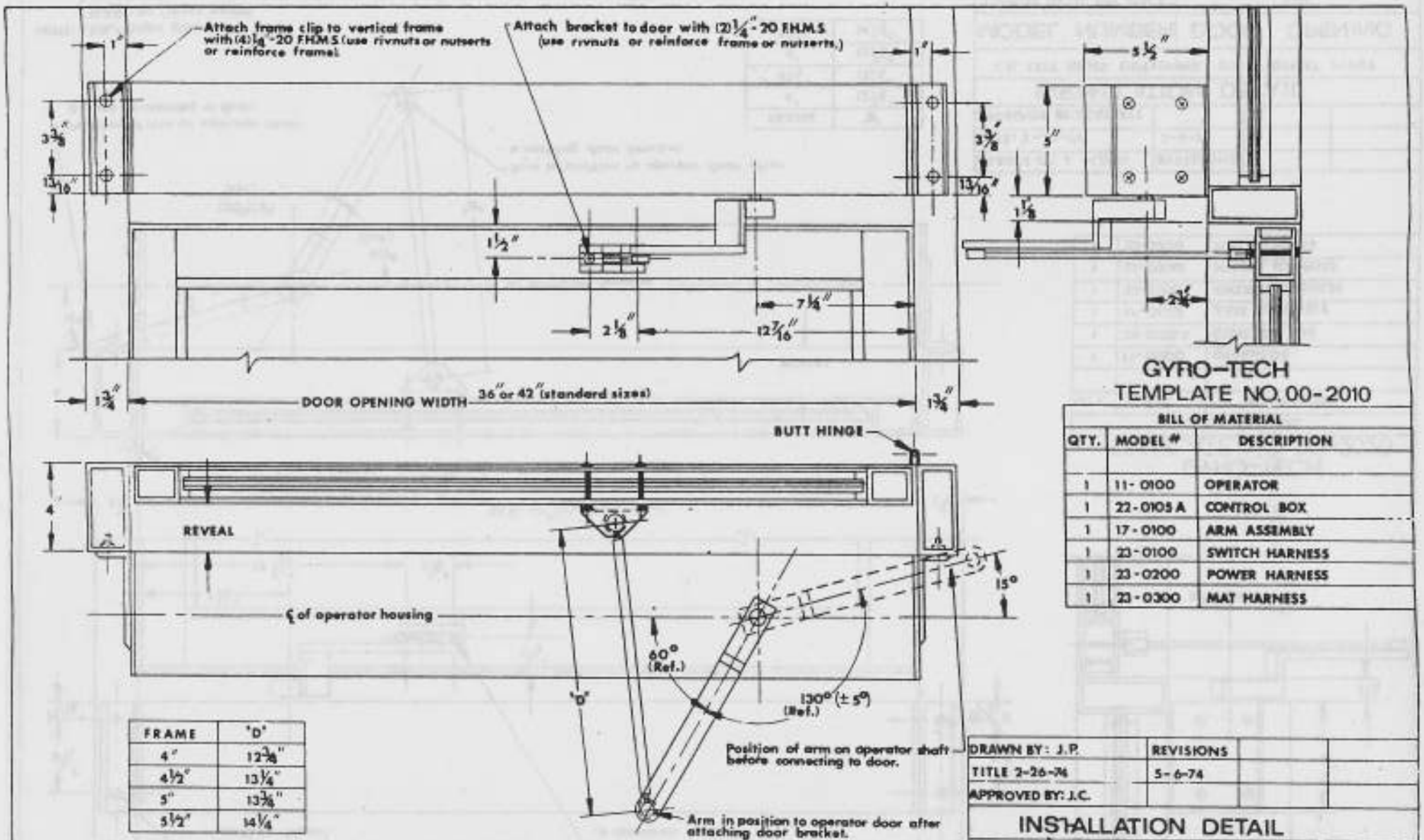
We have tested a 42" "Gyro Swing" door with operator energized (OHC and CU units) to determine the force required to stop the door from opening and closing in the following positions:

TEST RESULTS

	DEGREES	OPENING W/SOFT START	● CLOSING W/SOFT START
Backcheck position	10° open	24 lbs.	10 lbs.
	20° open	24 lbs.	10 lbs.
	30° open	24 lbs.	10 lbs.
	40° open	24 lbs.	10 lbs.
	50° open	24 lbs.	10 lbs.
	60° open	24 lbs.	10 lbs.
	70° open	24 lbs.	11 lbs.
	80° open	12 lbs.	12 lbs.
	90 open	12 lbs.	12 lbs.

Note: Tolerance on the above ± 5 lbs.
● Tolerance on the above ± 2 lbs.





GYRO-TECH

TEMPLATE NO. 00-2010

BILL OF MATERIAL

QTY.	MODEL #	DESCRIPTION
1	11-0100	OPERATOR
1	22-0105 A	CONTROL BOX
1	17-0100	ARM ASSEMBLY
1	23-0100	SWITCH HARNESS
1	23-0200	POWER HARNESS
1	23-0300	MAT HARNESS

FRAME	"D"
4"	12 3/8"
4 1/2"	13 1/4"
5"	13 3/8"
5 1/2"	14 1/4"

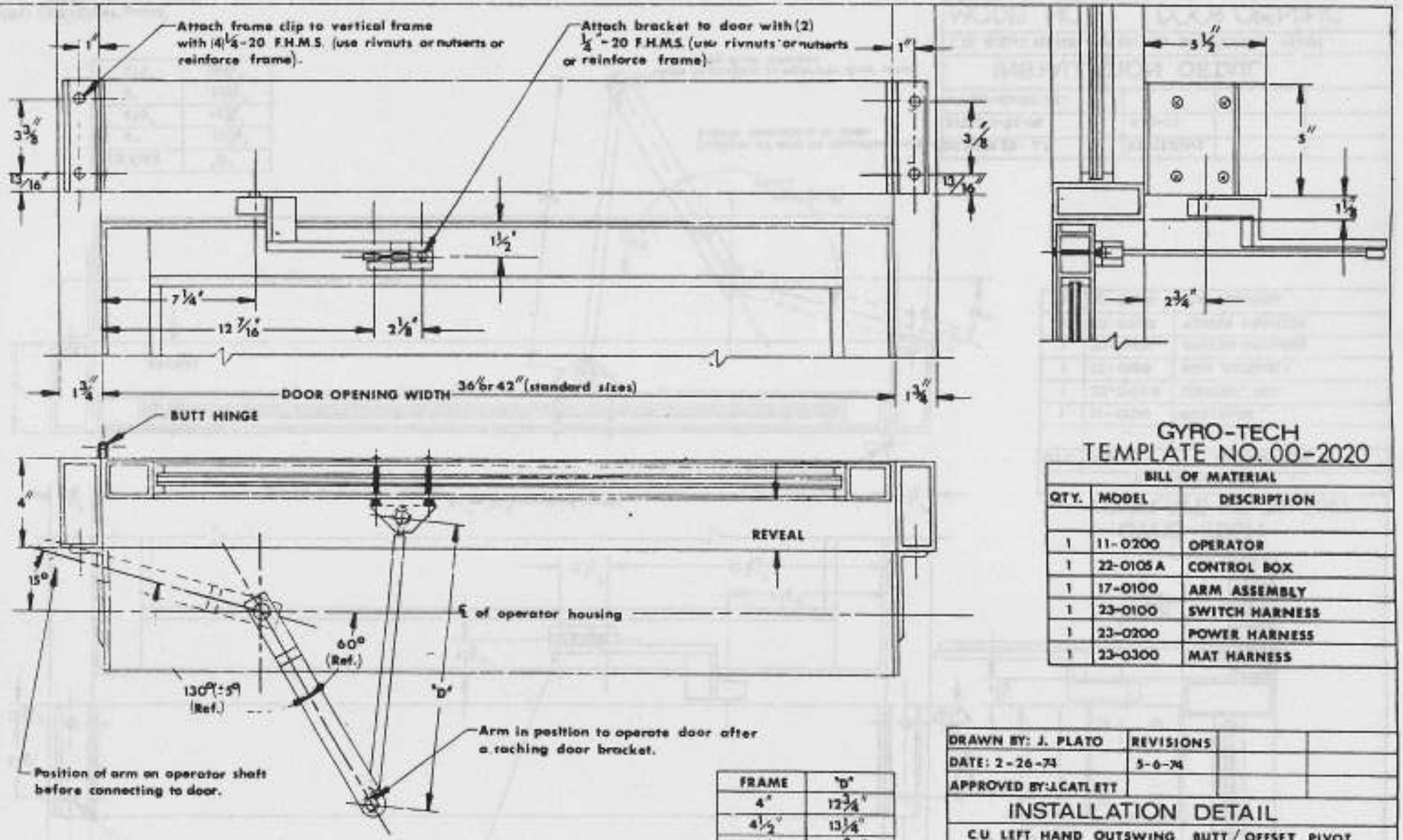
NOTE: 1. F.G. - finger guard
N.F.G. - no finger guard
2. Indexing line on pivot shaft to be parallel with ℄ of operator housing (±5) (Door closed position).

DRAWN BY: J.P.	REVISIONS		
TITLE 2-26-74	5-6-74		
APPROVED BY: J.C.			

INSTALLATION DETAIL

C.U. RIGHT HAND OUTSWING BUTT/OFFSET PIVOT

MODEL NO.	DOOR OPENING
34-3600 (N.F.G. - NO PANIC)	3'-0"
34-4200 (N.F.G. - NO PANIC)	3'-6"



FRAME	"D"
4"	12 3/4"
4 1/2"	13 1/4"
5"	13 3/4"
5 1/2"	14 1/4"

NOTE: F.G.- finger guard.
N.F.G.- no finger guard.
2. Indexing line on pivot shaft to be parallel with ℄ of operator housing (± 5°) (Door closed position).

GYRO-TECH
TEMPLATE NO. 00-2020

BILL OF MATERIAL

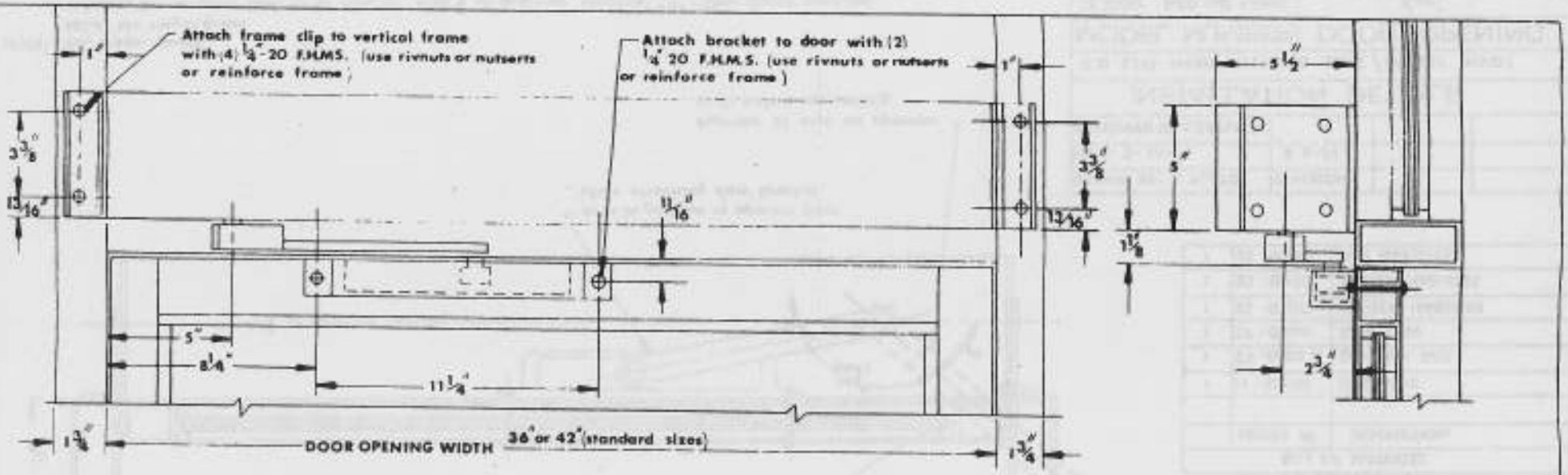
QTY.	MODEL	DESCRIPTION
1	11-0200	OPERATOR
1	22-0105 A	CONTROL BOX
1	17-0100	ARM ASSEMBLY
1	23-0100	SWITCH HARNESS
1	23-0200	POWER HARNESS
1	23-0300	MAT HARNESS

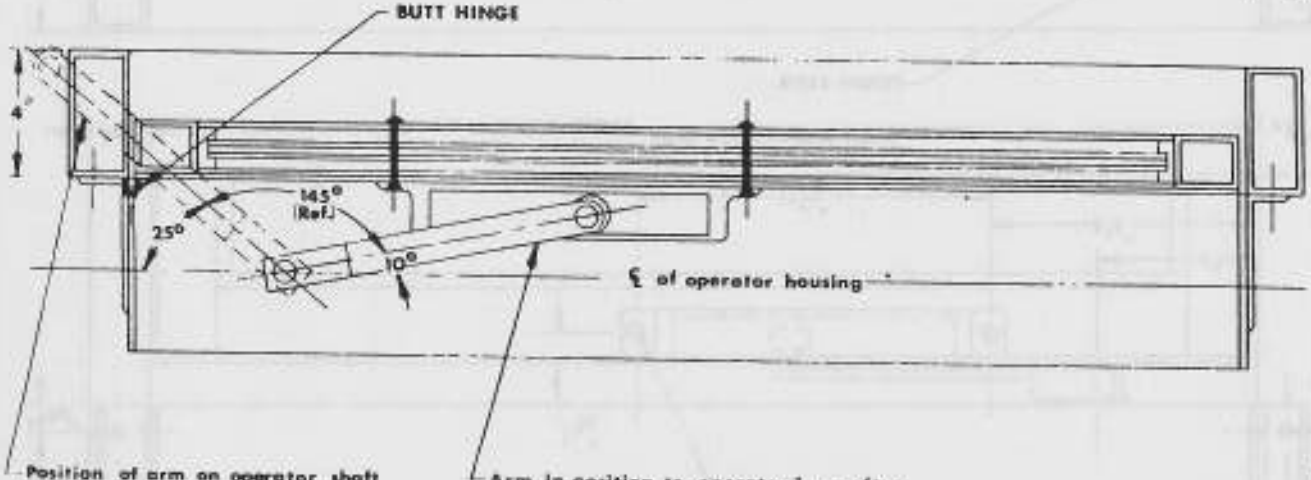
DRAWN BY: J. PLATO	REVISIONS		
DATE: 2-26-74	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAIL

C.U. LEFT HAND OUTSWING BUTT / OFFSET PIVOT

MODEL NUMBER	DOOR OPENING
34-3600 (N.F.G. NO PANIC)	3'-0"
34-4200 (N.F.G. NO PANIC)	3'-6"





GYRO-TECH

TEMPLATE NO. 00-2030

BILL OF MATERIAL

QTY.	MODEL #	DISCRIPTION
1	11-0100	OPERATOR
1	22-0105 A	CONTROL BOX
1	17-0200	ARM ASSY
1	23-0100	SWITCH HARNESS
1	23-0200	POWER HARNESS
1	23-0300	MAT HARNESS

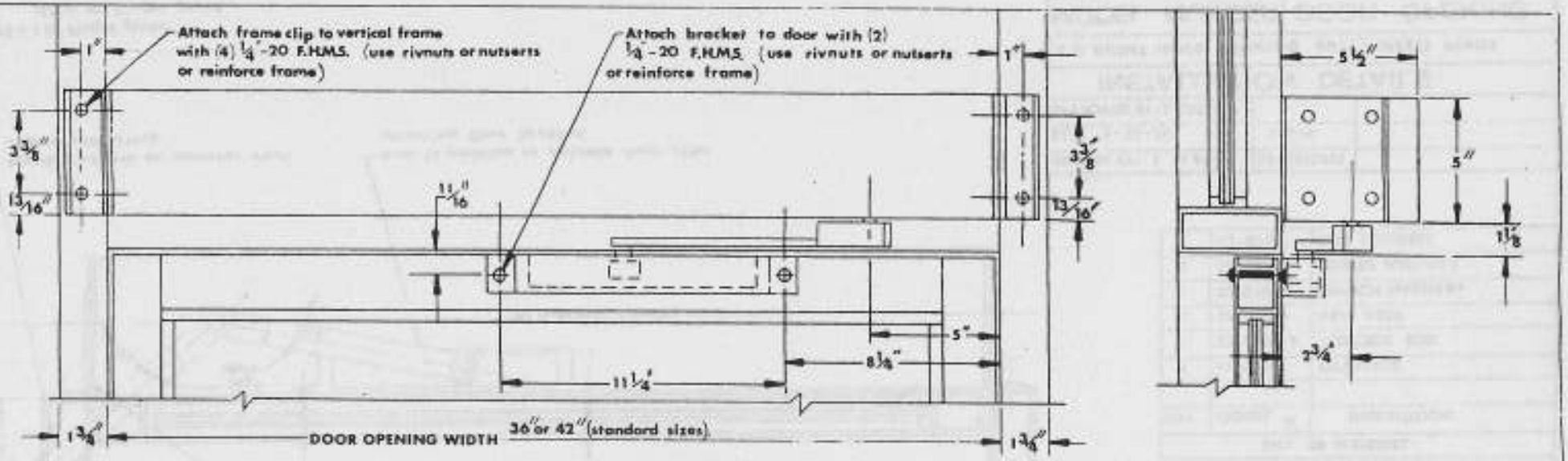
NOTE: 1. F.G. Finger guard
N.F.G. No finger guard.
2. Indexing line on pivot shaft to be parallel with ℄ of operator housing (±5°) (Door closed position).

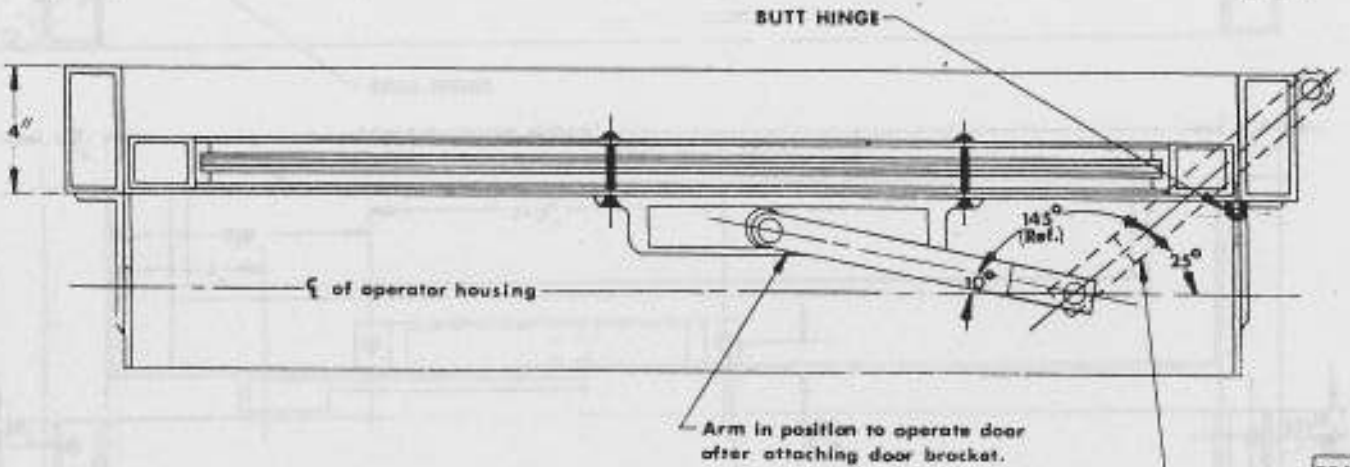
DRAWN BY: J. PLATO	REVISIONS		
DATE: 2-26-74	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAILS

C.U. RIGHT HAND INSWING BUTT/OFFSET PIVOT

MODEL NUMBER	DOOR OPENING
35-3600 (N.F.G.-NO PANIC)	3'-0"
35-4200 (F.G.-NO PANIC)	3'-6"





NOTE: 1. F.G. Finger guard.
N.F.G. No finger guard.
2. Indexing line on pivot shaft to be parallel with ℄ of operator housing (±5°) (Door closed position).

GYRO-TECH
TEMPLATE NO. 00-2040

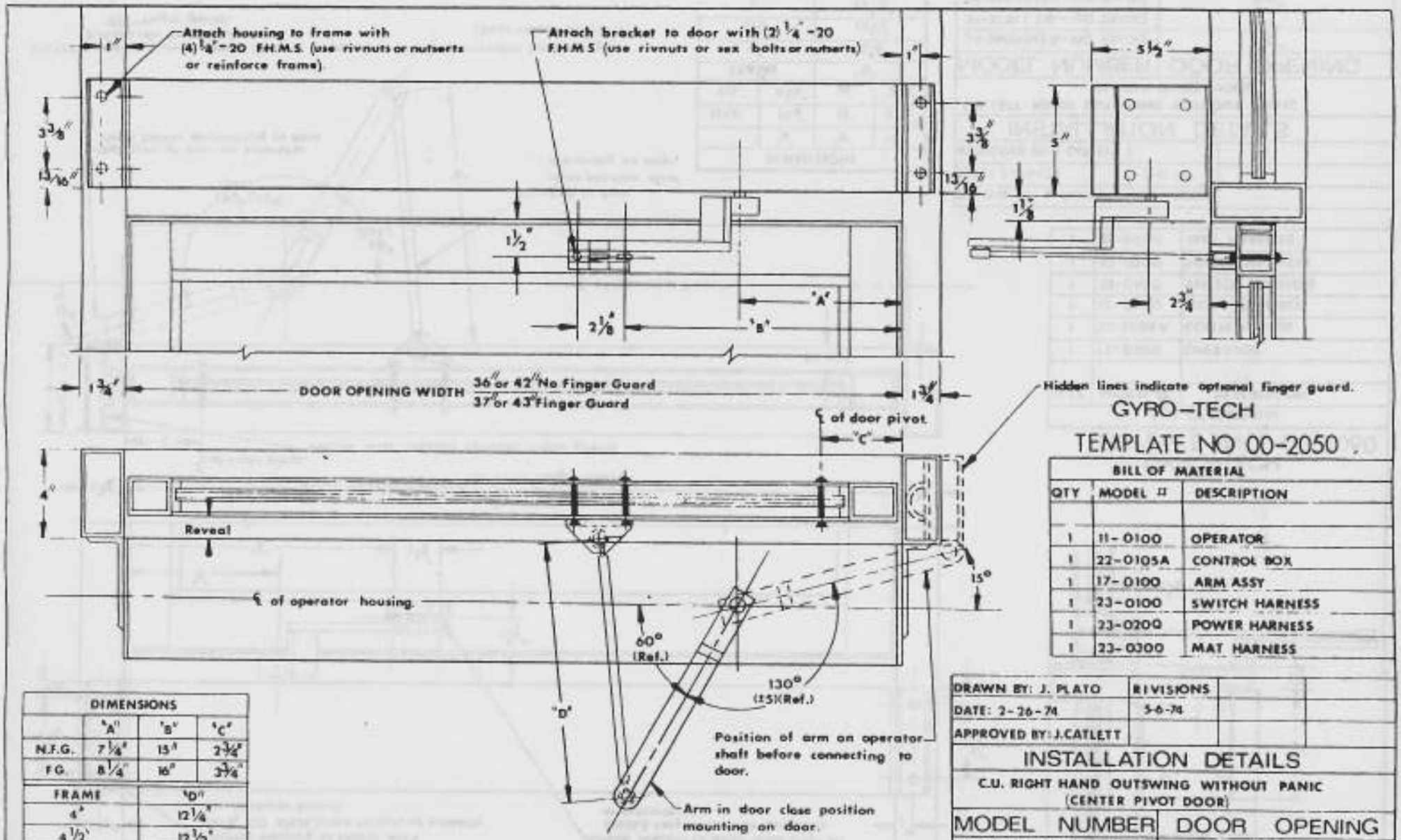
BILL OF MATERIAL		
	MODEL #	DISCRIPTION
1	11 -0200	OPERATOR
1	22 -0105 A	CONTROL BOX
1	17 -0200	ARM ASSY
1	23 -0100	SWITCH HARNESS
1	23 -0200	POWER HARNESS
1	23 -0300	MAT HARNESS

DRAWN BY: J. PLATO	REVISIONS		
DATE: 2-26-74	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAILS

C.U LEFT HAND INSWING BUTT / OFFSET PIVOT

MODEL NUMBER	DOOR OPENING
35 3600 N.F.G. NO PANIC	3'-0"
35-4200 N.F.G. NO PANIC	3'-6"



GYRO–TECH

TEMPLATE NO 00-2050

BILL OF MATERIAL		
QTY	MODEL #	DESCRIPTION
1	11-0100	OPERATOR
1	22-0105A	CONTROL BOX
1	17-0100	ARM ASSY
1	23-0100	SWITCH HARNESS
1	23-0200	POWER HARNESS
1	23-0300	MAT HARNESS

DIMENSIONS			
	"A"	"B"	"C"
N.F.G.	7 1/4"	15"	2 3/4"
F.G.	8 1/4"	16"	3 3/4"

FRAME	"D"
4"	12 1/4"
4 1/2"	12 1/2"
5"	12 3/4"
5 1/2"	13"

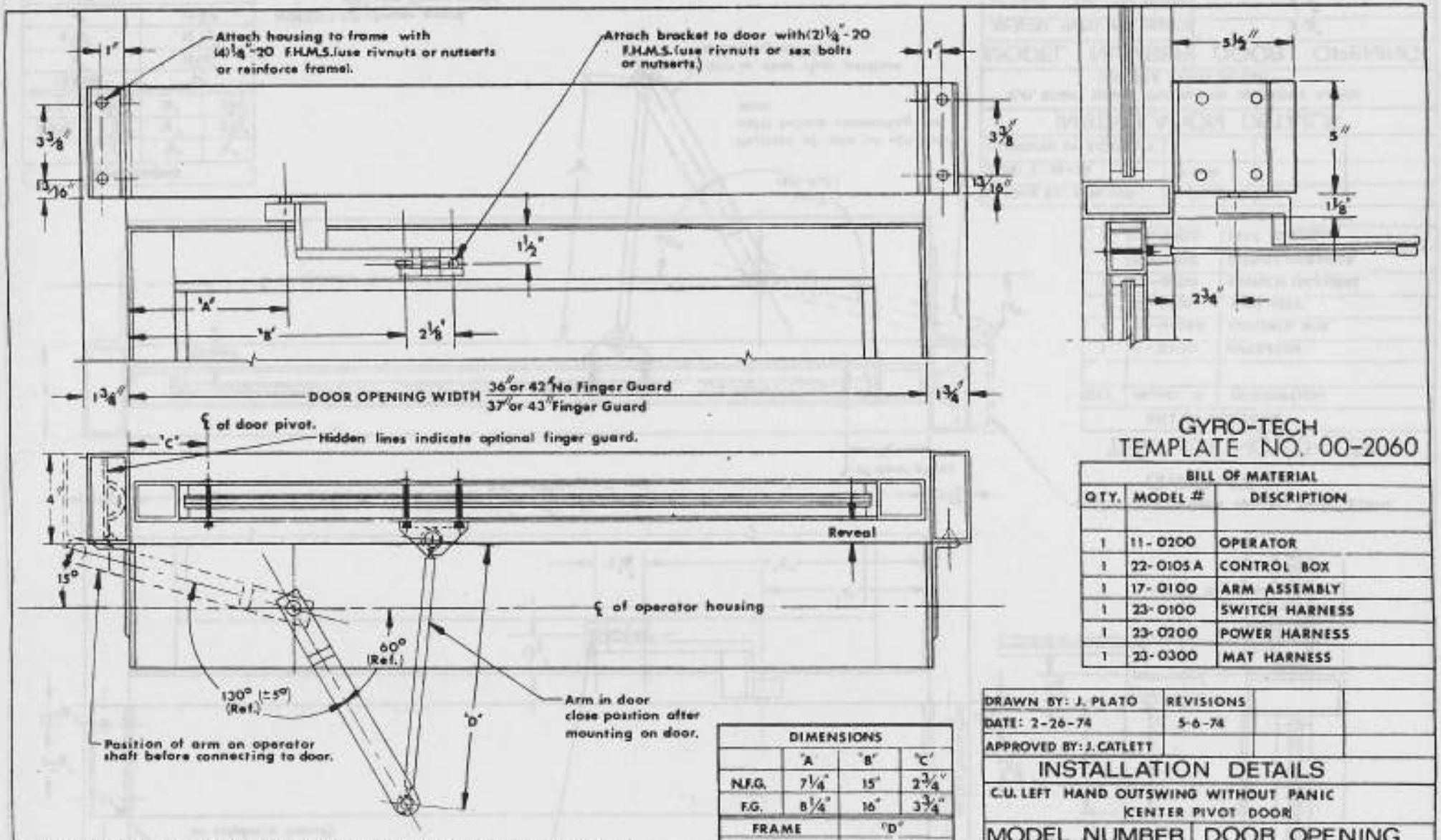
NOTES: 1. F.G. - finger guard.
N.F.G. - no finger guard.
2. Indexing line on pivot shaft to be parallel with ℄ of operator housing (±5°) (Door closed position).

DRAWN BY: J. PLATO	REVISIONS		
DATE: 2-26-74	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAILS

C.U. RIGHT HAND OUTSWING WITHOUT PANIC (CENTER PIVOT DOOR)

MODEL NUMBER	DOOR OPENING
34-3600 (N.F.G. - NO PANIC)	3'-0"
34-3700 (F.G. - NO PANIC)	3'-1"
34-4200 (N.F.G. - NO PANIC)	3'-6"
34-4300 (F.G. - NO PANIC)	3'-7"



NOTES: 1. Indexing line on pivot shaft to be parallel with ℄ of operator housing (±5°). (Door closed position).
2. N.F.G. - no finger guard.
F.G. - finger guard.

DIMENSIONS			
	'A'	'B'	'C'
N.F.G.	7 1/4"	15"	2 3/4"
F.G.	8 1/4"	16"	3 3/4"

FRAME	'D'
4"	12 1/4"
4 1/2"	12 1/2"
5"	12 3/4"
5 1/2"	13"

GYRO-TECH
TEMPLATE NO. 00-2060

BILL OF MATERIAL

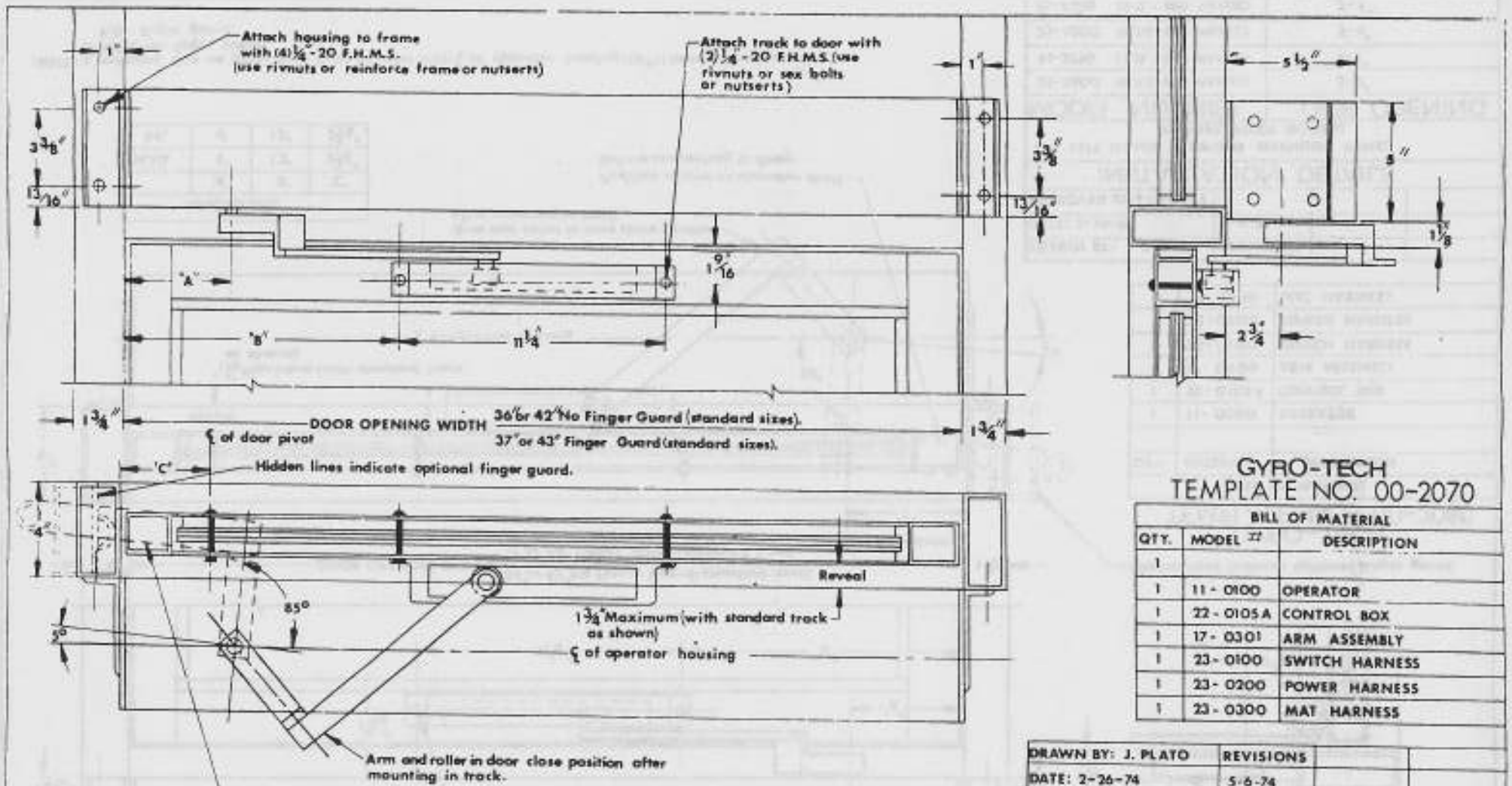
QTY.	MODEL #	DESCRIPTION
1	11-0200	OPERATOR
1	22-0105 A	CONTROL BOX
1	17-0100	ARM ASSEMBLY
1	23-0100	SWITCH HARNESS
1	23-0200	POWER HARNESS
1	23-0300	MAT HARNESS

DRAWN BY: J. PLATO	REVISIONS		
DATE: 2-26-74	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAILS

C.U. LEFT HAND OUTSWING WITHOUT PANIC
(CENTER PIVOT DOOR)

MODEL NUMBER	DOOR OPENING
34-3600 (N.F.G. - NO PANIC)	3'-0"
34-3710 (F.G. - NO PANIC)	3'-1"
34-4200 (N.F.G. - NO PANIC)	3'-6"
34-4310 (F.G. - NO PANIC)	3'-7"



DIMENSIONS			
	"A"	"B"	"C"
N.F.G.	5"	12"	2 3/4"
F.G.	6"	13"	3 3/4"

NOTE 1. Indexing line on pivot shaft to be parallel with ℄ of operator housing (±5°) (Door closed position).
2. N.F.G. - no finger guard.
F.G. - finger guard.

GYRO-TECH
TEMPLATE NO. 00-2070

BILL OF MATERIAL

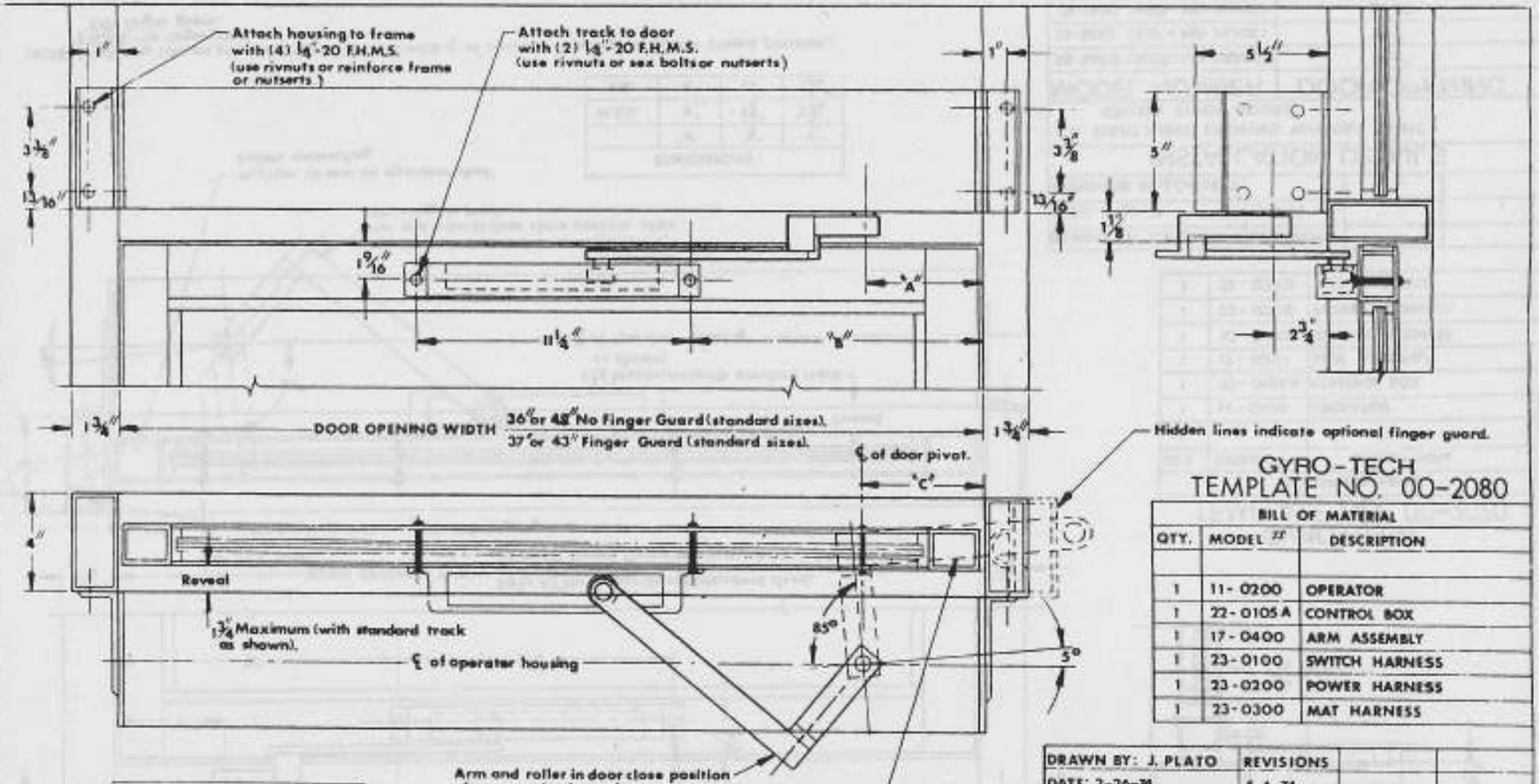
QTY.	MODEL #	DESCRIPTION
1		
1	11 - 0100	OPERATOR
1	22 - 0105 A	CONTROL BOX
1	17 - 0301	ARM ASSEMBLY
1	23 - 0100	SWITCH HARNESS
1	23 - 0200	POWER HARNESS
1	23 - 0300	MAT HARNESS

DRAWN BY: J. PLATO	REVISIONS		
DATE: 2-26-74	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAILS

C.U. RIGHT HAND INSWING WITHOUT PANIC (CENTER PIVOT DOORS)

MODEL NUMBER	DOOR OPENING
35-3600 (N.F.G. - NO PANIC)	3'-0"
35-3710 (F.G. - NO PANIC)	3'-1"
35-4200 (N.F.G. - NO PANIC)	3'-6"
35-4310 (F.G. - NO PANIC)	3'-7"



DIMENSIONS			
	"A"	"B"	"C"
N.F.G.	5"	12"	2 3/4"
F.G.	6"	13"	3 3/4"

NOTE: 1. Indexing line on pivot shaft to be parallel with ℄ of operator housing (±5°) (Door closed position).
2. N.F.G. - no finger guard.
F.G. - finger guard.

GYRO-TECH
TEMPLATE NO. 00-2080

BILL OF MATERIAL

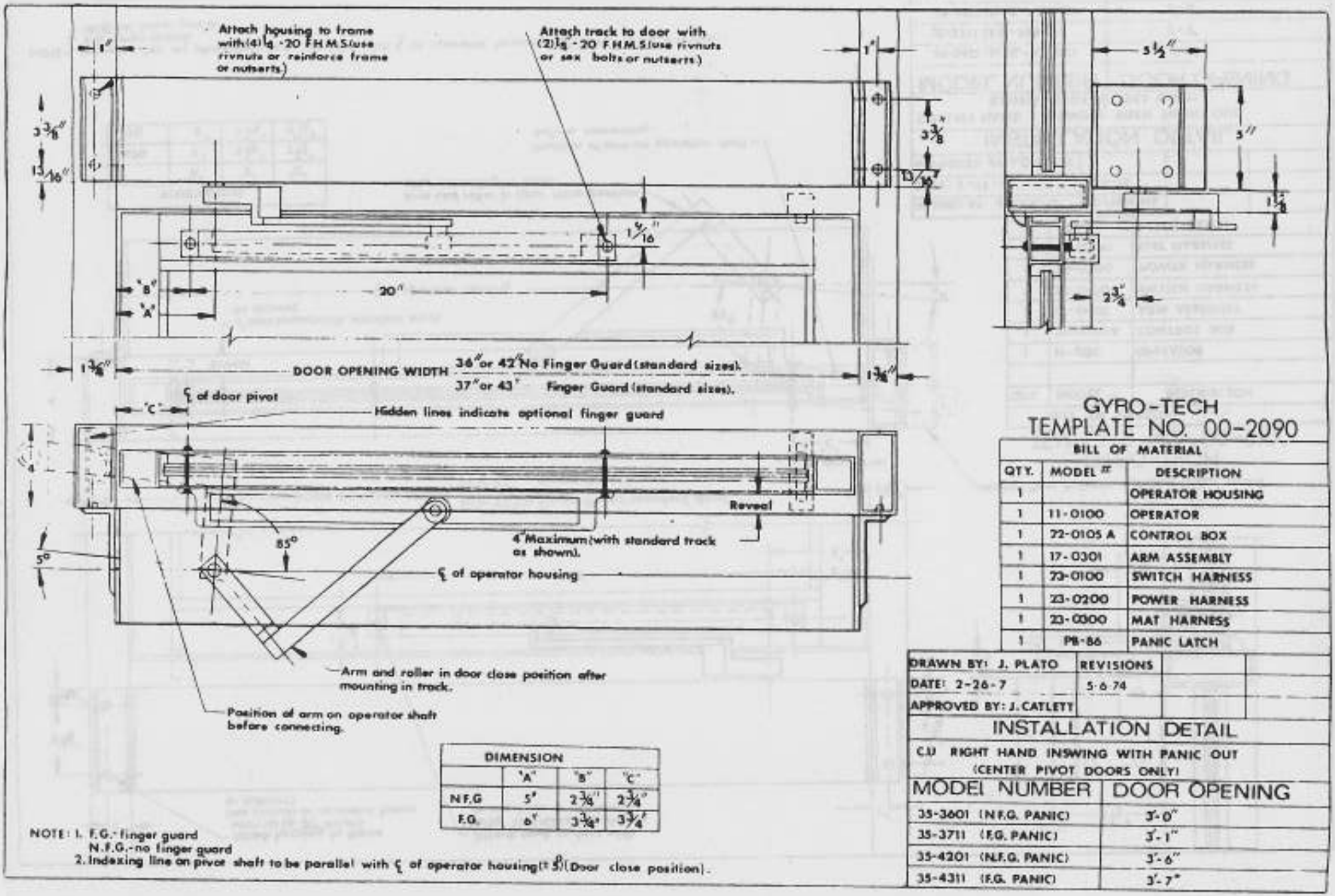
QTY.	MODEL #	DESCRIPTION
1	11-0200	OPERATOR
1	22-0105 A	CONTROL BOX
1	17-0400	ARM ASSEMBLY
1	23-0100	SWITCH HARNESS
1	23-0200	POWER HARNESS
1	23-0300	MAT HARNESS

DRAWN BY: J. PLATO	REVISIONS		
DATE: 2-26-74	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAILS

C.U. LEFT HAND INSWING WITHOUT PANIC (CENTER PIVOT DOORS)

MODEL NUMBER	DOOR OPENING
35-3600 (N.F.G.-NO PANIC)	3'-0"
35-3710 (F.G. - NO PANIC)	3'-1"
35-4200 (N.F.G.-NO PANIC)	3'-6"
35-4310 (F.G. - NO PANIC)	3'-7"



DIMENSION			
	"A"	"B"	"C"
N.F.G	5"	2 3/4"	2 3/4"
F.G.	6"	3 3/4"	3 3/4"

NOTE: 1. F.G.- finger guard
N.F.G.- no finger guard
2. Indexing line on pivot shaft to be parallel with ℄ of operator housing (± 5°) (Door close position).

GYRO-TECH
TEMPLATE NO. 00-2090

BILL OF MATERIAL

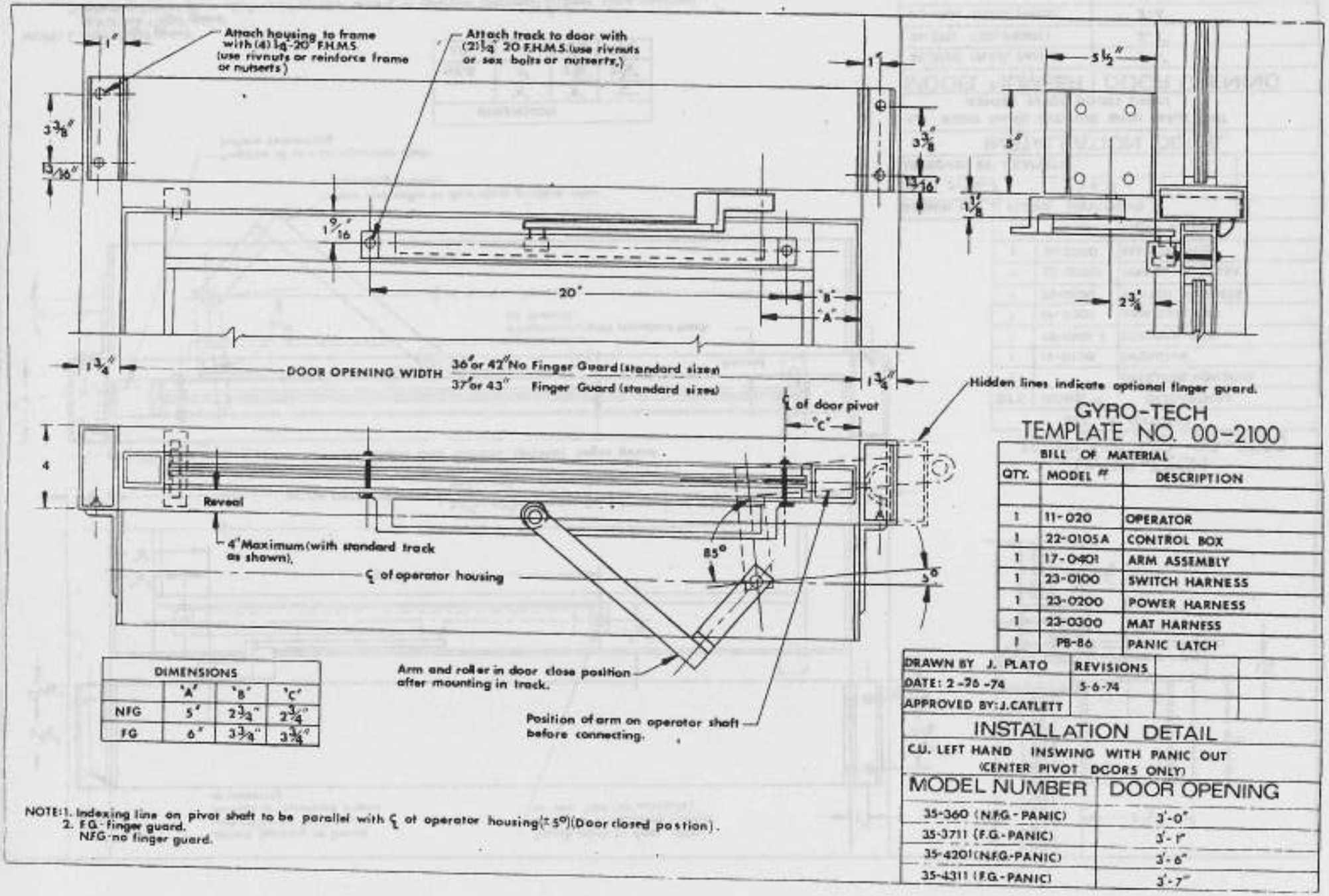
QTY.	MODEL #	DESCRIPTION
1		OPERATOR HOUSING
1	11-0100	OPERATOR
1	22-0105 A	CONTROL BOX
1	17-0301	ARM ASSEMBLY
1	23-0100	SWITCH HARNESS
1	23-0200	POWER HARNESS
1	23-0300	MAT HARNESS
1	PB-86	PANIC LATCH

DRAWN BY: J. PLATO	REVISIONS		
DATE: 2-26-7	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAIL

C.U RIGHT HAND INSWING WITH PANIC OUT
(CENTER PIVOT DOORS ONLY)

MODEL NUMBER	DOOR OPENING
35-3601 (N.F.G. PANIC)	3'-0"
35-3711 (F.G. PANIC)	3'-1"
35-4201 (N.F.G. PANIC)	3'-6"
35-4311 (F.G. PANIC)	3'-7"



DIMENSIONS			
	"A"	"B"	"C"
NFG	5"	2 3/4"	2 3/4"
FG	6"	3 3/4"	3 3/4"

NOTE: 1. Indexing line on pivot shaft to be parallel with ℄ of operator housing (±5°) (Door closed position).
2. F.G. - finger guard.
NFG - no finger guard.

GYRO-TECH
TEMPLATE NO. 00-2100

BILL OF MATERIAL

QTY.	MODEL #	DESCRIPTION
1	11-020	OPERATOR
1	22-0105A	CONTROL BOX
1	17-0401	ARM ASSEMBLY
1	23-0100	SWITCH HARNESS
1	23-0200	POWER HARNESS
1	23-0300	MAT HARNESS
1	PB-86	PANIC LATCH

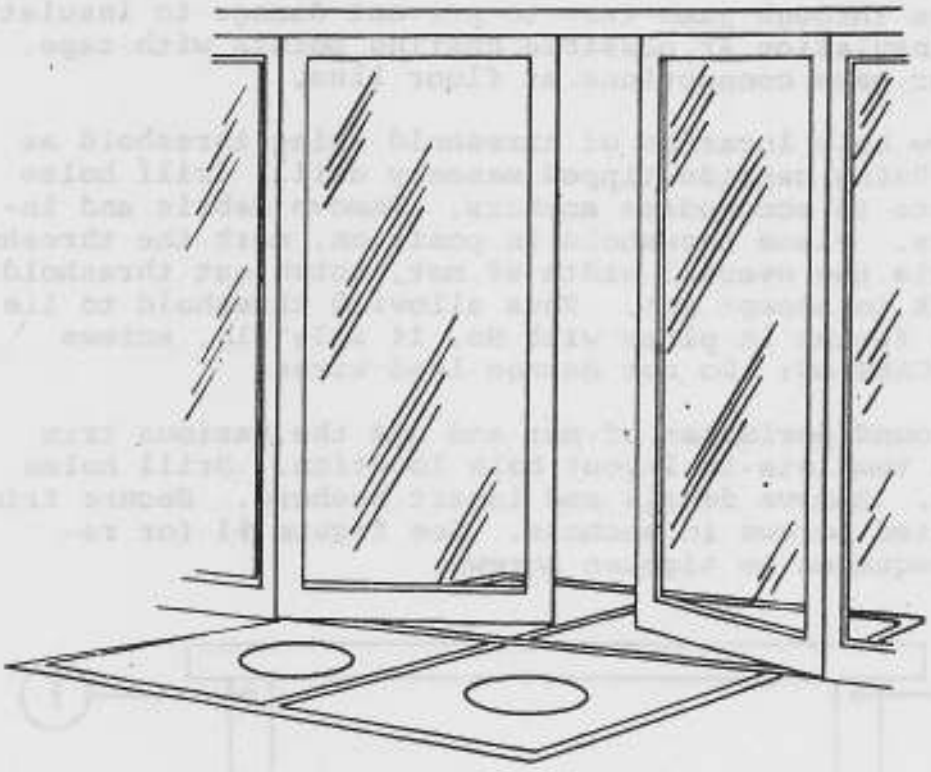
DRAWN BY J. PLATO	REVISIONS		
DATE: 2-26-74	5-6-74		
APPROVED BY: J. CATLETT			

INSTALLATION DETAIL

C.U. LEFT HAND INSWING WITH PANIC OUT
(CENTER PIVOT DOORS ONLY)

MODEL NUMBER	DOOR OPENING
35-360 (N.F.G. - PANIC)	3'-0"
35-3711 (F.G. - PANIC)	3'-1"
35-420! (N.F.G. - PANIC)	3'-6"
35-4311 (F.G. - PANIC)	3'-7"

INSTALLATION INSTRUCTIONS
FOR
GYRO TECH MATS



GYRO TECH inc 6750 INDUSTRIAL LOOP, GREENDALE WIS. 53129
PHONE (414) 421-9400

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 swing door to check for adequate clearance between door and mat.

4. Notch lower end of jamb tube in area covered by threshold to allow entry of mat leads. Feed mat lead wires up through tube and into header for connection to mat harness. Use care when pulling wire through jamb tube 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 accomodate anchors. Remove debris and insert anchors. Place threshold in position, mark the threshold to accomodate 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 #1 for recommended sequence to tighten screws.

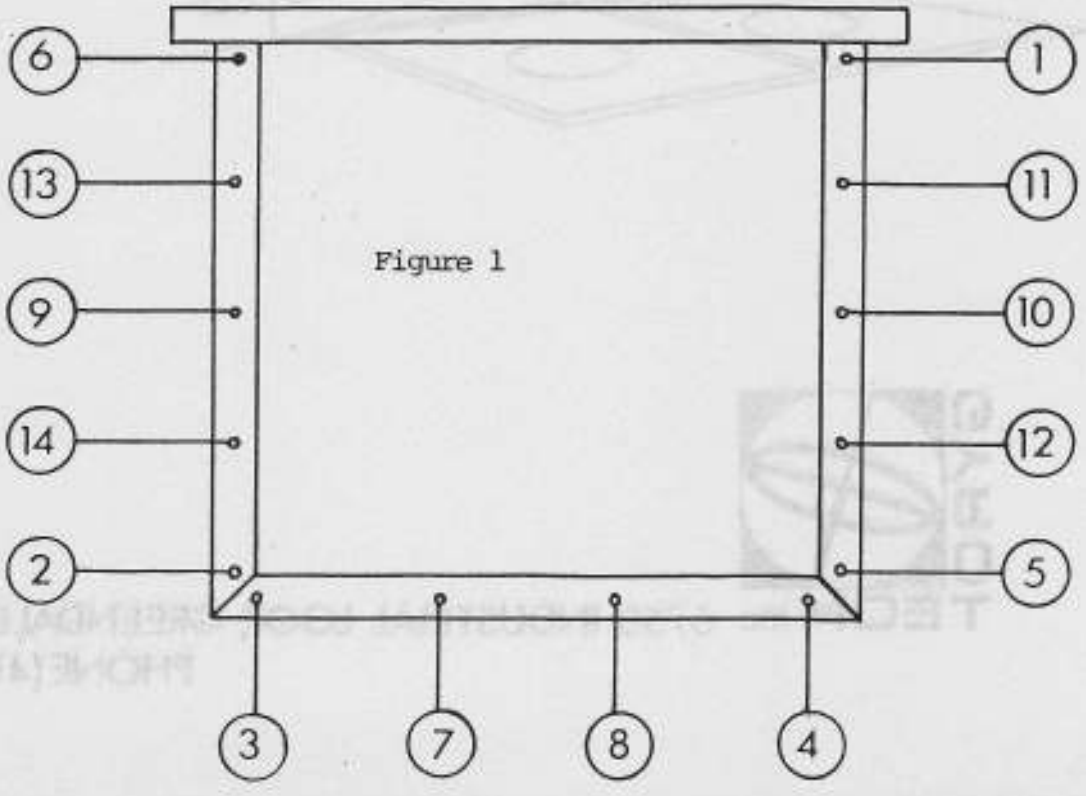
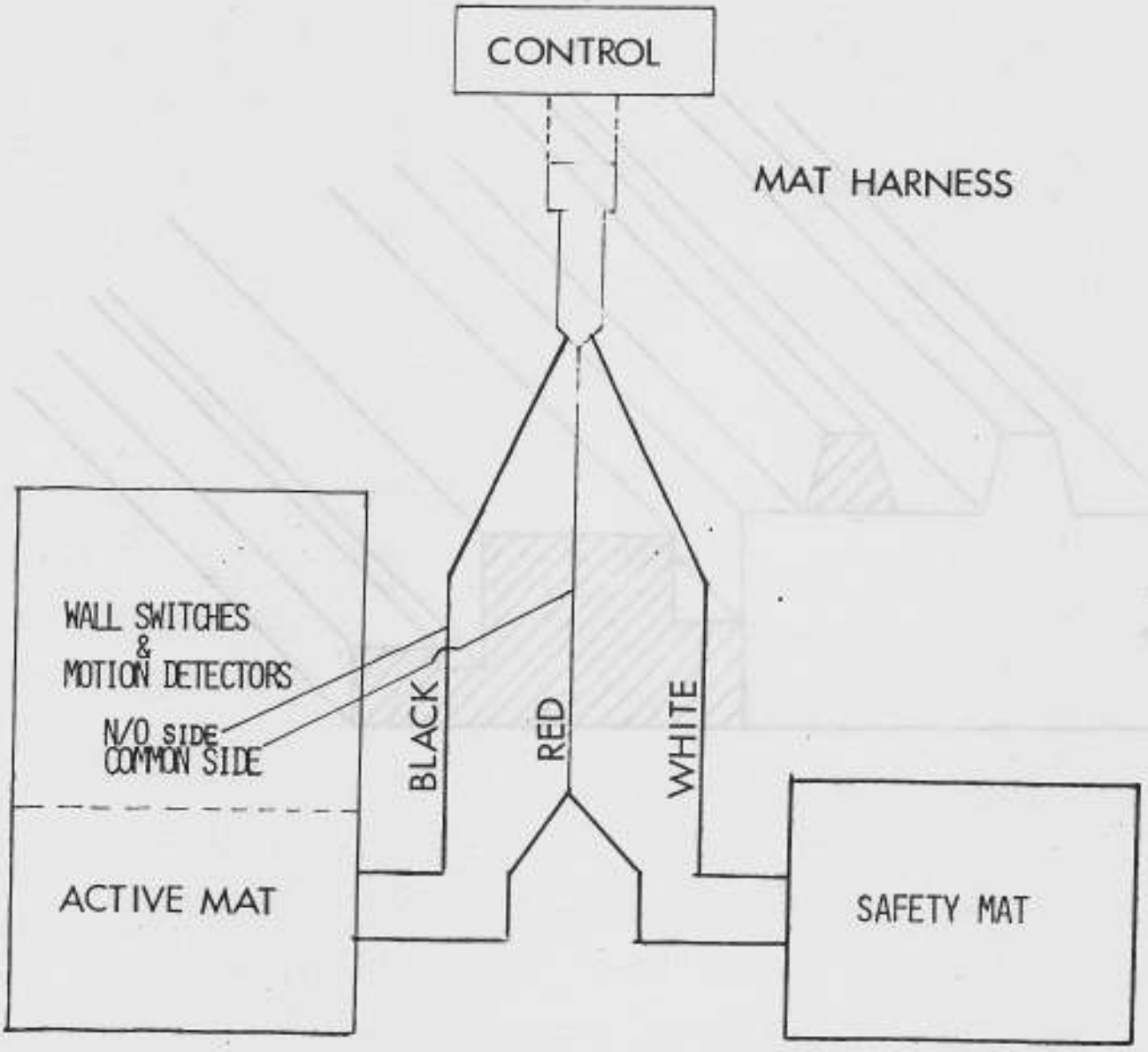


Figure 1

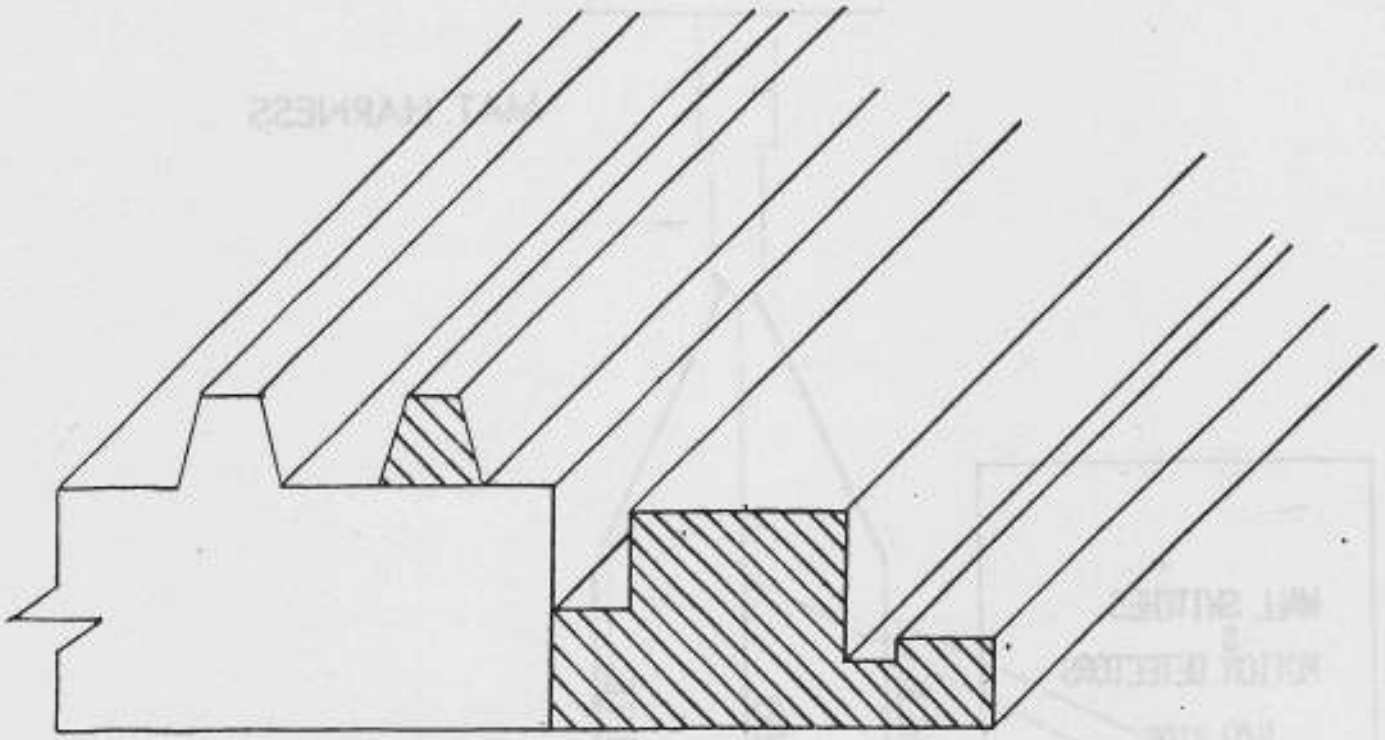
7. Make electrical connection per figure #2. Plug into control and turn on power.

FIGURE #2



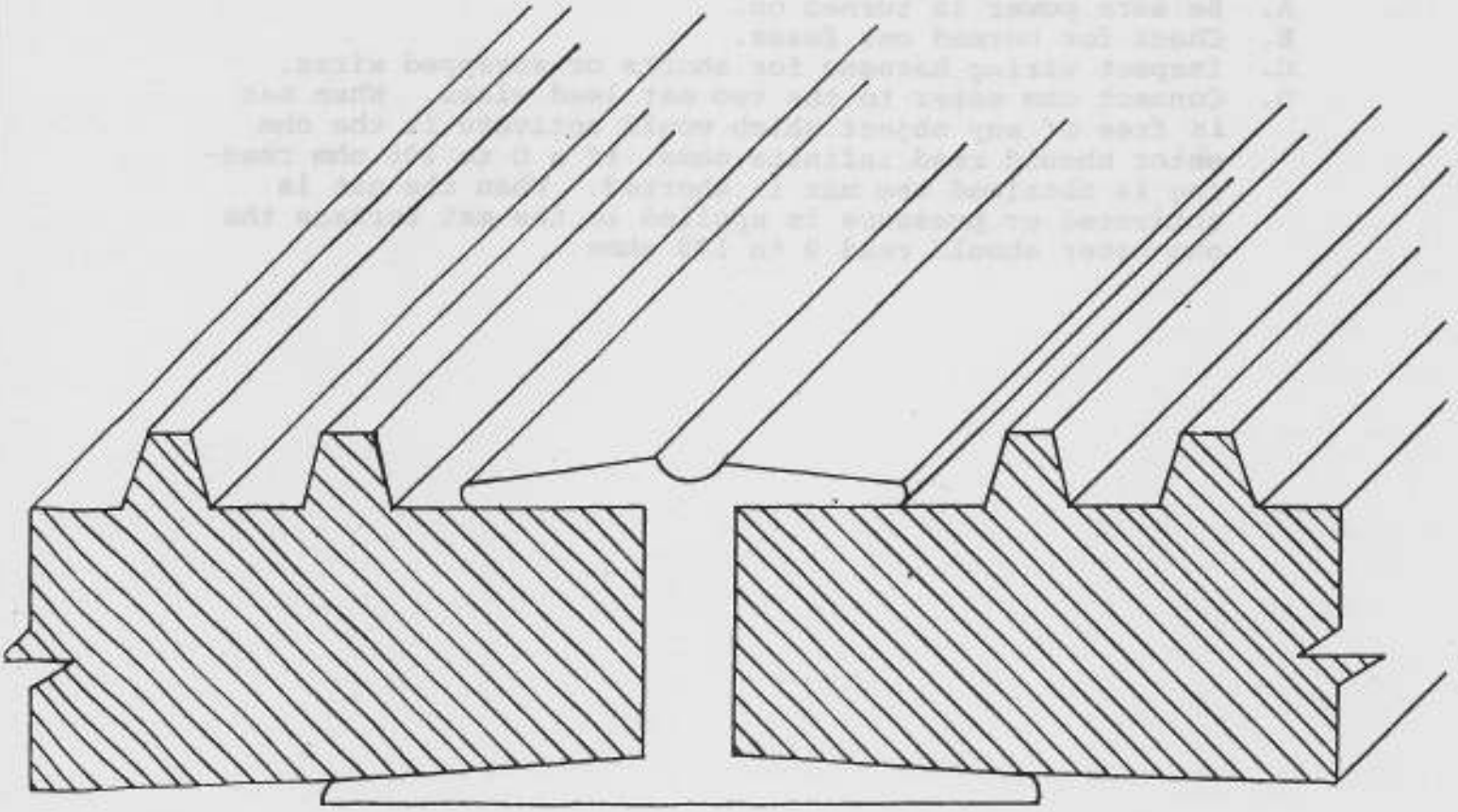
8. To install adjoining mats (butted) remove solid vinyl lip and first rib as shown in figure #3. Use sharp knife CAREFULLY to avoid exposing switch plates.

FIGURE #3



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 #4.

FIGURE #4



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 scrapped 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.

SPECIFICATIONS FOR GYRO TECH "GYRO-SWING" DOOR SYSTEMS (OHC CONCEALED OR CU SURFACE APPLIED MODELS)

General

Each Gyro Tech Automatic Gyro-Swing Swing Door System shall consist of:

1. Operator housing
2. Gyro-Swing power operator
3. Electronic control
4. Linkage
5. Activating devices, carpets, cells, wall switches, etc.

The Gyro Tech Gyro-Swing power operator shall open the door by energizing the motor and shall stop the door by electrically reducing the voltage and stalling the motor against a mechanical stop. The door shall close by means of spring energy, and the closing shall be controlled by the gear system and the motor being used as a dynamic brake without power. System shall operate as manual door control in the event of power failure. Opening speeds shall be adjustable. The Gyro Tech Gyro-Swing power operator shall be a self-contained gear transmission and shall not require any fluids or gases (under pressure) to be used in the operation of opening and closing the door.

OPERATOR HOUSING (Header)

Gyro Tech housing shall be 5-1/2" wide x 5" high aluminum extrusions with enclosed end caps for application to 4", and larger frame systems. All structural sections shall have a minimum thickness of .146" and shall be fabricated of 6063-T5 aluminum alloy. The aluminum shall have a standard finish of 204-A1-R1 or shall be supplied in dark bronze. Black available on special order. Operator housing for surface application shall have finished end caps and shall be prepared for mounting to existing or new door frames by others.

GYRO-SWING POWER OPERATOR

The Gyro-Swing power operator shall be a completely assembled and sealed unit which shall include a helical gear drive transmission, overriding clutch, mechanical spring and bearings all located in a cast aluminum housing and filled with a special lubricant for extreme temperature conditions. Attached to the transmission system will be a DC shunt-wound permanent magnet motor with sealed ball bearings secured with four (4) screws and a flexible coupling for fast replacement. The motor shall operate from a 115 volt AC power supply and require less than 5 amps per motor. The complete unit shall be rubber mounted with provisions for easy replacement.

BREAKAWAY DOOR STOP

Where required, breakaway door stop shall, under normal swing cycle, stop door in close position. Up to 50 pounds maximum force applied against strike stop in direction opposite of normal swing travel, will allow breakaway stop to rotate permitting outswing of door. Resetting is achieved by manually returning door to normal close position which rotates breakaway stop to original door stop position. Breakaway stop shall incorporate a switch to cut off activating voltage when in breakaway position.

ELECTRONIC CONTROL

Electronic control shall be a self-contained unit including necessary transformers, relays, rectifiers and other electronic components for proper operation and switching of the Gyro-Swing automatic power operator. Relays shall be a plug-in type for individual replacement and all connecting harnesses shall have interlocking plugs. The control shall also include time delay for normal cycle. Gyro Tech electronic control shall include optional safe-swing feature which automatically slows the door in the event the safety mat is activated while door is in opening or closing cycle.

LINKAGE

Concealed type (OHC) power operator drive arm shall be connected to the door with a pin linkage rotating in a self-lubricating bearing and slide block, traveling in a interconnected track and top pivot assembly. Top track and pivot assembly is fabricated of steel with an adjustable slide block for quiet and efficient operation.

Conversion power operator (Type CU) drive arm shall be connected to the door with a urethane covered roller and shall ride in a track attached to the outside top rail of door where required. Tracks are fabricated of 6061-T6 aluminum alloy for maximum wear and quiet operation. Roller shall be of needle bearing construction and sealed. Outswing units shall use a two-piece drive arm with self-aligning rod ends and connecting door bracket for push-type operation.

ACTIVATING DEVICES, CARPETS, WALL SWITCHES, ETC.

Activators for Gyro Tech automatic Gyro-Swing power operators shall be surface-applied or recessed carpets in sizes and colors as required and shall be manufactured by Lanson Industries Inc., Greendale, Wisconsin. Wall switches shall be 6" diameter stainless steel surface or flush mounted as manufactured by Lanson Industries Inc.

APPROVED MANUFACTURER

All Gyro Tech Gyro-Swing entrance systems shall be manufactured by Gyro Tech Inc., 6750 Industrial Loop, Greendale, Wisconsin, or approved equal.

WARRANTY

Gyro Tech Gyro-Swing power operators and controls shall be guaranteed for a period of one (1) year from date of installation against defects in material and workmanship.